

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2021
or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____
Commission File No. 001-7784



Lumen Technologies, Inc.
(Exact name of registrant as specified in its charter)

Louisiana
(State or other jurisdiction of
incorporation or organization)
100 CenturyLink Drive,
Monroe, Louisiana
(Address of principal executive offices)

72-0651161
(I.R.S. Employer
Identification No.)

71203
(Zip Code)

(318) 388-9000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, par value \$1.00 per share	LUMN	New York Stock Exchange
Preferred Stock Purchase Rights	N/A	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer ☒ Accelerated Filer ☐ Non-accelerated Filer ☐ Smaller Reporting Company ☐
Emerging Growth Company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

On February 22, 2022, 1,023,372,224 shares of common stock were outstanding. The aggregate market value of the voting stock held by non-affiliates as of June 30, 2021 was \$14.9 billion.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the Registrant's Proxy Statement to be furnished in connection with the 2022 annual meeting of shareholders are incorporated by reference in Part III of this report.

Auditor Name: KPMG LLP

Auditor Location: Denver, Colorado

Auditor Firm ID: 185

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Unless the context requires otherwise, (i) references in this report on Form 10-K, for all periods presented, to "Lumen Technologies, Inc.," "Lumen Technologies" or "Lumen," "we," "us," the "Company" and "our" refer to Lumen Technologies, Inc. and its consolidated subsidiaries and (ii) references in this report to "Level 3" refer to Level 3 Parent, LLC and its predecessor, Level 3 Communications, Inc., which we acquired on November 1, 2017.

PART I

Special Note Regarding Forward-Looking Statements

This report and other documents filed by us under the federal securities law include, and future oral or written statements or press releases by us and our management may include, forward-looking statements about our business, financial condition, operating results or prospects. These "forward-looking" statements are defined by, and are subject to the "safe harbor" protections under the federal securities laws. These statements include, among others:

- forecasts of our anticipated future results of operations, cash flows or financial position;
- statements concerning the anticipated impact of our transactions, investments, product development, participation in government programs, Quantum Fiber buildout plans, and other initiatives, including synergies or costs associated with these initiatives;
- statements about our liquidity, profitability, profit margins, tax position, tax assets, tax rates, asset values, contingent liabilities, growth opportunities, growth rates, acquisition and divestiture opportunities, business prospects, regulatory and competitive outlook, market share, product capabilities, investment and expenditure plans, business strategies, dividend and securities repurchase plans, leverage, capital allocation plans, financing alternatives and sources, and pricing plans;
- statements regarding how the health and economic challenges raised by the COVID-19 pandemic may impact our business, financial position, operating results or prospects; and
- other similar statements of our expectations, beliefs, future plans and strategies, anticipated developments and other matters that are not historical facts, many of which are highlighted by words such as "may," "will," "would," "could," "should," "plans," "believes," "expects," "anticipates," "estimates," "forecasts," "projects," "proposes," "targets," "intends," "likely," "seeks," "hopes," or variations or similar expressions with respect to the future.

These forward-looking statements are based upon our judgment and assumptions as of the date such statements are made concerning future developments and events, many of which are beyond our control. These forward-looking statements, and the assumptions upon which they are based, (i) are not guarantees of future results, (ii) are inherently speculative and (iii) are subject to a number of risks and uncertainties. Actual events and results may differ materially from those anticipated, estimated, projected or implied by us in those statements if one or more of these risks or uncertainties materialize, or if our underlying assumptions prove incorrect. All of our forward-looking statements are qualified in their entirety by reference below to factors that could cause our actual results to differ materially from those anticipated, estimated, projected or implied by us in those forward-looking statements. These factors include but are not limited to:

- the effects of competition from a wide variety of competitive providers, including decreased demand for our more mature service offerings and increased pricing pressures;
- the effects of new, emerging or competing technologies, including those that could make our products less desirable or obsolete;
- our ability to successfully and timely attain our key operating imperatives, including simplifying and consolidating our network, simplifying and automating our service support systems, attaining our Quantum Fiber buildout plans, strengthening our relationships with customers and attaining projected cost savings;

- our ability to safeguard our network, and to avoid the adverse impact of possible cyber-attacks, security breaches, service outages, system failures, or similar events impacting our network or the availability and quality of our services;
- the effects of ongoing changes in the regulation of the communications industry, including the outcome of legislative, regulatory or judicial proceedings relating to content liability standards, intercarrier compensation, universal service, service standards, broadband deployment, data protection, privacy and net neutrality;
- our ability to effectively retain and hire key personnel and to successfully negotiate collective bargaining agreements on reasonable terms without work stoppages;
- possible changes in customer demand for our products and services, including increased demand for high-speed data transmission services;
- our ability to successfully maintain the quality and profitability of our existing product and service offerings and to introduce profitable new offerings on a timely and cost-effective basis;
- our ability to generate cash flows sufficient to fund our financial commitments and objectives, including our capital expenditures, operating costs, debt repayments, dividends, pension contributions and other benefits payments;
- our ability to successfully and timely implement our corporate strategies, including our deleveraging strategy;
- our ability to successfully and timely consummate our pending divestitures on the terms proposed, to realize the anticipated benefits therefrom and to operate our retained business successfully thereafter;
- changes in our operating plans, corporate strategies, dividend payment plans or other capital allocation plans, whether based upon changes in our cash flows, cash requirements, financial performance, financial position, market conditions or otherwise;
- the impact of any future material acquisitions or divestitures that we may transact;
- the negative impact of increases in the costs of our pension, healthcare, post-employment or other benefits, including those caused by changes in markets, interest rates, mortality rates, demographics or regulations;
- the potential negative impact of customer complaints, government investigations, security breaches or service outages impacting us or our industry;
- adverse changes in our access to credit markets on favorable terms, whether caused by changes in our financial position, lower credit ratings, unstable markets or otherwise;
- our ability to meet the terms and conditions of our debt obligations and covenants, including our ability to make transfers of cash in compliance therewith;
- our ability to maintain favorable relations with our security holders, key business partners, suppliers, vendors, landlords and financial institutions;
- our ability to meet evolving environmental, social and governance ("ESG") expectations and benchmarks, and effectively communicate and implement our ESG strategies;
- our ability to collect our receivables from, or continue to do business with, financially-troubled customers, including, but not limited to, those adversely impacted by the economic dislocations caused by the COVID-19 pandemic;
- our ability to use our net operating loss carryforwards in the amounts projected;

- our ability to continue to use or renew intellectual property used to conduct our operations;
- any adverse developments in legal or regulatory proceedings involving us;
- changes in tax, pension, healthcare or other laws or regulations, in governmental support programs, or in general government funding levels, including those arising from recently enacted legislation promoting broadband spending;
- the effects of changes in accounting policies, practices or assumptions, including changes that could potentially require additional future impairment charges;
- continuing uncertainties regarding the impact that COVID-19 disruptions and vaccination policies could have on our business, operations, cash flows and corporate initiatives;
- the effects of adverse weather, terrorism, epidemics, pandemics, rioting, vandalism, societal unrest, or other natural or man-made disasters or disturbances;
- the potential adverse effects if our internal controls over financial reporting have weaknesses or deficiencies, or otherwise fail to operate as intended;
- the effects of more general factors such as changes in interest rates, in inflation, in exchange rates, in operating costs, in public policy, in the views of financial analysts, or in general market, labor, economic or geo-political conditions; and
- other risks referenced in the "Risk Factors" section or other portions of this report or other of our filings with the U.S. Securities and Exchange Commission (the "SEC").

Additional factors or risks that we currently deem immaterial, that are not presently known to us or that arise in the future could also cause our actual results to differ materially from our expected results. Given these uncertainties, investors are cautioned not to unduly rely upon our forward-looking statements, which speak only as of the date made. We undertake no obligation to publicly update or revise any forward-looking statements for any reason, whether as a result of new information, future events or developments, changed circumstances, or otherwise. Furthermore, any information about our intentions contained in any of our forward-looking statements reflects our intentions as of the date of such forward-looking statement, and is based upon, among other things, existing regulatory, technological, industry, competitive, economic and market conditions, and our assumptions as of such date. We may change our intentions, strategies or plans (including our dividend or other capital allocation plans) at any time and without notice, based upon any changes in such factors, in our assumptions or otherwise.

ITEM 1. BUSINESS

Business Overview and Purpose

We are an international facilities-based technology and communications company focused on providing our business and residential customers with a broad array of integrated products and services necessary to fully participate in our rapidly evolving digital world, which we believe is undergoing the "Fourth Industrial Revolution" or simply the "4IR." We operate one of the world's most interconnected networks. Our platform empowers our customers to rapidly adjust digital programs to meet immediate demands, create efficiencies, accelerate market access, and reduce costs – allowing customers to rapidly evolve their information, communications and technology programs to address dynamic changes. By empowering our customers to rapidly acquire, analyze and act on data, we are enabling our customers to thrive in the 4IR. Our specific products and services are detailed below under the heading "Segments and Products & Services."

We conduct our operations under the following three brands:

- "Lumen," which is our flagship brand for serving the enterprise and wholesale markets
- "Quantum Fiber," which is our brand for providing fiber-based services to residential and small business customers

- "CenturyLink," which is our long-standing brand for providing mass-marketed legacy copper-based services, managed for optimal cost and efficiency.

With approximately 190,000 on-net buildings and 500,000 route miles of fiber optic cable globally, we are among the largest providers of communications services to domestic and global enterprise customers. Our terrestrial and subsea fiber optic long-haul network throughout North America, Europe, Latin America and Asia Pacific connects to metropolitan fiber networks that we operate. We provide services in over 60 countries, with most of our revenue being derived in the United States ("U.S.").

As further discussed immediately below under the heading "Acquisitions and Divestitures," during 2022 we plan to sell our Latin American business and a portion of our incumbent local exchange business.

For a discussion of certain risks applicable to our business, see "Risk Factors" in Item 1A of Part I of this report.

Acquisitions and Divestitures

Since being incorporated in 1968, we have grown principally through acquisitions. By 2008, we had become one of the largest providers of rural telephone services in the United States. Since then, we acquired Embarq Corporation in mid-2009, Qwest Communications International Inc. in early 2011 and Level 3 Communications, Inc. in late 2017. These acquisitions have substantially changed our customer base, geographic footprint, business strategies and mix of products and services.

We regularly evaluate the possibility of acquiring additional assets or divesting assets in exchange for cash, securities or other properties, and at any given time may be engaged in discussions or negotiations regarding additional acquisitions or divestitures. We generally do not announce our acquisitions or divestitures until we have entered into a preliminary or definitive agreement.

Planned Divestitures of the Latin American Business and Incumbent Local Exchange Business

On July 25, 2021, affiliates of Level 3 Parent, LLC, an indirect wholly-owned subsidiary of Lumen Technologies, Inc., entered into a definitive agreement to divest our Latin American business in exchange for \$2.7 billion cash, subject to certain working capital, other purchase price adjustments and related transaction expenses. Level 3 Parent, LLC anticipates closing the transaction mid-year 2022, upon receipt of all requisite regulatory approvals in the U.S. and certain countries where the Latin American business operates, as well as the satisfaction of other customary conditions.

On August 3, 2021, we and certain of our affiliates entered into a definitive agreement to divest our incumbent local exchange ("ILEC") business conducted within 20 Midwestern and Southern states. In exchange, we would receive \$7.5 billion, subject to offsets for (i) assumed indebtedness and (ii) our transaction expenses, certain of purchaser's transaction expenses, taxes and certain working capital and other customary purchase price adjustments. We anticipate closing the transaction mid-year 2022 upon receipt of all regulatory approvals and the satisfaction of other customary closing conditions.

See Note 2—Planned Divestiture of the Latin American and ILEC Businesses to our consolidated financial statements in Item 8 of Part II of this report for additional information on these transactions.

Financial Highlights

The following table summarizes the results of our consolidated operations:

	Years Ended December 31,		
	2021	2020 ⁽¹⁾	2019 ⁽¹⁾
	(Dollars in millions)		
Operating revenue	\$ 19,687	20,712	21,458
Operating expenses	15,402	19,750	24,184
Operating income (loss)	\$ 4,285	962	(2,726)
Net income (loss)	\$ 2,033	(1,232)	(5,269)

⁽¹⁾ During 2020 and 2019, we recorded non-cash, non-tax-deductible goodwill impairment charges of \$2.6 billion and \$6.5 billion, respectively. For additional information, see Note 3—Goodwill, Customer Relationships and Other Intangible Assets to our consolidated financial statements in Item 8 of Part II of this report.

We estimate that during 2021, 2020 and 2019, approximately 9.4%, 8.7% and 8.5%, respectively, of our consolidated revenue was derived from providing telecommunications, colocation and hosting services outside the U.S.

The following table summarizes certain selected financial information from our consolidated balance sheets:

	As of December 31,	
	2021	2020
	(Dollars in millions)	
Total assets	\$ 57,993	59,394
Total long-term debt ⁽¹⁾	28,982	31,837
Total stockholders' equity	11,840	11,162

⁽¹⁾ For additional information on our total long-term debt, see Note 7—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report. For information on our total obligations, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Future Contractual Obligations" in Item 7 of Part II of this report.

The summary financial information appearing above should be read in conjunction with, and is qualified by reference to, our consolidated financial statements and notes thereto in Item 8 of Part II of this report and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of this report.

Strategy

Our over-arching strategic goal is to continue integrating and upgrading our global network and other assets and technologies into an advanced high-bandwidth, low latency platform that is secure, reliable and fast. To attain this goal, we strive to, among other things:

- strengthen our digital self-service product ordering platforms;
- expand our offering of secure edge computing services;
- create a more adaptive network;
- expand our network capacity through our Quantum Fiber buildout plan and other initiatives;
- return a substantial amount of cash to our shareholders in the form of dividends and periodic stock repurchases;

- monetize our non-core assets and manage our non-fiber business for cash; and
- strengthen our financial position and performance through debt paydown and cost reduction efforts.

Our Stakeholders

We believe realizing the Lumen promise depends on regular, informed communications with our stakeholders, including shareholders, employees, customers, vendors, lenders, partners and our global community.

Employees and Human Capital Resources

Lumen's highly competitive business requires attracting, developing and retaining a motivated team inspired by leadership, engaged in meaningful work, motivated by career growth opportunities and thriving in a culture that embraces diversity, inclusion and belonging. Understanding and anticipating the priorities of our current and future employees is important to our future success. At December 31, 2021, we had approximately 36,000 employees world-wide, including approximately 7,000 outside the U.S.

Attracting, Developing and Retaining Talent

Our recruiting, development and retention objectives focus on treating talent as a differentiator and a leading indicator of business performance. We strive to hire and retain the best talent available, to be transparent with regards to new career and promotional opportunities, to mitigate bias and to champion fair selection and best hiring practices. Establishing a framework of competency-based success profiles and fostering career progression through regular career development and training empowers our employees to pursue their professional goals and helps to improve employee engagement and retention. We invest in broad-based development for all of our employees in various ways such as skills-building programs, on-demand learning options, tuition reimbursement, tailored mentoring programs and a suite of leadership development courses. In an effort to create more development opportunities for all employees, we are currently enhancing our intern, mentoring and leadership development programs, with added focus on development for diverse employees.

We believe we have made significant strides in attracting, engaging, and hiring a diverse group of early career employees through our internship program, our numerous sales and operations academies, and our "pathways in technology" program. We have also increased our focus on internal mobility and providing more visibility and career opportunities to our workforce through our internal communications platforms.

We gauge progress and efficacy, identify opportunities for change, and pursue solutions through tracking and analyzing data from various sources, such as annual talent reviews and measuring our progress toward goals specified in our development, diversity and inclusion plans.

Diversity, Inclusion & Belonging

We believe that understanding and respecting another's perspective, experience, background and beliefs provide an opportunity to expand horizons, challenge complacency and foster empathy. For Lumen, we believe diversity of perspective, experience, background and beliefs fuels our innovative, collaborative, and engaged workplace. Realizing greater ethnic, racial and gender diversity across all levels of an organization is, and will continue to be, an ongoing journey. Our Diversity & Inclusion Steering Committee, comprised of a cross-functional team of senior executives and led by our Chief Diversity & Inclusion Officer, regularly evaluates and seeks to define our diversity, inclusion and belonging strategy. We aim for the highest standards of fairness and equal opportunity in recruitment, hiring, promotions, job assignments and compensation (including undertaking periodic gender and race/ethnicity pay equity studies of our U.S., non-represented employees and making pay adjustments when warranted). Inclusive recruiting and outreach programs for diverse candidates, employee resource groups, and management-led listening circles are among some of Lumen's initiatives to create greater diversity and belonging among our employees.

Positive Corporate Culture

Our employees are critical to Lumen's success and we believe creating a positive, inclusive culture is essential to attracting and retaining engaged employees. Lumen's company culture program incorporates a wide variety of communication and training activities encouraging collaboration among our colleagues around the world. We measure the program's efficacy and identify opportunities for improvements through an engagement survey distributed approximately every six months.

Health & Wellness

We believe a healthy, engaged and high performing workforce is part of our competitive advantage. We want all of our employees to thrive, and we regularly re-evaluate how to best support our employees' wellness, health and safety through benefits and resources. Our current benefit and wellness programs drive engagement that positively impacts our culture, job satisfaction, recruiting and retention programs. In response to the COVID-19 pandemic, we expanded our physical, mental, and family health programs and informational outreach. Additional information about our COVID-19 response is located under Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of this report.

Labor Relations

Approximately 21% of our U.S. workforce is represented by a union, either the Communications Workers of America or the International Brotherhood of Electrical Workers. Employees in four countries in Europe are represented by works councils or a representative body. We recognize the critical role that our supervisors and managers play in fostering a productive and respectful work environment, and we encourage employees to work directly with their supervisors, where possible, to efficiently and effectively resolve workplace concerns. We also respect our employees' rights to voluntarily establish and join unions and similar associations without unlawful interference. We strive to work collaboratively with the unions, councils and associations that represent our workers.

Customer Success

Our customers range from individual households to global enterprises. Whether our network supports remote education or a multi-national work-from-home environment, all customers are impacted by the quality and reliability of our products and services. Understanding how each customer accesses and uses our products and services informs the type of customer engagement to best meet their expectations. Our Customer Success organization includes dedicated teams focused on building deeper relationships and providing us the opportunity to continually improve our customers' Lumen experience, including their interactions with our employees and systems. We believe a strong experience leads to satisfied customers and engaged employees who are encouraged to recommend creative solutions. We have a dedicated team responsible for evaluating the best approach to improving the experiences of customers, coupled with frequent, transparent and informative communication processes.

We value both customer and employee suggestions. We offer our customers several channels for communicating with us, including voice, text, email, chat and social media, among others. We are driving a digital-first culture that allows our customers to configure, order, and rapidly deploy our services through an all-digital, self-service set of tools. Since 2019, we have hosted an annual customer experience (CX) event, during which we invite customers to collaborate directly with us.

While careful listening to customers is the best source of customer experience feedback, we believe overlaying it with employee feedback is the most effective way to continuously improve. We regularly invite our front-line employees to provide feedback on opportunities to improve our capabilities.

Partners and Vendors

Understanding how our customers access and use our products and services is an important element of evaluating which partners and vendors may best contribute to our customers' success. Lumen leverages our relationships and by co-innovating with a comprehensive group of strategic partners to create solutions focused exclusively on our customers' business and IT requirements. Through our open and interoperable approach, we seek to identify the optimal platform for serving our customers – whether ours or a third party's. When necessary, Lumen incorporates market-leading technologies to optimize application performance and streamline integration throughout the IT stack to ensure seamless integration and interoperability. Lumen has collaborated with a host of technology partners, giving us the capability to tailor and fully manage scalable solutions that customers control. Lumen, by working with our network of technology partners, can integrate different partners and technologies, to improve our products and services.

In light of these efforts to better serve our customers, we are materially reliant on a wide range of vendors to support our organization and partners to support our strategy. We work with, and rely on, other communications companies that lease us transmission capacity or sell us various services necessary for our current operations, as well as a wide range of software, hardware and equipment suppliers. We believe that co-innovating with other companies provides the flexibility to rapidly evolve our customer offerings.

Environmental Stewardship and Sustainability

Environmental stewardship is inherent in our identity. We review the impact of our operations and make choices to reduce our environmental footprint. We believe our commitment to environmental sustainability promotes the financial health of our business, the quality of service we provide and value creation for our employees, communities, customers and investors. Our Environment, Health and Safety ("EHS") team oversees and executes the company's EHS and environmental sustainability visions.

The EHS program framework focuses on seven key areas:

- **Environmental compliance and management:** The Lumen EHS team assesses and reviews our company programs, operational facilities and waste management vendors. We monitor environmental legislative activity and collaborate with other internal groups to develop documented practices and procedures that support compliance with applicable laws and regulations.
- **Energy and emissions:** To reduce our carbon footprint, we are identifying and implementing energy efficiency and greenhouse gas ("GHG") emissions reduction initiatives. In January 2021, we were among the very first U.S. companies to issue sustainability-linked bonds.
- **Water:** Lumen uses the World Resource Institute's water quality index to assess our operations in drought-stricken areas or areas that have the potential to be in the future. We are working to reduce our consumption of water overall and especially in countries or regions identified as high-risk.
- **Waste:** We aim to reduce our waste through minimization, re-use and recycling. We divert millions of pounds of electronic and communications equipment from landfills each year. We recycle telecommunications equipment, and our modem/router takeback program allows customers to return their equipment, which are then either reused or sent to an R2-certified recycler.
- **Supplier environmental assessment:** We expect our suppliers to demonstrate the same commitment as us to compliance and sustainability efforts. We expect our suppliers to use reasonable efforts to employ environmentally preferred and energy-efficient services, and to work with their own suppliers to assess and address environmental and sustainability issues within their supply chains.
- **Climate preparedness:** We prepare for potential impacts by evaluating various climate change risks to our ongoing operations when we consider opening new facilities and/or expanding our network. Our comprehensive business continuity program focuses on prevention, collaboration, communication, response and recovery to assist us in quickly resolving disruptive events.

- Occupational Health and Safety: The EHS team conducts risk assessments and monitors health and safety legislation to develop policies and procedures designed to eliminate or control safety hazards and support compliance with applicable laws and regulations.

Our Network

Our network, through which we provide most of our products and services, consists of fiber-optic and copper cables, high-speed transport equipment, electronics, voice switches, data switches and routers, and various other equipment. We operate part of our network with leased assets, and a substantial portion of our equipment with licensed software.

At December 31, 2021, our global network (owned and leased) included (i) approximately 500,000 route miles of fiber optic plant, including approximately 42,000 route miles of subsea fiber optic cable systems and (ii) multiple gateway and transmission facilities used in connection with operating our network throughout North America, Europe and Latin America.

At December 31, 2021, our domestic network connected approximately 190,000 on-net buildings, which we refer to as “Fiber On-net” buildings, serving our enterprise customer base and approximately 28.6 million broadband-enabled locations serving our Mass Markets customer base. At December 31, 2021, our Mass Markets broadband-enabled locations consisted of 25.8 million copper-based passings and 2.8 million fiber-based passings. It also included at such date central office and other equipment that enables us to provide telephone service as an incumbent local exchange carrier (“ILEC”) in 37 states.

As discussed in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7 of Part II of this report and Note 2—Planned Divestiture of the Latin American and ILEC Businesses to our consolidated financial statements in Item 8 of Part II of this report, we have agreed to sell portions of our above-described network during 2022.

As noted elsewhere in this report, we view our network as one of our most critical assets. We have devoted, and plan to continue to devote, substantial resources to (i) simplify and modernize our network and legacy systems and (ii) expand our network to address demand for enhanced or new products. A key element of our network expansion plan is our Quantum Fiber buildout project. Under this project, we propose over the next several years to construct additional fiber optic infrastructure to enable us to provide Quantum Fiber broadband services to several million additional urban and suburban locations in our ILEC markets.

Although we own most of our network, we lease a substantial portion of our core fiber network from several other communication companies under arrangements that will periodically need to be renewed or replaced to support our current network operations.

Like other large communications companies, we are a constant target of cyber-attacks of various degrees, and, from time to time in the ordinary course of our business, we experience disruption in our services. We develop and maintain systems and programs designed to protect against cyber-attacks and network outages. The development, maintenance and operation of these systems and programs is costly and requires ongoing monitoring and updating as technologies change and efforts to bypass security measures become more sophisticated and evolve rapidly.

For additional information regarding our systems, network assets, network risks, capital expenditure requirements and reliance upon third parties, see “Risk Factors” in Item 1A of Part I of this report.

Competition

We compete in a dynamic and highly competitive market in which demand for high-speed, secure data services continues to grow. We expect continued intense competition from a wide variety of sources under these evolving market conditions. In addition to competition from large international communications providers, we are facing competition from a growing number of sources, including systems integrators, cloud service providers, software networking companies, infrastructure companies, cable companies, device providers, resellers and smaller niche providers.

Our ability to compete hinges upon effectively enhancing and better integrating our existing products, introducing new products on a timely and cost-effective basis, meeting changing customer needs, providing high-quality information security to build customer confidence and combat cyber-attacks, extending our core technology into new applications and anticipating emerging standards, business models, software delivery methods and other technological changes. Depending on the applicable market and requested services, competition can be intense, especially if competitors in the market have network assets better suited to customer needs, faster transmission speeds or lower prices, or, in certain overseas markets, are national or regional incumbent communications providers that have a longer history of providing service in the market.

For our traditional voice services, providers of wireless voice, social networking and electronic messaging services are significant competitors as many customers are increasingly relying on these providers to communicate, resulting in the long-term systemic decline we have seen in our legacy, traditional voice services. Other potential sources of competition include non-carrier systems that are capable of bypassing our local networks, either partially or completely, through various means. Developments in software have permitted new competitors to offer affordable networking products that historically required more expensive hardware investment. We anticipate that all these trends will continue to place downward pressures on the use of our voice network.

Additionally, the Telecommunications Act of 1996 obligates ILECs, including those operated by us, to permit competitors to interconnect their facilities to the ILEC's network and to take various other steps that are designed to promote competition, including obligations to (i) negotiate interconnection agreements in good faith, (ii) provide nondiscriminatory "unbundled" access to specific portions of the ILEC's network and (iii) permit competitors to physically or virtually collocate their plant on the ILEC's property. As a result of the above-described regulatory and technological developments, we also face competition from competitive local exchange carriers ("CLECs"), particularly in densely populated areas. CLECs provide competing services through (i) reselling an ILEC's local services, (ii) using an ILEC's unbundled network elements, (iii) operating their own facilities or (iv) a combination thereof.

Competition to provide broadband and other data services remains high. Market demand for our broadband services could be adversely affected by advanced wireless data transmission technologies and other systems delivering generally faster average broadband transmission speeds than our legacy copper-based infrastructure. Our network expansion and innovation strategy is focused largely on addressing these competitive pressures. As both residential and business customers increasingly demand high-speed connections for entertainment, communications and productivity, we expect the demands on our network will continue to increase over the next several years. To meet these demands and remain competitive, we are continuing to invest in network capacity, security, reliability, flexibility and design innovations, such as through our Quantum Fiber buildout, to deliver competitive high-speed services.

We compete to provide services to business customers based on a variety of factors, including the comprehensiveness and reliability of our network, our data transmission speeds, price, the latency of our available network services, the scope of our integrated offerings, the reach and peering capacity of our IP network, and customer service.

Additional information about competitive pressures is located under the heading "Risk Factors—Business Risks" in Item 1A of Part I of this report.

Sales and Marketing

Market Overview

Anticipating market trends drives our investment in developing new product and service offerings. We expect edge computing services demand to significantly increase over the next several years in several industries, including finance, healthcare, retail and manufacturing. We also expect secure network services will increase in importance to consumers. We believe we have a comprehensive set of global fiber assets that positions us to deliver a highly-competitive suite of cloud connectivity, low latency edge computing, and integrated network services.

We generally market our business services to members of in-house IT departments or other highly-sophisticated customers with deep technological experience. These individuals typically satisfy their IT requirements by contracting with us or a rapidly evolving group of competitors, or by deploying in-house solutions.

Sales Channels

Our enterprise sales and marketing approach focuses on solving complex customer problems with advanced technology and network solutions - striving to make core networks services compatible with digital tools. We also rely on our call center personnel and a variety of channel partners to promote sales of services that meet the needs of our customers. To meet the needs of different customers, our offerings include both stand-alone services and bundled services designed to provide a complete offering of integrated services.

Our sales and marketing approach to our business customers includes a commitment to provide comprehensive communications and IT solutions for business, wholesale and government customers of all sizes, ranging from small business offices to the world's largest global enterprise customers. Our marketing plans include marketing our products and services primarily through direct sales representatives, inbound call centers, telemarketing and third parties, including telecommunications agents, system integrators, value-added resellers and other telecommunications firms. We support our distribution through digital advertising, events, television advertising, website promotions and public relations. We maintain local offices in most major and secondary markets within the U.S. and many of the primary markets of the more than 60 countries in which we provide services.

Similarly, our sales and marketing approach to our mass market customers emphasizes customer-oriented sales, marketing and service with a local presence. Our approach includes marketing our products and services primarily through direct sales representatives, inbound call centers, telemarketing and third parties, including retailers, satellite television providers, door to door sales agents and digital marketing firms.

Segments and Products & Services

We completed an internal reorganization in January 2021 to adjust our reporting segments and customer-facing sales channels to better align with operational changes designed to better support our customers. We believe the changes provide greater transparency into how we are performing against our strategy, including focusing on growth opportunities and managing declining legacy services.

Segments

We report our financial performance using two segments, as described below:

- *Business Segment:* Under our Business segment, we provide our products and services under four sales channels to meet the needs of our enterprise and commercial customers; and
- *Mass Markets Segment:* Under our Mass Markets segment, we provide products and services to consumer and small business customers.

The following table shows the composition of our operating revenue by segment for the years ended December 31, 2021, 2020 and 2019:

	Years Ended December 31,			Percent Change	
	2021	2020	2019	2021 vs 2020	2020 vs 2019
Percentage of revenue:					
Business	72 %	72 %	71 %	— %	1 %
Mass Markets	28 %	28 %	29 %	— %	(1) %
Total operating revenue	100 %	100 %	100 %		

For additional information on our segment data, including information on certain centrally-managed assets and expenses not reflected in our segment results, see Note 17—Segment Information to our consolidated financial statements in Item 8 of Part II of this report and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Reporting Segments" in Item 7 of Part II of this report.

Products & Services

Since the first quarter of 2021, we have categorized our products and services revenue among the following product categories for the Business segment:

- *Compute and Application Services*
 - *Edge Cloud Services.* We provide both public and private cloud solutions that allow our customers to optimize cost and performance by offloading workloads. Lumen's cloud products leverage our network edge to provide low-latency secure services for our customers. Additionally, we provide cloud orchestration tools that allow customers to shift work between cloud environments dynamically;
 - *IT Solutions.* We craft technology solutions for our customers and often manage these solutions on an ongoing basis. These services frequently enhance equipment or networks owned, acquired, or controlled by the customer and often include our consulting or software development;
 - *Unified Communications and Collaboration ("UC&C").* We provide access to various unified communications platforms. This offering includes both individual, license-based UC&C models and more robust options that transform a customer's inbound and outbound calling platform;
 - *Colocation and Data Center Services.* We provide different options for organizations' data center needs. Our data center services range from dedicated hosting and cloud services to more complex managed solutions, including disaster recovery, business continuity, applications management support and security services to manage mission critical applications;
 - *Content Delivery.* Our content delivery services provide our customers with the ability to meet their streaming video and far-reaching digital content distribution needs through our Content Delivery Network ("CDN") services and our Vyvx Broadcast Solutions; and
 - *Managed Security Services.* We provide enterprise security solutions that help our customers secure networks, mitigate malicious attacks and identify potential security threats. These services include DDoS mitigation, remote and premise-based firewalls, professional consulting and management services, and threat intelligence services.
- *IP and Data Services*
 - *Ethernet.* We deliver a robust array of networking services built on ethernet technology. Ethernet services include point-to-point and multi-point equipment configurations that facilitate data transmissions across metropolitan areas and larger enterprise-class wide area networks. Our ethernet technology is also used by wireless service providers for data transmission via our fiber-optic cables connected to their towers;
 - *Internet Protocol ("IP").* Our IP services provide global internet access over a high performance, diverse network with connectivity in more than 60 countries. Our fiber network spans approximately 500,000 route miles globally with extensive off-net access solutions across North America, Europe, Latin America and Asia Pacific;
 - *VPN Data Networks.* Built on our extensive fiber-optic network, we create private networks tailored to our customers' needs. These technologies enable service providers, enterprises and government entities to streamline multiple networks into a single, cost-effective solution that simplifies the transmission of voice, video, and data over a single secure network; and
 - *Voice Over Internet Protocol ("VoIP").* We deliver a broad range of local and enterprise voice and data services built on VoIP technology, including VoIP enhanced local service, national and multinational SIP trunking, hosted VoIP service, Primary Rate Interface ("PRI") service support, long distance service and toll-free service.

- *Fiber Infrastructure Services*
 - *Dark Fiber.* We possess an extensive array of unlit optical fiber known as “dark fiber,” which has been laid but not yet been equipped with the equipment necessary for it to transmit data. Many large enterprises are interested in building their networks with this high-bandwidth, highly secure optical technology. We provide professional services to engineer these networks, and in some cases, manage them for customers; and
 - *Optical Services.* We deliver high bandwidth optical wavelength networks to customers requiring an end-to-end solution with ethernet technology for a scalable amount of bandwidth connecting sites or providing high-speed access to cloud computing resources.
- *Voice and Other*
 - *Voice Services.* We offer our customers a complete portfolio of traditional Time Division Multiplexing (“TDM”) voice services including PRI service, local inbound service, switched one-plus, toll free, long distance and international services;
 - *Private Line.* We deliver private line services, a direct circuit or channel specifically dedicated for connecting two or more organizational sites. Private line service offers a high-speed, secure solution for frequent transmission of large amounts of data between sites, including wireless backhaul transmissions; and
 - *Other Legacy Services.* We continue to provide certain services based on older platforms to support our customers as they transition to newer technology. These services include Synchronous Optical Network (“SONET”) based ethernet, legacy data hosting services, and conferencing services.

At December 31, 2021, we reported our products and services revenue among the following categories for the Mass Markets segment:

- *Consumer Broadband.* Includes high speed fiber-based and lower speed DSL-based broadband services to residential customers;
- *Small Business Group (“SBG”).* Includes high speed fiber-based and lower speed DSL-based broadband services to small businesses;
- *Voice and Other.* Includes primarily local and long-distance services, professional services and other ancillary services; and
- *Connect America Fund (“CAF”) II.* Consists of CAF Phase II payments through the end of 2021 to support voice and broadband in Federal Communications Commission (“FCC”) designated high-cost areas.

Research, Development & Intellectual Property

As of December 31, 2021, we had approximately 2,800 patents and patent applications in the U.S. and other countries. We have also received licenses to use patents held by others. Patent licenses give us the freedom to operate our business without the risk of interruption from the holder of the patented technology. We plan to continue to file new patent applications as we enhance and develop products and services, and we plan to continue to seek opportunities to expand our patent portfolio through strategic acquisitions and licensing.

In addition to our patent rights, we have rights in various trade names, trademarks, copyrights and other intellectual property that we use to conduct our business. Our services often use the intellectual property of others, including licensed software. We also occasionally license our intellectual property to others as we deem appropriate.

For information on various litigation risks associated with owning and using intellectual property rights, see “Risk Factors—Business Risks” in Item 1A of Part I of this report, and Note 18—Commitments, Contingencies and Other Items to our consolidated financial statements in Item 8 of Part II of this report.

Regulation of Our Business

Our domestic operations are regulated by the FCC, by various state regulatory commissions and occasionally by local agencies. Our non-domestic operations are regulated by supranational groups (such as the European Union, or EU), national agencies and frequently state, provincial or local bodies. Generally, we must obtain and maintain operating licenses from these bodies in most areas where we offer regulated services. For information on the risks associated with the regulations discussed below, see “Risk Factors—Legal and Regulatory Risks” in Item 1A of Part I of this report.

Changes in the composition and leadership of the FCC, state regulatory commissions and other agencies that regulate our business could have significant impacts on our revenue, expenses, competitive position and prospects. Changes in the composition and leadership of these agencies are often difficult to predict, which makes future planning more difficult. The following description discusses some of the major regulations affecting our operations, but others could have a substantial impact on us as well. For additional information, see “Risk Factors” in Item 1A of Part I of this report.

Federal Regulation of Domestic Operations

General

The FCC regulates the interstate services we provide, including the business data service charges we bill for wholesale network transmission and intercarrier compensation, including the interstate access charges that we bill other communications companies in connection with the origination and termination of interstate phone calls. Additionally, the FCC regulates several aspects of our business related to international communications services, privacy, public safety and network infrastructure, including (i) our access to and use of local telephone numbers, (ii) our provision of emergency 911 services and (iii) our use or removal (potentially on a reimbursable basis) of equipment produced by certain vendors deemed to cause potential national security risks. We could incur substantial penalties if we fail to comply with the FCC’s applicable regulations.

Many of the FCC’s regulations adopted in recent years remain subject to judicial review and additional rulemakings, thus increasing the difficulty of determining the ultimate impact of these changes on us and our competitors.

Universal Service

In 2015, we accepted CAF funding from the FCC of approximately \$500 million per year for six years to fund the deployment of voice and broadband capable infrastructure for approximately 1.2 million rural households and businesses in 33 of the 37 states in which we then operated as an ILEC under the CAF Phase II high-cost support program. As a result of accepting CAF Phase II support payments for 33 states, as well as existing merger-related commitments, we were obligated to make substantial capital expenditures to build infrastructure by certain specified milestone deadlines. In accordance with the FCC’s January 2020 order, we elected to receive an additional year of CAF Phase II funding in the end of 2021.

In early 2020, the FCC created the Rural Digital Opportunity Fund (the “RDOF”), which is a new federal support program designed to replace the CAF Phase II program. On December 7, 2020, the FCC allocated in its RDOF Phase I auction \$9.2 billion in support payments over 10 years to deploy high speed broadband to over 5.2 million unserved locations. We won bids for RDOF Phase I support payments of \$26 million, annually. We expect our support payments under the RDOF Phase I program will begin soon after our anticipated receipt of the FCC’s approval of our pending application. Assuming we timely complete our pending divestiture of the ILEC business on the terms described herein, we expect a portion of these payments will accrue to the purchaser of that business. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses to our consolidated financial statements in Item 8 of Part II of this report for additional information.

For additional information about the potential financial impact of the CAF Phase II program, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7 of Part II of this report.

Broadband Regulation

In February 2015, the FCC adopted an order classifying broadband internet access services (“BIAS”) under Title II of the Communications Act of 1934 and applying new regulations. In December 2017, the FCC voted to repeal the classification of BIAS as a Title II service and to preempt states from imposing substantial regulations on broadband. Opponents of this change appealed this action in federal court. Several states have also opposed the change and have proposed, implemented or enacted laws or orders focused on state-specific Internet service regulation. In October 2019, the federal court upheld the FCC’s classification decision but vacated a part of its preemption ruling. Various courts are considering or have ruled upon the issue of the enforceability of state broadband regulation, and additional litigation and appeals are expected with respect to this issue. In addition, members of the Biden Administration and various consumer interest groups have advocated in favor of reclassifying BIAS under Title II. The ultimate impact of these pending judicial matters and calls for additional regulation are currently unknown to us, although the imposition of heightened regulation of our Internet operations could potentially hamper our ability to operate our data networks efficiently, restrict our ability to implement network management practices necessary to ensure quality service, increase the cost of operating, maintaining and upgrading our network and otherwise negatively impact our current operations.

State Regulation of Domestic Operations

Historically ILECs, including ours, have been regulated as “common carriers,” and state regulatory commissions have generally exercised jurisdiction over intrastate voice telecommunications services and their associated facilities. In recent years, most states have reduced their regulation of ILECs. State regulatory commissions generally continue to (i) set the rates that telecommunications companies charge each other for exchanging traffic, (ii) administer support programs designed to subsidize the provision of services to high-cost rural areas, (iii) regulate the purchase and sale of ILECs, (iv) require ILECs to provide service under publicly-filed tariffs setting forth the terms, conditions and prices of regulated services, (v) limit ILECs’ ability to borrow and pledge their assets, (vi) regulate transactions between ILECs and their affiliates and (vii) impose various other service standards. In most states, switched and business data services and interconnection services are subject to price regulation, although the extent of regulation varies by type of service and geographic region. In addition, our Voice-Over-Internet Protocol services are regulated more lightly than legacy telephone services.

Data Privacy Regulations

Various foreign, federal and state laws govern our storage, maintenance and use of customer data, including a wide range of consumer protection, data protection, privacy, intellectual property and similar laws. Data privacy regulations are complex and vary across jurisdictions. As a global company, we must comply with various jurisdictional data privacy regulations, including the General Data Protection Regulation (“GDPR”) in the EU and similar laws adopted by various other jurisdictions in certain of our domestic and overseas markets. The application, interpretation and enforcement of these laws are often uncertain, and may be interpreted and applied inconsistently from jurisdiction to jurisdiction. These regulations require careful handling of personal and customer data and could have a significant impact on our business. We have adopted data handling policies and practices to comply with global data privacy requirements, including GDPR and similar regulations.

Anti-Bribery and Corruption Regulations

As a global company we must comply with complex foreign and U.S. laws and regulations governing business ethics and practices, such as the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act and other local laws prohibiting corrupt payments to governmental officials and anti-competition regulations. We have compliance policies, programs and training to prevent non-compliance with such anti-corruption regulations in the U.S. and other jurisdictions.

International Regulations

Our subsidiaries operating outside of the U.S. are subject to various regulations in the markets where service is provided. The scope of regulation varies from country to country. The communications regulatory regimes in certain of our non-domestic markets are in the process of development. Many issues, including the pricing of services, have not been addressed fully, or even at all.

The United Kingdom ("UK") recently terminated its membership in the EU ("Brexit") and has entered into related separation agreements with the EU regarding data sharing, financial services and other matters. Several factors which are currently unknown will influence Brexit's ultimate impact on our business. We operate a staging facility in the UK, where certain core network elements and customer premises equipment is configured before being shipped to both UK and EU locations. The UK is currently also a central repository of our spare parts for use in our European operations. However, we have also established a third party sparing facility in Amsterdam which we believe will help mitigate potential disruptions resulting from any impediments to the free movement of goods between the EU and the UK. Given the small percentage of our global personnel that are UK or EU nationals, we do not anticipate any adverse impact from Brexit on our workforce. We are currently monitoring Brexit developments, reviewing our supply chain alternatives, and assessing the short and long-term implications of Brexit on our operations. Nonetheless, based on current information, we do not anticipate Brexit will have a substantial impact on our business.

Our overseas operations are subject to various U.S. export and sanctions laws and regulations. Our deconsolidated Venezuelan affiliate conducts operations in Venezuela, which is currently subject to certain U.S. sanctions.

Other Regulations

Our networks and properties are subject to numerous federal, state and local laws and regulations, including laws and regulations governing the use, storage and disposal of hazardous materials, the release of pollutants into the environment and the remediation of contamination. Our contingent liabilities under these laws are further described in Note 18—Commitments, Contingencies and Other Items. Certain federal and state agencies, including attorneys general, monitor and exercise oversight related to consumer protection issues. We are also subject to codes that regulate our trenching and construction operations or that require us to obtain permits, licenses or franchises to operate. Such regulations are enacted by municipalities, counties, state, federal or other regional governmental bodies, and can vary widely from jurisdiction to jurisdiction as a result. Such regulations may also require us to pay substantial fees.

Seasonality

Overall, our business is not materially impacted by seasonality. Our network-related operating expenses are, however, generally higher in the second and third quarters of the year. From time to time, weather related problems have resulted in increased costs to repair our network and respond to service calls in some of our markets. The amount and timing of these costs are subject to the weather patterns of any given year but have generally been highest during the third quarter and have been related to damage from severe storms, including hurricanes, tropical storms and tornadoes in our markets along the Atlantic and Gulf of Mexico coastlines.

Additional Information

From time to time, we may make investments in other communications or technology companies. For further information on regulatory, technological and competitive factors that could impact our revenue, see "Regulation" under this Item 1, above, and "Competition" under this Item 1, above, and "Risk Factors" under Item 1A, below. For more information on the financial contributions of our various services, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of this report.

Website Access and Important Investor Information

We were incorporated in Louisiana in 1968. Our website is www.lumen.com. We routinely post important investor information in the "Investor Relations" section of our website at ir.lumen.com. The information contained on, or that may be accessed through, our website is not part of this report or any other periodic reports that we file with the SEC. You may obtain free electronic copies of annual reports on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K of us and two of our principal subsidiaries, and amendments to those reports, in the "Investor Relations" section of our website (ir.lumen.com) under the heading "FINANCIALS" and subheading "SEC Filings." These reports are also available on the SEC's website at www.sec.gov. From time to time, we also use our website to webcast our earnings calls and certain of our meetings with investors or other members of the investment community.

We have adopted a written code of conduct that serves as the code of ethics applicable to our directors, officers and employees, in accordance with applicable laws and rules promulgated by the SEC and the New York Stock Exchange. In the event that we make any changes (other than by a technical, administrative or non-substantive amendment) to, or provide any waivers from, the provisions of our code of conduct applicable to our directors or executive officers, we intend to disclose these events on our website or in a report on Form 8-K filed with the SEC. The code of conduct, as well as copies of our guidelines on significant governance issues and the charters of our key board committees, are also available in the "Governance" section of our website at www.lumen.com/en-us/about/governance or in print to any shareholder who requests them by sending a written request to our Corporate Secretary at Lumen Technologies, Inc., 100 CenturyLink Drive, Monroe, Louisiana, 71203.

In connection with filing this report, our chief executive officer and chief financial officer made the certifications regarding our financial disclosures required under the Sarbanes-Oxley Act of 2002, and its related regulations. In addition, during 2021, our chief executive officer certified to the New York Stock Exchange that he was unaware of any violations by us of the New York Stock Exchange's corporate governance listing standards.

As a large complex organization, we are from time to time subject to litigation, disputes, governmental or internal investigations, consent decrees, service outages, security breaches or other adverse events. We typically publicly disclose these occurrences (and their ultimate outcomes) only when we determine these disclosures to be material to investors or otherwise required by applicable law.

We typically disclose material non-public information by disseminating press releases, making public filings with the SEC, or disclosing information during publicly accessible meetings or conference calls. Nonetheless, from time to time we have used, and intend to continue to use, our website and social media accounts to augment our disclosures.

Investors should also be aware that while we do, at various times, answer questions raised by securities analysts, it is against our policy to disclose to them selectively any material non-public information or other confidential information. Accordingly, investors should not assume that we agree with any statement or report issued by an analyst with respect to our past or projected performance. To the extent that reports issued by securities analysts contain any projections, forecasts or opinions, such reports are not our responsibility.

Unless otherwise indicated, information contained in this report and other documents filed by us under the federal securities laws concerning our views and expectations regarding the technology or communications industries are based on estimates made by us using data from industry sources and making assumptions based on our industry knowledge and experience. You should be aware that we have not independently verified data from industry or other third-party sources and cannot guarantee its accuracy or completeness.

Our principal executive offices and telephone number are listed on the cover page of this report.

ITEM 1A. RISK FACTORS

The following discussion identifies material factors that could (i) materially and adversely affect our business, financial condition, results of operations or prospects or (ii) cause our actual results to differ materially from our anticipated results, projections or other expectations. The following information should be read in conjunction with the other portions of this annual report, including "Special Note Regarding Forward-Looking Statements", "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 and our consolidated financial statements and related notes in Item 8. All references to "Notes" in this Item 1A of Part I refer to the Notes to Consolidated Financial Statements included in Item 8 of Part II of this report. Please note the following discussion is not intended to comprehensively list all risks or uncertainties faced by us. Our operations or actual results could also be similarly impacted by additional risks and uncertainties that are not currently known to us, that we currently deem to be immaterial, that arise in the future or that are not specific to us. In addition, certain of the risks described below apply only to a part or segment of our business.

Business Risks

We may not be able to create the global digital experience expected by customers.

Our customers expect us to create and maintain a global digital experience, including: (i) automation and simplification of our offerings, (ii) customer self-service options and (iii) digital access to our products, services and customer support. To do so, we must complete the digital transformation of our operations that is currently underway. Effective digital transformation is a complex, dynamic process requiring efficient allocation and prioritization of resources, simplification of our product portfolio, faster product deployments, retirement of obsolete systems, migration of data and corresponding workforce and system development. We cannot assure you we will be able to effect the successful digital transformation necessary to develop or deliver a global digital experience expected by our customers. If we are unable to do so, we could lose existing customers or fail to attract new ones, either of which could prevent us from attaining our financial goals.

Challenges with integrating or modernizing our existing applications and systems could harm our performance.

To succeed, we need to integrate, upgrade and evolve our existing applications and systems, including many legacy systems from past acquisitions. We cannot assure you we will be able to integrate our legacy IT systems, modernize our infrastructure, timely retire aging systems or deploy a master data management platform. These modernization efforts will require efficient allocation of resources, development capacity, access to subject-matter experts, development of a sustainable operating model and successful collaboration between legal, privacy and security personnel. Any failure to timely accomplish these initiatives may negatively affect our (i) customer and employee experiences, (ii) ability to meet regulatory, legal or contractual obligations, (iii) network stability, (iv) ability to realize anticipated efficiencies, (v) ability to timely repair infrastructure and respond to service outages or (vi) ability to deliver value to our customers at required speed and scale.

We operate in an intensely competitive industry and existing and future competitive pressures could harm our performance.

Each of our business and mass market offerings faces increasingly intense competition, with increased pressure to be digitally integrated and quick to market, from a wide range of sources under evolving market conditions that have increased the number and variety of companies that compete with us. Some of our current and potential competitors: (i) offer products or services that are substitutes for our traditional wireline services, including wireless broadband, wireless voice and non-voice communication services, (ii) offer a more comprehensive range of communications products and services, (iii) have greater marketing, engineering, research, development, technical, provisioning, customer relations, financial or other resources, (iv) conduct operations or raise capital at a lower cost than we do, (v) are subject to less regulation than we are, (vi) have stronger brand names, (vii) have deeper or more long-standing relationships with key customers, (viii) might be perceived as having an ESG profile more attractive to customers or employees, or (ix) have larger operations than ours, any of which may enable them to compete more successfully for customers, strategic partners and acquisitions. Competitive pressures have lowered market prices for many of our products and services in recent years and continued competitive pressures will likely place further downward pressure on market pricing.

Our ability to successfully compete could be hampered if we fail to timely develop and market innovative technology solutions that address changing customer demands.

The technology and communications industry has been and continues to be impacted by significant technological changes, which are enabling an increasing variety of companies to compete with us. Many of these technological changes are (i) displacing or reducing demand for certain of our services, (ii) enabling the development of competitive products or services, (iii) enabling customers to reduce or bypass use of our networks or (iv) reducing profit margins. For example, as service providers continue to invest in 5G networks and services, their 5G services could reduce demand for our network services. Increasingly, customers are demanding more technologically advanced products that suit their evolving needs. To remain competitive, we will need to accurately predict and respond to changes in technology, to continue developing products and services attractive to our customers, to maintain and expand our network to enable it to support customer demands for greater transmission capacity and speeds, and to discontinue outdated products and services on a cost-effective basis. Our ability to do so could be restricted by various factors, including limitations of our existing network, technology, capital or personnel. If we fail at that, we could lose customers or fail to attract new ones.

We may be unable to attract, develop and retain leaders and employees with the right skillsets and technical expertise.

We may be unable to attract and retain skilled and motivated leaders and employees who possess the right skillsets and technical, managerial and development expertise to execute on our plans for transformation, innovation and strategic growth. We operate in a highly competitive and expanding industry. We operate with a limited pool of employees and there is competition for highly qualified personnel in certain growth markets. Our competitors periodically target our employees with highly sought-after skills and will likely continue to do so in the future. Further, the increased availability of remote working arrangements, largely driven by the COVID-19 pandemic, has expanded the pool of companies that can compete for our employees and employee candidates. We believe some of our competitors with greater resources and fewer cost constraints than us have from time to time been able to offer compensation, benefits or accommodations in excess of what we are able to offer. As a result, we may be unable to cost-effectively hire and retain employees with market-leading skills. There is no assurance our efforts to recruit and retain qualified personnel will be successful. If we are unable to do so, such failure could have a material adverse effect on our operations and financial condition.

The COVID-19 pandemic caused us to modify our workforce practices, including having the vast majority of our employees work from home. We intend to reopen our offices in 2022 under a “hybrid” working environment, meaning that some of our employees will have the flexibility to work remotely at least some of the time, for the foreseeable future. The hybrid working environment may impair our ability to maintain our collaborative and innovative culture, and may cause disruptions among our employees, including decreases in productivity, challenges in collaboration between on-site and off-site employees and, potentially, employee dissatisfaction and attrition. If our attempts to safely reopen our offices and operate under a hybrid working environment are not successful, our business could be adversely impacted. Additionally, any state or federal vaccine mandate that is upheld by the courts could make it more difficult to retain or attract employees who oppose vaccination mandates and are ineligible for an exemption.

The pandemic and other events over the past couple years have increased employees’ expectations regarding compensation, workplace flexibility and work-home balance. These developments have intensified certain of our above-described challenges and made it relatively more difficult for us to attract and retain top talent. We do not expect these developments to have a material adverse impact on us, but we can provide no assurances to this effect.

We could be harmed if our reputation is damaged.

We believe the Lumen brand name and our reputation are important corporate assets that help us attract and retain customers and talented employees. However, our corporate reputation is susceptible to material damage by events such as disputes with customers or competitors, cyber-attacks or service outages, internal control deficiencies, delivery failures, compliance violations, government investigations or legal proceedings. Similar events impacting one of our competitors could result in negative publicity for our entire industry that indirectly harms our business. We may also experience reputational damage if customers, vendors, employees, advocacy groups, regulators, investors, the media, social media influencers or others criticize our services, operations or public positions.

Our brand and reputation could be impacted by our public commitments to various corporate environmental, social and governance (ESG) initiatives, including our political contributions, our advocacy positions, and our goals for sustainability, inclusion and diversity. Positions we take or do not take on ESG issues could negatively impact our ability to attract or retain customers and employees. Similarly, any failure to achieve our ESG commitments could harm our reputation and adversely affect us.

There is a risk that negative or inaccurate information about Lumen, even if based on rumor or misunderstanding, could adversely affect our business. Damage to our reputation could be difficult, expensive and time-consuming to repair. Damage to our reputation could also reduce the value and effectiveness of the Lumen brand name and could reduce investor confidence in us, having a material adverse impact on the value of our securities.

We could be harmed by cyber-attacks.

Our vulnerability to cyber-attacks is heightened by several features of our operations, including (i) our material reliance on our networks to conduct our operations, (ii) our transmission of large amounts of data over our systems and (iii) our processing and storage of sensitive customer data.

Cyber-attacks on our systems may stem from a variety of sources, including fraud, malice or sabotage on the part of foreign nations, third parties, vendors, or employees and attempts by outside parties to gain access to sensitive data that is stored in or transmitted across our network. Cyber-attacks can take many forms, including computer hackings, computer viruses, ransomware, worms or other destructive or disruptive software, denial of service attacks, or other malicious activities. Cyber-attacks can put at risk personally identifiable customer data or protected health information, thereby implicating stringent domestic and foreign data protection laws. These threats may also arise from failure or breaches of systems owned, operated or controlled by other unaffiliated operators to the extent we rely on them to operate our business. Various other factors could intensify these risks, including, (i) our maintenance of information in digital form stored on servers connected to the Internet, (ii) our use of open and software-defined networks, (iii) the complexity of our multi-continent network composed of legacy and acquired properties, (iv) growth in the size and sophistication of our customers and their service requirements, (v) increased use of our network due to greater demand for data services and (vi) our increased incidence of employees working from remote locations.

Like other prominent technology and communications companies, we and our customers are constant targets of cyber-attacks. Despite our efforts to prevent these events, some of these attacks have resulted in security breaches, although thus far none of these breaches has resulted in a material adverse effect on our operating results or financial condition. You should be aware, however, that the risk of breaches is likely to continue to increase due to several factors, including the increasing sophistication of cyber-attacks and the wider accessibility of cyber-attack tools. Known and newly discovered software and hardware vulnerabilities are constantly evolving, which increases the difficulty of detecting and successfully defending against them. You should be further aware that defenses against cyber-attacks currently available to U.S. companies are unlikely to prevent intrusions by a highly-determined, highly-sophisticated hacker. Consequently, you should assume we will be unable to implement security barriers or other preventative measures that repel all future cyber-attacks.

Although we maintain insurance coverage that may, subject to policy terms and conditions (including self-insured deductibles, coverage restrictions and monetary coverage caps), cover certain aspects of our cyber risks, such insurance coverage may be unavailable or insufficient to cover our losses.

Cyber-attacks could (i) disrupt the proper functioning of our networks and systems, which could in turn disrupt the operations of our customers, (ii) result in the destruction, loss, theft, misappropriation or release of proprietary, confidential, sensitive, classified or otherwise valuable information of ours, our employees, our customers or our customers' end users, (iii) require us to notify customers, regulatory agencies or the public of data breaches, (iv) require us to provide credits for future service to our customers or to offer expensive incentives to retain customers; (v) subject us to claims by our customers or regulators for damages, fines, penalties, license or permit revocations or other remedies, (vi) damage our reputation or result in a loss of business, (vii) result in the loss of industry certifications or (viii) require significant management attention or financial resources to remedy the resulting damages or to change our systems. Any or all of the foregoing developments could have a material adverse impact on us.

We could be harmed by outages in our network or various platforms, or other failures of our services.

We are also vulnerable to outages in our network, hosting, cloud or IT platforms, as well as failures of our products or services (including basic and enhanced 911 emergency services) to perform in the manner anticipated. These outages or other failures could result in several of the same adverse effects listed above for cyber-attacks, including the loss of customers, the issuance of credits or refunds, and regulatory fines. This vulnerability may be increased by several factors, including aging network elements, human error, changes in our network, the introduction of new products or technologies, vulnerabilities in our vendors or supply chain, aberrant employees and hardware and software limitations. The process for remediating any interruptions, outages, delays or cessations of service could be more expensive, time-consuming, disruptive and resource intensive than planned. From time to time in the ordinary course of our business we experience disruptions in our service. We could experience more significant disruptions in the future. Delayed sales, lower margins, fines or lost customers resulting from such disruptions could have a negative impact on our business, reputation, results of operations, financial condition, cash flows and stock price.

Several of our services continue to experience declining revenue, and our efforts to offset these declines may not be successful.

Primarily as a result of the competitive and technological changes discussed above, we have experienced a prolonged systemic decline in our local voice, long-distance voice, network access and private line revenues. Consequently, we have experienced declining consolidated revenues (excluding acquisitions) for a prolonged period and have not been able to realize cost savings sufficient to fully offset the decline. More recently, we have experienced declines in revenue derived from a broader array of our products and services. We have thus far been unable to reverse our annual revenue losses (excluding acquisitions). In addition, most of our more recent product and service offerings generate lower profit margins and may have shorter lifespans than our traditional communication services, and some can be expected to experience slowing or no growth in the future. Accordingly, we may not be successful in attaining our goal of achieving future revenue growth.

Our operations, financial performance and liquidity are materially reliant on key suppliers, vendors and other third parties.

Our ability to conduct our operations could have a material adverse impact on us if certain of our arrangements with third parties were terminated, including those further described below.

Reliance on other communications providers. To offer certain services in certain of our markets, we must either purchase services or lease network capacity from, or interconnect our network with, the infrastructure of other communications carriers or cloud companies who typically compete against us in those markets. Our reliance on these supply or interconnection arrangements limits our control over the delivery and quality of our services. In addition, we are exposed to the risk that other carriers may be unwilling or unable to continue or renew these arrangements in the future. Those risks are heightened when the other carrier is a competitor who may benefit from terminating the agreement or imposing price increases. Additionally, certain of our operations carry a significant amount of voice or data traffic for other communications providers. Their reliance on our services exposes us to the risk that they may transfer all or a portion of this traffic from our network to alternative networks owned or leased by them, thereby reducing our revenue.

Reliance on key suppliers and vendors. We depend on a limited number of suppliers and vendors to provide us, directly or through other suppliers, with equipment and services relating to our network infrastructure, including fiber optic cable, software, optronics, transmission electronics, digital switches, routing equipment, customer premise equipment, and related components. We also rely on software and service vendors or other parties to assist us with operating, maintaining and administering our business, including billing, security, provisioning and general operations. If any of these vendors experience business interruptions, security breaches, litigation or other issues that interfere with their ability to deliver their products or services on a timely basis, our operations could suffer significantly. To the extent that proprietary technology of a supplier is an integral component of our network, we may have limited flexibility to purchase key network components from alternative suppliers.

The COVID-19 pandemic and other factors have led to a shortage of semiconductors and certain other supplies that we use in our business. Thus far, the negative impact of these shortages on our financial results has not been significant. If these shortages intensify, however, it could materially impact our financial results in a variety of ways, including by increasing our expenses, delaying our network expansion plans or interfering with our ability to deliver products and services.

Reliance on key licensors. We rely on key technologies licensed from third parties to deliver certain of our products and services. Our agreements with these licensors may expire or be terminated, and some of the licenses may not be available to us in the future on terms acceptable to us or at all. Moreover, if we incorporate licensed technology into our network, we may have limited flexibility to deploy different technologies from alternative licensors.

Reliance on key customer contracts. We have several complex high-value national and global customer contracts. These contracts are frequently impacted by a variety of factors that could reduce or eliminate the profitability of these contracts. Moreover, we would be adversely impacted if we fail to renew major contracts upon their expiration.

Reliance on landowners. We rely on rights-of-way, colocation agreements, franchises and other authorizations granted by governmental bodies, railway companies, utilities, carriers and other third parties to locate a portion of our network equipment over, on or under their respective properties. A significant number of these authorizations are scheduled to lapse over the next five to ten years, unless we are able to extend or renew them. Further, some of our operations are subject to licensing and franchising requirements imposed by municipalities or other governmental authorities. Our operations could be adversely affected if any of these authorizations are cancelled, or otherwise terminate or lapse, or if the landowner requests price increases. We cannot assure you we will be able to successfully extend these arrangements when their terms expire, or to enter into new arrangements that may be necessary to implement our network expansion opportunities.

Climate change could disrupt our operations, cause us to incur substantial additional capital and operating costs or negatively affect our business.

A substantial number of our domestic facilities are located in coastal states, which subjects them to the risks associated with severe tropical storms, hurricanes and tornadoes, and many other of our facilities are subject to the risk of earthquakes, floods, fires, tornadoes or other similar casualty events. These events could cause substantial damages, including downed transmission lines, flooded facilities, power outages, fuel shortages, network congestion, delay or failure, damaged or destroyed property and equipment, and work interruptions. Due to substantial deductibles, coverage limits and exclusions, and limited availability, we have typically recovered only a portion of our losses through insurance.

Climate change may increase the frequency or severity of natural disasters and other extreme weather events in the future, which would increase our exposure to the above-cited risks and could disrupt our supply chain from our key suppliers and vendors. Also, concern over climate change may result in new or increased legal and regulatory requirements to reduce or mitigate the effects of climate change, which could result in significant increased costs and require additional investments in facilities and equipment, thereby negatively affecting our business and operations. In addition, any failure to achieve our goals or regulatory mandates with respect to reducing our impact on the environment could result in the adverse impacts noted above.

Any additional future acquisitions or strategic investments may not be available on attractive terms and would subject us to additional risks.

Much of our past growth is attributable to acquisitions. In an effort to implement our business strategies, we may from time to time in the future attempt to pursue other acquisition or expansion opportunities, including strategic investments. To the extent we can identify attractive opportunities, these transactions could involve acquisitions of entire businesses or investments in start-up or established companies and could take several forms. These types of transactions may present significant risks and uncertainties, including the difficulty of identifying appropriate companies to acquire or invest in on acceptable terms, potential violations of covenants in our debt instruments, insufficient revenue acquired to offset liabilities assumed, unexpected expenses, inadequate return of capital, regulatory or compliance issues, potential infringements, difficulties integrating the new properties into our operations, and other unidentified issues not discovered in due diligence. In addition, the financing of any future acquisition completed by us could adversely impact our capital structure. Except as required by law or applicable securities exchange listing standards, we do not expect to ask our shareholders to vote on any proposed acquisition.

Asset dispositions could have a detrimental impact on us or the holders of our securities.

In the past, we have disposed of assets or asset groups for a variety of reasons, and currently expect to consummate later this year two pending divestitures discussed elsewhere in this section "Item 1A. Risk Factors." In addition, we may dispose of other assets or asset groups from time to time in the future. If we proceed with any such other divestitures of assets, we may experience operational difficulties segregating them from our retained assets and operations, which could result in disruptions to our operations or claims for damages, among other things. Moreover, such dispositions could reduce our cash flows available to support our payment of dividends, capital expenditures, pension contributions, debt maturities or other commitments.

An outbreak of disease or similar public health threat, such as the recent COVID-19 pandemic, could have a material adverse impact on us.

An outbreak of disease or similar public health threat, such as the recent COVID-19 pandemic and its detrimental impact on the worldwide economy, could have a material adverse impact on our operating results and financial condition. Variants of the COVID-19 virus pose the risk that we or our employees, contractors, suppliers, customers and other business partners may be prevented from conducting business activities at expected levels through established processes for an indefinite period of time. Future events regarding the pandemic, which are unpredictable and beyond our control, will likely continue impacting our operations and results by its effects on demand for our products and services and network usage, on our customers' ability to continue to pay us in a timely manner, on other third parties we rely on, on our workforce, on our performance under our contracts, and on our supply chains or distribution channels for our products and services. In addition, many of our employees continue to face challenges due to pandemic-related financial, family and health burdens that may negatively impact their ability or willingness to remain employed or fully engaged. If the pandemic intensifies or economic conditions deteriorate, the pandemic's adverse impact on us could become pronounced in the future and could have a material adverse impact on our operating results and financial condition.

Moreover, to the extent any of these risks and uncertainties adversely impact us, they may also have the effect of heightening many of the other risks described in this section "Item 1A. Risk Factors."

We have taken certain precautions due to the uncertain and evolving situation relating to the spread of COVID-19 that could have a material adverse impact on us.

The precautionary measures described in this annual report we have taken to safeguard our employees and customers could make it more difficult to (i) timely and efficiently furnish products and services to our customers, (ii) devote sufficient resources to our ongoing network and product simplification projects, (iii) efficiently monitor and maintain our network, (iv) maintain effective internal controls, (v) mitigate information technology or cybersecurity related risks, (vi) maintain a consistent culture and (vii) otherwise operate and administer our affairs. As such, these measures ultimately could have a material adverse impact on our operating results and financial condition.

We face other business risks.

We face other business risks, including among others:

- the difficulties of managing and administering an organization that offers a complex set of products to a diverse range of customers across several continents; and
- the adverse effects of terrorism, rioting, vandalism or social unrest.

Legal and Regulatory Risks

We are subject to an extensive, evolving regulatory framework that could create operational or compliance costs.

As explained in greater detail elsewhere in this annual report, (i) our domestic operations are regulated by the FCC and other federal, state and local agencies and (ii) our international operations are regulated by a wide range of various foreign and international bodies. We cannot assure you we will be successful in obtaining or retaining all regulatory licenses necessary to carry out our business in our various markets. Even if we are, the prescribed service standards and conditions imposed on us under these licenses and related data storage, communication and transfer laws may increase our costs, limit our operational flexibility or result in third-party claims.

We are subject to numerous requirements and interpretations under various international, federal, state and local laws, rules and regulations, which are often quite detailed and occasionally in conflict with each other. Accordingly, we cannot ensure we will always be considered to be in compliance with all these requirements at any single point in time.

Various governmental agencies, including state attorneys general with jurisdiction over our operations, have routinely in the past investigated our business practices either in response to customer complaints or on their own initiative, and are expected to continue to do the same in the future. Certain of these investigations have resulted in substantial fines in the past. On occasion, we have resolved such matters by entering into consent decrees, which are court orders that frequently bind us to specific conduct going forward. If breached by us, these consent decrees expose us not only to contractual remedies, but also to judicial enforcement via contempt of court proceedings, any of which could have material adverse consequences. Additionally, future investigations can potentially result in enforcement actions, litigation, fines, settlements or reputational harm, or could cause us to change our sales practices or operations.

Our participation in the FCC's CAF Phase II and RDOF programs subjects us to certain financial risks. If we are not in compliance with FCC measures by the end of the CAF Phase II and RDOF programs, we could incur substantial penalties.

We provide products or services to various federal, state and local agencies. Our failure to comply with complex governmental regulations and laws applicable to these programs, or the terms of our governmental contracts, could result in us suffering substantial negative publicity or penalties, being suspended or debarred from future governmental programs or contracts for a significant period of time and in certain instances could lead to the revocation of our FCC licenses. Moreover, certain governmental agencies frequently reserve the right to terminate their contracts for convenience or if funding is unavailable. If our governmental contracts are terminated for any reason, or if we are suspended or debarred from governmental programs or contracts, it could have a material adverse impact on our results of operations and financial condition.

Adapting and responding to changing regulatory requirements has historically materially impacted our operations. We believe evolving regulatory developments and regulatory uncertainty could continue to have a material impact on our business. In particular, our business could be materially impacted if the U.S. Congress amends or eliminates current federal law limitations on the liability of private network providers, such as us, against claims related to third party content stored or transmitted on private networks, as currently proposed by certain governmental officials, legislative leaders and consumer interest groups. We could also be materially affected if currently pending proposals to increase the regulation of internet service providers or to further strengthen data privacy laws are implemented. In addition, federal and state agencies that regulate the support program payments we receive or the fees that we charge for certain of our regulated services can, and from time to time do, reduce the amounts we receive or can charge. The variability of these laws could also hamper the ability of us and our customers to plan for the future or establish long-term strategies.

Third-party content stored or transmitted on our networks could result in liability or otherwise damage our reputation.

While we disclaim liability for third-party content in most of our service contracts, as a private network provider we potentially could be exposed to legal claims relating to third-party content stored or transmitted on our networks. Such claims could involve, among others, allegations of defamation, invasion of privacy, copyright infringement, or aiding and abetting restricted activities such as online gambling or pornography. Although we believe our liability for these types of claims is limited under current law, suits against other carriers have been successful and we cannot assure you that our defenses will prevail. Such third-party content could also result in adverse publicity and damage our reputation. Moreover, as noted above, pending proposals to change the law could materially heighten our legal exposure.

Our pending legal proceedings could have a material adverse impact on us.

There are several potentially material proceedings pending against us. Results of these legal proceedings cannot be predicted with certainty. As of any given date we could have exposure to losses under proceedings in excess of our accrued liability. For each of these reasons, any of the proceedings described in Note 18—Commitments, Contingencies and Other Items, as well as current litigation not described therein or future litigation, could have a material adverse effect on our business, reputation, financial position, operating results, the trading price of our securities and our ability to access the capital markets. We can give you no assurances as to the ultimate impact of these matters on us.

We may not be successful in protecting and enforcing our intellectual property rights.

We rely on various patents, copyrights, trade names, trademarks, service marks, trade secrets and other similar intellectual property rights, as well as confidentiality agreements and procedures, to establish and protect our proprietary rights. For a variety of reasons, however, these steps may not fully protect us, including due to inherent limitations on the ability to enforce these rights. If we are unsuccessful in protecting or enforcing our intellectual property rights, our business, competitive position, results of operations and financial condition could be adversely affected.

We have been accused of infringing the intellectual property rights of others and will likely face similar accusations in the future.

We routinely receive notices from third parties or are named in lawsuits filed by third parties claiming we have infringed or are infringing their intellectual property rights. We are currently responding to several of these notices and claims and expect this industry-wide trend will continue. If these claims succeed, we could be required to pay significant monetary damages, to cease using the applicable technology or to make royalty payments to continue using the applicable technology. If we are required to take one or more of these actions, our revenues or profit margins may decline, our operations could be materially impaired or we may be required to stop selling or redesign one or more of our products or services, which could have a material adverse impact on our business. Similarly, from time to time, we may need to obtain the right to use certain patents or other intellectual property from third parties to be able to offer new products and services. If we cannot obtain rights to use any required technology from a third party on reasonable terms, our ability to offer new products and services may be prohibited, restricted, made more costly or delayed.

Failure to extend or renegotiate our collective bargaining agreements or work stoppages could have a material impact on us.

As of December 31, 2021, approximately 21% of our employees were members of various bargaining units represented by labor unions. Although we have agreements with these labor unions, we cannot predict the outcome of our future negotiations of these agreements. We may be unable to reach new agreements, and union employees may engage in strikes, work slowdowns or other labor actions, which could materially disrupt our ability to provide services and increase our costs. Even if we succeed in reaching new or replacement agreements, they may impose significant new costs on us that impair our competitive position.

Our international operations expose us to various regulatory, currency, tax, legal and other risks.

Our international operations are subject to U.S. and non-U.S. laws and regulations regarding operations in international jurisdictions in which we provide services. These numerous and sometimes conflicting laws and regulations include anti-corruption laws, anti-competition laws, trade restrictions, economic sanctions, tax laws, immigration laws, environmental laws, privacy laws and accounting requirements. Many of these laws are complex and change frequently. There is a risk that these laws or regulations may materially restrict our ability to deliver services in various international jurisdictions or expose us to the risk of fines, penalties or license revocations if we are determined to have violated applicable laws or regulations. Additionally, these laws or regulations may potentially impact our customers and result in foregone business or penalties to us if we fail to comply with any applicable sanctions or restrictions on our activities.

Many non-U.S. laws and regulations relating to communications services are more restrictive than U.S. laws and regulations. We are subject to the GDPR of the European Union and the United Kingdom, as well as various other laws governing privacy rights, data protection and cybersecurity laws in other regions. These laws and regulations continue to proliferate and evolve, are becoming more complex and increasingly conflict among the various countries in which we operate, which has resulted in greater compliance risk and cost for us. Moreover, many countries are still in the early stages of providing for and adapting to a liberalized telecommunications market, which could make it more difficult for us to obtain licenses and conduct our operations.

In addition to these international regulatory risks, some of the other risks inherent in conducting business internationally include: economic, social and political instability, with the attendant risks of terrorism, kidnapping, extortion, civic unrest, potential seizure or nationalization of assets; currency and exchange controls, repatriation restrictions and fluctuations in currency exchange rates, including, without limitation, the matters outlined in Note 1—Background and Summary of Significant Accounting Policies — Foreign Currency; problems collecting accounts receivable; the difficulty or inability in certain jurisdictions to enforce contract or intellectual property rights; reliance on certain third parties with whom we lack extensive experience; supply chain challenges; and challenges in securing and maintaining the necessary physical and telecommunications infrastructure.

Our operations and financial results could be impacted by changes in multilateral conventions, treaties, tariffs or other arrangements between or among sovereign nations, including most recently Brexit.

Financial Risks

Our significant debt levels expose us to a broad range of risks.

As of December 31, 2021, we had approximately \$12.4 billion of outstanding consolidated secured indebtedness, \$17.8 billion of outstanding consolidated unsecured indebtedness (including long-term debt reclassified as liabilities held for sale, excluding finance lease obligations, unamortized premiums, net and unamortized debt issuance costs) and \$2.0 billion of unused borrowing capacity under our Revolving Credit Facility.

Our significant levels of debt and related debt service obligations could adversely affect us in several respects, including:

- requiring us to dedicate a substantial portion of our cash flow from operations to the payment of interest and principal on our debt, thereby reducing the funds available to us for other purposes, including acquisitions, capital expenditures, strategic initiatives and dividends;

- hindering our ability to capitalize on business opportunities and to plan for or react to changing market, industry, competitive or economic conditions;
- making us more vulnerable to economic or industry downturns, including interest rate increases (especially with respect to our variable rate debt);
- placing us at a competitive disadvantage compared to less leveraged companies;
- adversely impacting other parties' perception of Lumen, including but not limited to existing or potential customers, vendors, employees or creditors;
- making it more difficult or expensive for us to obtain any necessary future financing or refinancing, including the risk that this could force us to sell assets or take other less desirable actions to raise capital; and
- increasing the risk that we may not meet the financial or non-financial covenants contained in our debt agreements or timely make all required debt payments, either of which could result in the acceleration of some or all of our outstanding indebtedness.

The effects of each of these factors could be intensified if we increase our borrowings or experience any downgrade in our credit ratings or those of our affiliates. Subject to certain limitations and restrictions, the current terms of our debt instruments and our subsidiaries' debt instruments permit us or them to incur additional indebtedness.

We expect to periodically require financing, and we cannot assure you we will be able to obtain such financing on terms that are acceptable to us, or at all.

We expect to periodically require financing in the future to refinance existing indebtedness and potentially for other purposes. Our ability to arrange additional financing will depend on, among other factors, our financial position, performance, and credit ratings, as well as prevailing market conditions and other factors beyond our control. Prevailing market conditions could be adversely affected by (i) general market conditions, such as disruptions in domestic or overseas sovereign or corporate debt markets, geo-political instabilities, trade restrictions, pandemics, contractions or limited growth in the economy or other similar adverse economic developments in the U.S. or abroad, and (ii) specific conditions in the communications industry. Instability in the domestic or global financial markets has from time to time resulted in periodic volatility and disruptions in capital markets. For these and other reasons, we can give no assurance additional financing for any of these purposes will be available on terms acceptable to us, or at all.

If we are unable to make required debt payments or refinance our debt, we would likely have to consider other options, such as selling assets, issuing additional securities, reducing or terminating our dividend payments, cutting or delaying costs or otherwise reducing our cash requirements, or negotiating with our lenders to restructure our applicable debt. Our current and future debt instruments may restrict, or market or business conditions may limit, our ability to complete some of these actions on favorable terms, or at all. For these and other reasons, we cannot assure you we could implement these steps in a sufficient or timely manner, or at all.

We have a highly complex debt structure, which could impact the rights of our investors.

Lumen Technologies, Inc. and various of its subsidiaries owe substantial sums pursuant to various debt and financing arrangements, certain of which are guaranteed by other principal subsidiaries. Almost half of the debt of Lumen Technologies, Inc. is guaranteed by certain of its principal domestic subsidiaries, some of which have pledged substantially all of their assets (including certain of their respective subsidiaries) to secure their guarantees. The remainder of the debt of Lumen Technologies, Inc. is neither guaranteed nor secured. Nearly half of the debt of Level 3 Financing, Inc. is (i) secured by a pledge of substantially all of its assets and (ii) guaranteed on a secured basis by certain of its affiliates. The remainder of the debt of Level 3 Financing, Inc. is not secured by any of its assets, but is guaranteed by certain of its affiliates. As of the date of this annual report, substantial amounts of debt are also owed by two direct or indirect subsidiaries of Qwest Communications International Inc. and by Embarq Corporation and one of its subsidiaries. Most of the nearly 400 subsidiaries of Lumen Technologies, Inc. have neither borrowed money nor guaranteed any of the debt of Lumen Technologies, Inc. or its affiliates. As such, investors in our consolidated debt instruments should be aware that (i) determining the priority of their rights as creditors is a complex matter which is substantially dependent upon the assets and earning power of the entities that issued or guaranteed (if any) the applicable debt and (ii) a substantial portion of such debt is structurally subordinated to all liabilities of the non-guarantor subsidiaries of Lumen Technologies, Inc. to the extent of the value of those subsidiaries that are obligors.

Our various debt agreements include restrictions and covenants that could (i) limit our ability to conduct operations or borrow additional funds, (ii) restrict our ability to engage in inter-company transactions, and (iii) lead to the acceleration of our repayment obligations in certain instances.

Under our consolidated debt and financing arrangements the issuer of the debt is subject to various covenants and restrictions, the most restrictive of which pertain to the debt of Lumen Technologies, Inc. and Level 3 Financing, Inc.

Lumen Technologies, Inc.'s senior secured credit facilities and secured notes contain several significant limitations restricting its ability to, among other things, borrow additional money or issue guarantees; pay dividends or other distributions to shareholders; make loans; create liens on assets; sell assets; transact with its affiliates and engage in mergers or consolidations. These restrictive covenants could have a material adverse impact on our ability to operate or reconfigure our business, to pursue acquisitions, divestitures or strategic transactions, or to otherwise pursue our plans and strategies.

The debt and financing arrangements of Level 3 Financing, Inc. contain substantially similar limitations that restrict their operations on a standalone basis as a separate restricted group. Consequently, certain of these covenants may significantly restrict our ability to receive cash from Level 3, to distribute cash from Level 3 to other of our affiliated entities, or to enter into other transactions among our wholly-owned entities.

Lumen Technologies, Inc.'s senior secured credit facilities and senior secured notes, as well as the term loan debt of Qwest Corporation also contain financial maintenance covenants.

The failure of Lumen Technologies, Inc. or any of its subsidiaries to comply with the above-described restrictive or financial covenants could result in an event of default, which, if not cured or waived, could accelerate our debt repayment obligations. Certain of our debt instruments have cross-default or cross-acceleration provisions. When present, these provisions could have a wider impact on liquidity than might otherwise arise from a default or acceleration of a single debt instrument.

Our cash flows may not adequately fund all of our cash requirements.

Our business is capital intensive. We expect to continue to require significant capital to pursue our Quantum Fiber buildout plans and to otherwise maintain, upgrade and expand our network infrastructure, based on several factors, including (i) changes in customers' service requirements; (ii) our continuing need to expand and improve our network to remain competitive and meet customer demand; and (iii) our regulatory commitments. We will also continue to need substantial amounts of cash to meet our fixed commitments and other business objectives, including without limitation funding our operating costs, maintenance expenses, debt repayments, tax obligations, periodic pension contributions and other benefits payments. We cannot assure you our future cash flows from operating activities will be sufficient to fund all of our cash requirements in the manner currently contemplated.

As a holding company, we rely on payments from our operating companies to meet our obligations.

As a holding company, substantially all of our income and operating cash flow is dependent upon the earnings of our subsidiaries and their distribution of those earnings to us in the form of dividends, loans or other payments. As a result, we rely upon our subsidiaries to generate cash flows in amounts sufficient to fund our obligations, including the payment of our long-term debt. Our subsidiaries are separate and distinct legal entities and have no obligation to pay any amounts owed by us, except to the extent they have guaranteed such payments. Similarly, subject to limited exceptions for tax-sharing or cash management purposes, our subsidiaries have no obligation to make any funds available to us to repay our obligations, whether by dividends, loans or other payments. As discussed in greater detail elsewhere herein, restrictions imposed by credit instruments or other agreements applicable to Level 3 and certain of our other subsidiaries limit the amount of funds our subsidiaries are permitted to transfer to us, including the amount of dividends that may be paid to us. Moreover, our rights to receive assets of any subsidiary upon its liquidation or reorganization would be effectively subordinated to the claims of creditors of that subsidiary, including trade creditors. In addition, the laws under which our subsidiaries were organized typically restrict the amount of dividends they may pay. The ability of our subsidiaries to transfer funds could be further restricted under applicable state or federal tax laws, regulatory orders or regulations. For all these reasons, you should not assume our subsidiaries will be able in the future to generate and distribute to us cash in amounts sufficient to fund our cash requirements.

We cannot assure you we will continue paying dividends at the current rates, or at all.

We cannot assure you we will continue periodic dividends on our capital stock at the current rates, or at all. From time to time, our board has reduced our dividend rate, including reductions in 2019 and 2013.

Any quarterly dividends on our common stock and our outstanding shares of preferred stock will be paid from funds legally available for such purpose when, as and if declared by our Board of Directors. Decisions on whether, when and in which amounts to continue making any future dividend distributions will remain at all times entirely at the discretion of our Board of Directors, which reserves the right to change or terminate our dividend practices at any time and for any reason without prior notice. Holders of our equity securities should be aware they have no contractual or other legal right to receive dividends.

Similarly, holders of our common stock should be aware repurchases of our common stock under any repurchase plan then in effect are completely discretionary and may be suspended or discontinued at any time for any reason regardless of our financial position.

We may not be able to fully utilize our NOLs.

As of December 31, 2021, we had approximately \$2.9 billion of federal Net Operating Losses ("NOLs"), which are subject to limitations under Section 382 of the Internal Revenue Code and related regulations. These limitations could restrict our ability to use these NOLs in the amounts we project. In an effort to safeguard our NOLs, we have maintained an NOL rights agreement since February 2019.

At December 31, 2021, we also had substantial state NOLs and foreign NOLs which we believe are subject to legal and practical limitations on our ability to realize their full benefit. We cannot assure you we will be able to utilize these NOLs as projected or at all.

Increases in costs for pension and healthcare benefits for our active and retired employees may have a material impact on us.

As of December 31, 2021, our company-sponsored benefit plans that cover our current and former U.S.-based employees had approximately 29,000 active employee participants, approximately 60,000 active and retired employees and surviving spouses eligible for post-retirement healthcare benefits, approximately 63,000 pension retirees and approximately 10,000 former employees with vested pension benefits. As of such date, our domestic pension plans and our other domestic post-retirement benefit plans were substantially underfunded from an accounting standpoint. We also maintain benefit plans for a much smaller base of our non-U.S. employees. The cost to fund the pension and healthcare benefit plans for our active and retired employees has a significant impact on our profitability. Our costs of maintaining our pension and healthcare plans, and the future funding requirements for these plans, are affected by several factors, including investment returns on funds held by our applicable plan trusts; changes in prevailing interest rates and discount rates or other factors used to calculate the funding status of our plans; increases in healthcare costs generally or claims submitted under our healthcare plans specifically; the longevity and payment elections of our plan participants; changes in plan benefits; and the impact of the continuing implementation, modification or potential repeal of current federal healthcare and pension funding laws and regulations promulgated thereunder. If interest rates remain at historically low levels for sustained periods, our plan funding costs could substantially increase. Increased costs under these plans could reduce our profitability and increase our funding commitments to our pension plans.

See Note 11—Employee Benefits to our consolidated financial statements in Item 8 of Part II of this report for additional information regarding the funded status of our pension plans and our other post-retirement benefit plans.

Lapses in our disclosure controls and procedures or internal control over financial reporting could materially and adversely affect us.

We maintain (i) disclosure controls and procedures designed to provide reasonable assurances regarding the accuracy and completeness of our SEC reports and (ii) internal control over financial reporting designed to provide reasonable assurance regarding the reliability and compliance with U.S. generally accepted accounting principles (“GAAP”) of our financial statements. We cannot assure you these measures will be effective. Our management previously identified two material weaknesses that, while successfully remediated during 2019, were costly to remediate and caused us to request an extension in order to timely file our annual report on Form 10-K for the year ended December 31, 2018.

If we are required to record additional intangible asset impairments, we will be required to record a significant charge to earnings and reduce our stockholders' equity.

As of December 31, 2021, approximately 45% of our total consolidated assets reflected on the consolidated balance sheet included in this annual report consisted of goodwill, customer relationships and other intangible assets (including goodwill and other intangible assets reclassified as assets held for sale). From time to time, including most recently in the first quarter of 2019 and the fourth quarter of 2020, we have recorded large non-cash charges to earnings in connection with required reductions of the value of our intangible assets. If our intangible assets are determined to be impaired in the future, we may be required to record additional significant, non-cash charges to earnings during the period in which the impairment is determined to have occurred. Any such charges could, in turn, have a material adverse effect on our results of operation or financial condition.

We face other financial risks.

We face other financial risks, including among others the risk that:

- downgrades in our credit ratings or unfavorable financial analyst reports regarding us or our industry could adversely impact the liquidity or market prices of our outstanding debt or equity securities;
- a change of control of us or certain of our affiliates will accelerate a substantial portion of our outstanding indebtedness in an amount that we might not be able to repay, or could adversely impact our ability to continue periodic dividends on our capital stock at current rates, or at all;

- ongoing attempts of the United States, various foreign countries and supranational or international organizations to reform taxes or identify new tax sources could materially impact our taxes, or that one or more of our ongoing tax audits or examinations could result in tax liabilities that differ materially from those we have recognized in our consolidated financial statements; and
- current inflation could negatively impact (i) our margins if the higher cost of our labor and supplies cannot be offset by us raising our prices or reducing our other expenses; (ii) our revenues if an inflationary environment causes our customers to defer or decrease their expenditures on our products or services; or (iii) our interest costs by causing them to rise should inflation continue.

Pending Divestiture Risks

The completion of our pending divestitures are subject to several conditions.

As described further in Note 2—Planned Divestiture of the Latin American and ILEC Businesses to our consolidated financial statements in Item 8 of Part II of this report, we have agreed to divest our Latin American business and our incumbent local exchange (“ILEC”) business conducted within 20 Midwestern and Southern states. The completion of the divestiture of our Latin American business is subject to the receipt of all requisite regulatory approvals in the U.S. and certain countries where the Latin American business operates, as well as the satisfaction of various other closing conditions. The completion of the divestiture of our 20-state ILEC business is subject to the receipt of approvals from the FCC, various states and certain other governmental entities, as well as the satisfaction of various other closing conditions. We cannot assure you that these divestitures will be completed in the timeframes anticipated by us or at all.

The pendency of the divestitures could adversely affect our business.

The pendency of our divestitures could impact us in several ways, including (i) impacting relationships with our customers and vendors, (ii) restricting our operations due to certain specified operating covenants in the purchase agreements, (iii) diverting management’s attention from operating our business in the ordinary course, and (iv) diminishing our ability to retain or attract employees due to concerns over future job security or responsibilities.

We may be unable to successfully segregate the divested businesses from our retained business and realize the anticipated benefits of the divestitures.

Under each pending divestiture, we have agreed to (i) complete certain restructuring transactions to segregate the divested business from our retained business, (ii) provide certain post-closing transition and commercial services to the purchasers, and (iii) receive certain post-closing services from the purchasers designed to ensure the continuity of services to our retained customers.

We anticipate that it will be challenging and time-consuming to segregate the various businesses and provide transition services to the purchasers. Even if we successfully complete both divestitures, we may incur or experience (i) greater tax or other costs or realize fewer benefits than anticipated under the purchase agreements and our post-closing commercial agreements with the purchasers, (ii) operational or commercial difficulties segregating the divested assets from our retained assets, (iii) disputes with the respective purchasers regarding the nature and sufficiency of the transition services we provide or the terms and conditions of our commercial agreements with each respective purchaser, (iv) potential disputes with creditors concerning the pending transactions or use of the proceeds therefrom, (v) higher vendor costs due to reduced economies of scale or other similar dis-synergies, (vi) lower productivity to the extent segregation of the divested businesses distracts or diverts personnel from operating our retained business, (vii) losses or increased inefficiencies from stranded or underutilized assets, (viii) the loss of any customers dissatisfied with our services post-closing, (ix) challenges in retaining and attracting personnel or (x) the loss of vendors or customers due to our inability to assign contracts with their consent.

The divestitures will reduce our future cash flows and sales of higher-margin ILEC services. If our remaining business fails to perform as expected, the divestitures could exacerbate certain of the other financial risks specified in this Item 1A, including our ability to fund all of our current cash requirements.

General Risk Factors

Unfavorable general economic, societal or environmental conditions could negatively impact us.

Unfavorable general economic, societal or environmental conditions, including unstable economic and credit markets, or depressed economic activity caused by trade wars, epidemics, pandemics, wars, societal unrest, rioting, civic disturbances, natural disasters, terrorist attacks, environmental disasters, political instability or other factors, could negatively affect our business or operations. While it is difficult to predict the ultimate impact of these general economic, societal or environmental conditions, they could adversely affect demand for some of our products and services and could cause customers to shift to lower-priced products and services or to delay or forego purchases of our products and services for a variety of reasons. Any one or more of these circumstances could continue to depress our revenue. Also, our customers may encounter financial hardships or may not be able to obtain adequate access to credit, which could negatively impact their ability to make timely payments to us.

Shareholder or debtholder activism efforts could cause a material disruption to our business.

While we always welcome constructive input from our shareholders and regularly engage in dialogue with our shareholders to that end, activist shareholders may from time to time engage in proxy solicitations, advance shareholder proposals or otherwise attempt to effect changes or acquire control over us. Responding to these actions can be costly and time-consuming and may disrupt our operations and divert the attention of our board and management. These adverse impacts could be intensified if activist shareholders advocate actions that are not supported by other shareholders, our board or management. The recent increase in the activism of debtholders could increase the risk of claims being made under our debt agreements.

Our agreements and organizational documents and applicable law could similarly limit another party's ability to acquire us.

A number of provisions in our organizational documents and various provisions of applicable law or our NOL rights agreement may delay, defer or prevent a future takeover of us unless the takeover is approved by our board. These provisions (which are described further in our Registration Statement on Form 8-A/A filed with the SEC on March 2, 2015) could deprive our shareholders of any related takeover premium.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our property, plant and equipment consists principally of fiber-optic and metallic cables, high-speed transport equipment, electronics, switches, routers, cable landing stations, central office equipment, land and buildings related to our operations. Our gross property, plant and equipment consisted of the following components:

	As of December 31,	
	2021 ⁽⁵⁾	2020
Land	2 %	1 %
Fiber, conduit and other outside plant ⁽¹⁾	38 %	46 %
Central office and other network electronics ⁽²⁾	38 %	36 %
Support assets ⁽³⁾	18 %	14 %
Construction in progress ⁽⁴⁾	4 %	3 %
Gross property, plant and equipment	100 %	100 %

(1) Fiber, conduit and other outside plant consists of fiber and metallic cables, conduit, poles and other supporting structures. Fiber, conduit and other outside plant decreased as of December 31, 2021 compared to December 31, 2020 due to the retirement of a portion of our copper-based infrastructure being replaced with our Quantum Fiber infrastructure.

(2) Central office and other network electronics consists of circuit and packet switches, routers, transmission electronics and electronics providing service to customers.

(3) Support assets consist of buildings, cable landing stations, data centers, computers and other administrative and support equipment.

(4) Construction in progress includes inventory held for construction and property of the aforementioned categories that is under construction and has not yet been placed in service.

(5) These values exclude assets reclassified as held for sale.

We own a substantial portion of our telecommunications equipment required for our business. However, we lease from third parties certain facilities, plant and equipment under various finance and operating lease arrangements when the leasing arrangements are more favorable to us than purchasing the assets. We also own and lease administrative offices in major metropolitan locations both in the United States and internationally. Substantially all of our network electronics equipment is located in buildings or on land that we own or lease, typically within our local service area. Outside of our local service area, our assets are generally located on real property pursuant to an agreement with the property owner or another person with rights to the property. It is possible that we may lose our rights under one or more of these agreements, due to their termination or expiration or in connection with legal challenges to our rights under such agreements. With the acquisition of Level 3 on November 1, 2017, we acquired, among other things, title or leasehold rights to various cable landing stations and data centers throughout the world related to undersea and terrestrial cable systems.

Our net property, plant and equipment was approximately \$20.9 billion and \$26.3 billion at December 31, 2021 and 2020, respectively. Substantial portions of our property, plant and equipment is pledged to secure the long-term debt of our subsidiaries or the guarantee obligations of our subsidiary guarantors. For additional information, see Note 9—Property, Plant and Equipment to our consolidated financial statements in Item 8 of Part II of this report.

ITEM 3. LEGAL PROCEEDINGS

The information contained under the subheadings "Pending Matters" and "Other Proceedings and Disputes" in Note 18—Commitments, Contingencies and Other Items to our consolidated financial statements included in Item 8 of Part II of this report is incorporated herein by reference.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is listed on the New York Stock Exchange ("NYSE") and the Berlin Stock Exchange and is traded under the symbol LUMN and CYTH, respectively.

At February 22, 2022, there were approximately 85,000 stockholders of record, although there were significantly more beneficial holders of our common stock.

As described in greater detail in "Risk Factors" in Item 1A of Part I of this report, the declaration and payment of dividends is at the discretion of our Board of Directors, and will depend upon our financial results, cash requirements, future prospects and other factors deemed relevant by our Board of Directors.

Issuer Purchases of Equity Securities

Effective August 3, 2021, our Board of Directors authorized a 24-month program to repurchase up to an aggregate of \$1.0 billion of our outstanding common stock. During the three months ended December 31, 2021, we repurchased 7.1 million shares of our outstanding common stock in the open market. These shares were repurchased for an aggregate market price of \$91 million, or an average purchase price of \$12.76 per share. These repurchases exhausted our \$1.0 billion repurchase plan authorized on August 3, 2021. All repurchased common stock has been retired. For additional information, see Note 20—Repurchases of Lumen Common Stock to our consolidated financial statements included in Item 8 of Part II of this report.

The following table contains information about shares of our previously-issued common stock that were repurchased under our above-described Stock Repurchase Program:

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs
October 2021	7,108,845	\$ 12.76	7,108,845	\$ —

The following table contains information about shares of our previously-issued common stock that we withheld from employees upon vesting of their stock-based awards during the fourth quarter of 2021 to satisfy the related tax withholding obligations:

Period	Total Number of Shares Withheld for Taxes	Average Price Paid Per Share
October 2021	39,868	\$ 12.71
November 2021	25,586	13.02
December 2021	16,204	12.31
Total	81,658	

Equity Compensation Plan Information

See Item 12 of this report.

ITEM 6. [Reserved]

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

All references to "Notes" in this Item 7 of Part II refer to the Notes to Consolidated Financial Statements included in Item 8 of Part II of this report. Certain statements in this report constitute forward-looking statements. See "Special Note Regarding Forward-Looking Statements" immediately prior to Item 1 of Part I of this report for factors relating to these statements and "Risk Factors" in Item 1A of Part I of this report for a discussion of certain risk factors applicable to our business, financial condition, results of operations, liquidity or prospects.

Overview

We are an international facilities-based technology and communications company focused on providing our business and mass markets customers with a broad array of integrated products and services necessary to fully participate in our rapidly evolving digital world. We operate one of the world's most interconnected networks. Our platform empowers our customers to rapidly adjust digital programs to meet immediate demands, create efficiencies, accelerate market access, and reduce costs – allowing customers to rapidly evolve their IT programs to address dynamic changes. With approximately 190,000 on-net buildings and 500,000 route miles of fiber optic cable globally, we are among the largest providers of communications services to domestic and global enterprise customers. Our terrestrial and subsea fiber optic long-haul network throughout North America, Europe, Latin America and Asia Pacific connects to metropolitan fiber networks that we operate. We provide services in over 60 countries, with most of our revenue being derived in the United States.

Planned Divestiture of the Latin American and ILEC Businesses

On July 25, 2021, affiliates of Level 3 Parent, LLC, an indirect wholly-owned subsidiary of Lumen, agreed to divest their Latin American business in exchange for \$2.7 billion cash, subject to certain working capital, other purchase price adjustments and related transaction expenses (estimated to be approximately \$50 million). On August 3, 2021, Lumen and certain of its subsidiaries agreed to divest a substantial portion of their incumbent local exchange business in exchange for \$7.5 billion, subject to offsets for (i) assumed indebtedness (expected to be approximately \$1.4 billion) and (ii) our transaction expenses, certain of purchaser's transaction expenses, income taxes and certain working capital and other customary purchase price adjustments (currently estimated to aggregate to approximately \$1.7 billion). The actual amount of our net after-tax proceeds from these divestitures could vary substantially from the amounts we currently estimate, particularly if we experience delays in completing the transactions or any of our other assumptions prove to be incorrect. For more information, see (i) Note 2—Planned Divestiture of the Latin American and ILEC Businesses to our consolidated financial statements in Item 8 of Part II of this report and (ii) the risk factors included in Item 1A of Part I of this report.

Impact of COVID-19 Pandemic

In response to the safety and economic challenges arising out of the COVID-19 pandemic and in a continued attempt to mitigate the negative impact on our stakeholders, we have taken a variety of steps to ensure the availability of our network infrastructure, to promote the safety of our employees and customers, to enable us to continue to adapt and provide our products and services worldwide to our customers, and to strengthen our communities. As vaccination rates increase, we expect to continue revising our responses to the pandemic or take additional steps necessary to adjust to changed circumstances. To date, these steps have included:

- taking the Federal Communications Commission's ("FCC") "Keep Americans Connected Pledge," under which we waived certain late fees and suspended the application of data caps and service terminations for non-payment by certain mass markets customers through the end of the second quarter of 2020;
- establishing new protocols for the safety of our on-site technicians and customers, including our "Safe Connections" program;
- adopting a rigorous employee work-from-home policy and substantially restricting non-essential business travel, each of which remains in place;
- continuously monitoring our network to enhance its ability to respond to changes in usage patterns;

- donating products or services in several of our communities to enhance their abilities to provide necessary support services; and
- taking steps to maintain our internal controls and the security of our systems and data in a remote work environment.

Social distancing, business and school closures, travel restrictions, and other actions taken in response to the pandemic have impacted us, our customers and our business since March 2020. In particular, beginning in the second half of 2020 and continuing into early 2022, we have rationalized our leased footprint and ceased using 39 leased property locations that were underutilized due to the COVID-19 pandemic. The Company determined that we no longer needed the leased space and, due to the limited remaining term on the contracts, concluded that the Company had neither the intent nor ability to sublease the properties. As a result, we incurred accelerated lease costs of approximately \$35 million and \$41 million for the years ended December 31, 2021 and 2020, respectively. In conjunction with our plans to continue to reduce costs, we expect to continue our real estate rationalization efforts and incur additional costs during 2022. Additionally, as discussed further elsewhere herein, the pandemic resulted in (i) increases in certain revenue streams and decreases in others, (ii) increases in allowances for credit losses through the end of 2020, (iii) increases in overtime expenses, (iv) operational challenges resulting from shortages of semiconductors and certain other supplies that we use in our business, and (v) delays in our cost transformation initiatives. We have also experienced delayed decision-making by certain of our customers. Thus far, these changes have not materially impacted our financial performance or financial position. However, we continue to monitor global disruptions and work with our vendors to mitigate supply chain risks.

We intend to reopen our offices in 2022 under a "hybrid" working environment, which will permit some of our employees the flexibility to work remotely at least some of the time for the foreseeable future.

For additional information on the impacts of the pandemic, see (i) the remainder of this item, including "—Liquidity and Capital Resources—Overview of Sources and Uses of Cash" and (ii) Item 1A of this report.

Reporting Segments

As previously announced, we completed an internal reorganization of our reporting segments in January 2021. Our reporting segments are currently organized as follows, by customer focus:

- **Business Segment:** Under our Business segment, we provide our products and services under four sales channels:
 - **International and Global Accounts ("IGAM"):** Our IGAM sales channel includes multinational and enterprise customers. We provide our products and services to approximately 350 of our highest potential enterprise customers and to enterprise customers and carriers in three operating regions: Europe Middle East and Africa, Latin America and Asia Pacific.
 - **Large Enterprise:** Under our large enterprise sales channel, we provide our products and services to large enterprises and the public sector, including the U.S. Federal government, state and local governments and research and education institutions.
 - **Mid-Market Enterprise:** Under our mid-market enterprise sales channel, we provide our products and services to medium-sized enterprises directly and through our indirect channel partners.
 - **Wholesale:** Under our wholesale sales channel, we provide our products and services to a wide range of other communication providers across the wireline, wireless, cable, voice and data center sectors.
- **Mass Markets Segment.** Under our Mass Markets segment, we provide products and services to consumer and small business customers. At December 31, 2021, we served 4.5 million broadband subscribers under our Mass Markets segment.

See Note 17—Segment Information to our consolidated financial statements in Item 8 of Part II of this report for additional information.

We categorize our Business segment revenue among the following products and services categories:

- *Compute and Application Services*, which include our Edge Cloud services, IT solutions, Unified Communications and Collaboration ("UC&C"), data center, content delivery network ("CDN") and Managed Security services;
- *IP and Data Services*, which include Ethernet, IP, and VPN data networks, including software-defined wide area networks ("SD WAN") based services, Dynamic Connections and Hyper WAN;
- *Fiber Infrastructure Services*, which include dark fiber, optical services and equipment; and
- *Voice and Other*, which include Time Division Multiplexing ("TDM") voice, private line, and other legacy services.

Under our Mass Markets segment, we provide the following products and services:

- *Consumer Broadband*, which includes high speed fiber-based and lower speed DSL-based broadband services to residential customers;
- *SBG Broadband*, which includes high speed fiber-based and lower speed DSL-based broadband services to small businesses;
- *Voice and Other*, which includes local and long-distance services, state support and other ancillary services; and
- *CAF II*, which consists of Connect America Fund Phase II payments through the end of 2021 to support voice and broadband in FCC-designated high-cost areas.

Trends Impacting Our Operations

In addition to the above-described impact of the pandemic, our consolidated operations have been, and are expected to continue to be, impacted by the following company-wide trends:

- Customers' demand for automated products and services and competitive pressures will require that we continue to invest in new technologies and automated processes to improve the customer experience and reduce our operating expenses.
- The increasingly digital environment and the growth in online video and gaming require robust, scalable network services. We are continuing to enhance our product capabilities and simplify our product portfolio based on demand and profitability to enable customers to have access to greater bandwidth.
- Businesses continue to adopt distributed, global operating models. We are expanding and enhancing our fiber network, connecting more buildings to our network to generate revenue opportunities and reducing our reliance upon other carriers.
- Industry consolidation, coupled with changes in regulation, technology and customer preferences, are significantly reducing demand for our traditional voice services and are pressuring some other revenue streams through volume or rate reductions, while other advances, such as the need for lower latency provided by Edge computing or the implementation of 5G networks, are expected to create opportunities.
- The operating margins of several of our newer, more technologically advanced services, some of which may connect to customers through other carriers, are lower than the operating margins on our traditional, on-net wireline services.
- Declines in our traditional wireline services and other more mature offerings have necessitated right-sizing our cost structures to remain competitive.

The amount of support payments we receive from governmental agencies will decrease substantially after December 31, 2021. This and other developments and trends impacting our operations are discussed elsewhere in this Item 7.

Results of Operations

In this section, we discuss our overall results of operations and highlight special items that are not included in our segment results. In "Segment Results" we review the performance of our two reporting segments in more detail.

Revenue

The following table summarizes our consolidated operating revenue recorded under each of our two segments and in our four above-described revenue sales channels within the Business segment:

	Years Ended December 31,			Years Ended December 31,		
	2021	2020	% Change	2020	2019	% Change
	(Dollars in millions)			(Dollars in millions)		
Business Segment:						
International & Global Accounts	\$ 4,053	4,118	(2) %	4,118	4,172	(1) %
Large Enterprise	3,722	3,915	(5) %	3,915	3,836	2 %
Mid-Market Enterprise	2,729	2,969	(8) %	2,969	3,152	(6) %
Wholesale	3,615	3,815	(5) %	3,815	4,079	(6) %
Business Segment Revenue	14,119	14,817	(5) %	14,817	15,239	(3) %
Mass Markets Segment Revenue	5,568	5,895	(6) %	5,895	6,219	(5) %
Total operating revenue	\$ 19,687	20,712	(5) %	20,712	21,458	(3) %

Our consolidated revenue decreased by \$1.025 billion for the year ended December 31, 2021 as compared to the year ended December 31, 2020 due to revenue declines in all of our above-listed revenue categories. See our segment results below for additional information.

Our consolidated revenue decreased by \$746 million for the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to revenue declines in most of our above-listed revenue categories. See our segment results below for additional information.

Operating Expenses

The following table summarizes our operating expenses for the year ended December 31, 2021 and 2020. For information regarding expenses for the year ended December 31, 2019, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of our Annual Report Form 10-K for the year ended December 31, 2020:

	Years Ended December 31,		% Change
	2021	2020	
	(Dollars in millions)		
Cost of services and products (exclusive of depreciation and amortization)	\$ 8,488	8,934	(5) %
Selling, general and administrative	2,895	3,464	(16) %
Depreciation and amortization	4,019	4,710	(15) %
Goodwill impairment	—	2,642	nm
Total operating expenses	\$ 15,402	19,750	(22) %

nm Percentages greater than 200% and comparisons between positive and negative values or to/from zero values are considered not meaningful.

Cost of Services and Products (exclusive of depreciation and amortization)

Cost of services and products (exclusive of depreciation and amortization) decreased by \$446 million for the year ended December 31, 2021 as compared to the year ended December 31, 2020. This decrease was primarily due to reductions in salaries and wages and other employee-related expense from lower headcount and lower facility and real estate costs.

Selling, General and Administrative

Selling, general and administrative expenses decreased by \$569 million for the year ended December 31, 2021 as compared to the year ended December 31, 2020. The decrease in selling, general and administrative expenses was primarily due to reductions in salaries and wages and other employee-related expense from lower headcount, lower bad debt expense, gain on sale of land and lower marketing and advertising costs.

Depreciation and Amortization

The following table provides detail of our depreciation and amortization expense:

	Years Ended December 31,		% Change
	2021	2020	
	(Dollars in millions)		
Depreciation	\$ 2,671	2,963	(10) %
Amortization	1,348	1,747	(23) %
Total depreciation and amortization	\$ 4,019	4,710	(15) %

Depreciation expense decreased by \$292 million for the year ended December 31, 2021 as compared to the year ended December 31, 2020 primarily due to discontinuing the depreciation of the tangible assets reclassified as held for sale of our Latin American and ILEC businesses upon entering into our divestiture agreements. We estimate we would have recorded an additional \$247 million of depreciation expense during the year ended December 31, 2021 if we had not agreed to sell these businesses. In addition, depreciation expense decreased due to the impact of annual rate depreciable life changes of \$151 million, which was partially offset by higher depreciation expense of \$93 million associated with net growth in depreciable assets.

Amortization expense decreased by \$399 million for the year ended December 31, 2021 as compared to the year ended December 31, 2020. The decrease was primarily due to a decrease of \$394 million as a result of certain customer relationship intangible assets becoming fully amortized at the end of the first quarter 2021, decreases of \$29 million associated with net reductions in amortizable assets and a decrease of \$13 million due to discontinuing the amortization of the intangible assets reclassified as held for sale of our Latin American and ILEC businesses upon entering into our divestiture agreements. These decreases were partially offset by \$21 million of accelerated amortization for decommissioned applications and \$22 million of additional amortization expense recognized as a result of reclassification of certain right-of-way assets, as discussed in Note 3—Goodwill, Customer Relationships and Other Intangible Assets to our consolidated financial statements in Item 8 of Part II of this report.

Further analysis of our segment operating expenses by segment is provided below in "Segment Results."

Goodwill Impairments

We are required to perform impairment tests related to our goodwill annually, which we perform as of October 31, or sooner if an indicator of impairment occurs.

In January 2021, we began reporting under two segments: Business and Mass Markets. See Note 17—Segment Information to our consolidated financial statements in Item 8 of Part II of this report for more information on these segments and the underlying sales channels. Since effecting this reorganization, we have used five reporting units for goodwill impairment testing, which are (i) Mass Markets, (ii) North America ("NA") Business (iii) Europe, Middle East and Africa region ("EMEA"), (iv) Asia Pacific region ("APAC") and (v) Latin America region ("LATAM"). Our January 2021 reorganization was considered an event or change in circumstance which required an assessment of our goodwill for impairment. We performed a qualitative impairment assessment in the first quarter of 2021 and concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of our reporting units at January 31, 2021. Therefore, we did not have any impairment as of our assessment date.

The reclassification of held for sale assets, as described in Note 2—Planned Divestiture of the Latin American and ILEC Businesses, was considered an event or change in circumstance which required an assessment of our goodwill for impairment as of July 31, 2021. We performed a pre-reclassification goodwill impairment test using our estimated post-divestiture cash flows and carrying value of equity to determine whether there was an impairment prior to the reclassification of these assets to held for sale and to determine the July 31, 2021 fair values to be utilized for goodwill allocation regarding the Latin American and ILEC businesses to be reclassified as assets held for sale. We concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of our reporting units at July 31, 2021.

We also performed a post-reclassification goodwill impairment test using our estimated post-divestiture cash flows and carrying value of equity to determine whether the fair value of our reporting units that will remain following the divestitures exceeded the carrying value of the equity of such reporting units after reclassification of assets held for sale. At July 31, 2021, we estimated the fair value of our remaining reporting units by considering both a market approach and a discounted cash flow method. Based on our assessments performed, we concluded it was more likely than not that the fair value of each of our remaining reporting units exceeded the carrying value of equity of our remaining reporting units at July 31, 2021. Therefore, we concluded we did not have any impairment as of our assessment date.

When we performed our annual impairment test in the fourth quarter of 2021, we concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of our reporting units. Therefore, we concluded no impairment existed as of our annual assessment date in the fourth quarter of 2021. When we performed our impairment tests during the fourth quarter of 2020, we concluded that the estimated fair value of certain of our reporting units was less than our carrying value of equity as of the date of our impairment test during the fourth quarter of 2020. As a result, we recorded non-cash, non-tax-deductible goodwill impairment charges aggregating to \$2.6 billion in the fourth quarter of 2020. Additionally, when we performed impairment tests in January 2019 and March 31, 2019 due to our January 2019 internal reorganization and the decline in our stock price, we concluded that the estimated fair value of our reporting units was less than our carrying value of equity as of the date of each of our impairment tests during the first quarter of 2019. As a result, we recorded a non-cash, non-tax-deductible goodwill impairment charges aggregating to \$6.5 billion in the quarter ended March 31, 2019.

See Note 3—Goodwill, Customer Relationships and Other Intangible Assets to our consolidated financial statements in Item 8 of Part II of this report for further details on these tests and impairment charges.

Other Consolidated Results

The following tables summarize our total other expense, net and income tax expense:

	Years Ended December 31,		% Change
	2021	2020	
	(Dollars in millions)		
Interest expense	\$ (1,522)	(1,668)	(9) %
Other expense, net	(62)	(76)	(18) %
Total other expense, net	\$ (1,584)	(1,744)	(9) %
Income tax expense	\$ 668	450	48 %

Interest Expense

Interest expense decreased by \$146 million for the year ended December 31, 2021 as compared to the year ended December 31, 2020. The decrease was primarily due to the decrease in average long-term debt from \$33.3 billion to \$30.4 billion and the decrease in the average interest rate of 5.23% to 4.82%.

Other Expense, Net

Other expense, net reflects certain items not directly related to our core operations, including (i) gains and losses on extinguishments of debt, (ii) components of net periodic pension and post-retirement benefit costs, (iii) foreign currency gains and losses, (iv) our share of income from partnerships we do not control, (v) interest income, (vi) gains and losses from non-operating asset dispositions and (vii) other non-core items.

	Years Ended December 31,		% Change
	2021	2020	
	(Dollars in millions)		
Gain (loss) on extinguishment of debt	\$ 8	(105)	nm
Pension and post-retirement net periodic expense	(295)	(31)	nm
Foreign currency (loss) gain	(28)	30	nm
Gain on investment in limited partnership	138	—	nm
Other	115	30	nm
Total other expense, net	\$ (62)	(76)	(18) %

nm Percentages greater than 200% and comparisons between positive and negative values or to/from zero values are considered not meaningful.

The increase of \$264 million in pension and post-retirement net periodic expense for the year ended December 31, 2021 as compared to the year ended December 31, 2020 is primarily driven by settlement charges associated with the acceleration of the recognition of a portion of previously unrecognized actuarial losses in the qualified pension plan. Other expense, net for the year ended December 31, 2021 also included a gain on investment in a limited partnership as a result of the underlying investments held by the limited partnership which began trading in active markets, resulting in an increase to our net asset value of our investment. Other expense, net for the year ended December 31, 2021 also included a distribution from a previously dissolved captive insurance company and other non-core items. See Note 14—Fair Value of Financial Instruments for more information regarding the gain recognized on the investment in a limited partnership.

Income Tax Expense

For the years ended December 31, 2021 and 2020, our effective income tax rate was 24.7% and (57.5)%, respectively. The effective tax rate for the year ended December 31, 2020 includes the \$555 million unfavorable impact of a non-deductible goodwill impairment. See Note 16—Income Taxes to our consolidated financial statements in Item 8 of Part II of this report and "Critical Accounting Policies and Estimates—Income Taxes" below for additional information.

Segment Results

General

Reconciliation of segment revenue to total operating revenue is below:

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
Operating revenue			
Business	\$ 14,119	14,817	15,239
Mass Markets	5,568	5,895	6,219
Total operating revenue	<u>\$ 19,687</u>	<u>20,712</u>	<u>21,458</u>

Reconciliation of segment EBITDA to total adjusted EBITDA is below:

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
Adjusted EBITDA			
Business	\$ 9,446	9,899	10,277
Mass Markets	4,886	5,118	5,375
Total segment EBITDA	14,332	15,017	15,652
Operations and Other EBITDA	(5,908)	(6,528)	(6,881)
Total adjusted EBITDA	<u>\$ 8,424</u>	<u>8,489</u>	<u>8,771</u>

For additional information on our reportable segments and product and services categories, see Note 17—Segment Information to our consolidated financial statements in Item 8 of Part II of this report.

Business Segment

	Years Ended December 31,			Years Ended December 31,		
	2021	2020	% Change	2020	2019	% Change
	(Dollars in millions)			(Dollars in millions)		
Business Segment Product Categories:						
Compute and Application Services	\$ 1,741	1,755	(1) %	1,755	1,735	1 %
IP and Data Services	6,212	6,413	(3) %	6,413	6,566	(2) %
Fiber Infrastructure Services	2,248	2,248	— %	2,248	2,157	4 %
Voice and Other	3,918	4,401	(11) %	4,401	4,781	(8) %
Total Business Segment Revenue	14,119	14,817	(5) %	14,817	15,239	(3) %
Expenses:						
Total expense	4,673	4,918	(5) %	4,918	4,962	(1) %
Total adjusted EBITDA	\$ 9,446	9,899	(5) %	9,899	10,277	(4) %

Year ended December 31, 2021 compared to the same periods ended December 31, 2020 and December 31, 2019

Business segment revenue decreased \$698 million for the year ended December 31, 2021 compared to December 31, 2020 and decreased \$422 million for the year ended December 31, 2020 compared to December 31, 2019. These changes are primarily due to the following factors:

- Compute and Application Services decreased for the year ended December 31, 2021 compared to December 31, 2020 due to a large customer disconnect for IT Solutions and lower rates for content delivery network services within our IGAM sales channel. Additionally, for the year ended December 31, 2021 compared to December 31, 2020, decreases were driven by declines in Cloud Services within our Large Enterprise and IGAM sales channels. These decreases were partially offset by growth in Managed Security and IT Solutions services to Federal Public Sector customers and an increase in colocation and data center services in our IGAM sales channel.
- Compute and Application Services increased for the year ended December 31, 2020 compared to December 31, 2019 due to growth in Managed Security and IT Solutions services within our Large Enterprise sales channel and growth in UC&C in our IGAM sales channel. These increases were partially offset by declines in IT Solutions services within our IGAM sales channel and declines in Cloud Services within our Large Enterprise sales channel.
- IP and Data Services decreased during both periods due to declines in traditional VPN networks and continued declines in Ethernet sales across all our sales channels, partially offset by an increase in IP services across all our sales channels.
- Fiber Infrastructure Services remained flat for the year ended December 31, 2021 compared to December 31, 2020 and increased for the year ended December 31, 2020 compared to December 31, 2019. Both periods experienced growth in dark fiber and wavelengths sales driven by demand primarily from our IGAM sales channel, which was offset by lower equipment sales in our Large Enterprise sales channel.
- Voice and Other decreased during both periods due to continued decline of legacy voice, private line and other services to customers across all of our sales channels. Additionally, voice services revenue decreased for the year ended December 31, 2021 compared to December 31, 2020, which had benefited from higher COVID-related demand.

The decrease in Business segment revenue for the year ended December 31, 2021 was slightly offset by \$16 million of favorable foreign currency as compared to December 31, 2020. The decrease in Business segment revenue for the year ended December 31, 2020 was also driven by \$42 million of unfavorable foreign currency for the year ended December 31, 2020 as compared to December 31, 2019.

Business segment expense decreased by \$245 million for the year ended December 31, 2021 compared to December 31, 2020 primarily due to lower cost of sales and lower employee-related costs from lower headcount. Business segment expenses decreased by \$44 million for the year ended December 31, 2020 compared to December 31, 2019, primarily due to lower employee-related costs from lower headcount.

Business segment adjusted EBITDA as a percentage of revenue was 67% for the years ended December 31, 2021, 2020 and 2019.

Mass Markets Segment

	Years Ended December 31,			Years Ended December 31,		
	2021	2020	% Change	2020	2019	% Change
	(Dollars in millions)			(Dollars in millions)		
Mass Markets Product Categories:						
Consumer Broadband	\$ 2,875	2,909	(1) %	2,909	2,876	1 %
SBG Broadband	156	153	2 %	153	163	(6) %
Voice and Other	2,047	2,341	(13) %	2,341	2,688	(13) %
CAF II	490	492	— %	492	492	— %
Total Mass Markets Segment Revenue	5,568	5,895	(6) %	5,895	6,219	(5) %
Expenses:						
Total expense	682	777	(12) %	777	844	(8) %
Total adjusted EBITDA	\$ 4,886	5,118	(5) %	5,118	5,375	(5) %

Year ended December 31, 2021 compared to the same periods ended December 31, 2020 and December 31, 2019

Mass Markets segment revenue decreased by \$327 million for the year ended December 31, 2021 compared to December 31, 2020 and decreased \$324 million for the year ended December 31, 2020 compared to December 31, 2019, due to the following factors:

- Consumer Broadband revenue decreased for the year ended December 31, 2021 compared to December 31, 2020 and increased for the year ended December 31, 2020 compared to year ended December 31, 2019 driven by continued pressure on legacy products, which was partially or wholly offset by gains in our fiber-based broadband business.
- Voice and Other declined during both periods primarily due to continued legacy voice customer losses and our exit of the Prism video product.

Mass Markets segment expenses decreased by \$95 million for the year ended December 31, 2021 compared to December 31, 2020 and decreased \$67 million for the year ended December 31, 2020 compared to December 31, 2019, primarily due to lower employee-related costs from lower headcount, lower costs of sales driven by the decrease in Prism content costs and higher bad debt expense for the year ended December 31, 2020 due to the COVID-19 induced economic slowdown. These decreases were partially offset by higher network expenses for the year ended December 31, 2021.

Mass Markets segment adjusted EBITDA as a percentage of revenue was 88%, 87% and 86% for the year ended December 31, 2021, 2020 and 2019, respectively.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with accounting principles that are generally accepted in the United States. The preparation of these consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of our assets, liabilities, revenue and expenses. We have identified certain policies and estimates as critical to our business operations and the understanding of our past or present results of operations related to (i) goodwill, customer relationships and other intangible assets; (ii) pension and post-retirement benefits; (iii) loss contingencies and litigation reserves and (iv) income taxes. These policies and estimates are considered critical because they had a material impact, or they have the potential to have a material impact, on our consolidated financial statements and because they require us to make significant judgments, assumptions or estimates. We believe that the estimates, judgments and assumptions made when accounting for the items described below were reasonable, based on information available at the time they were made. However, actual results may differ from those estimates, and these differences may be material.

Goodwill, Customer Relationships and Other Intangible Assets

We have a significant amount of goodwill and indefinite-lived intangible assets that are assessed at least annually for impairment. At December 31, 2021, goodwill and intangible assets totaled \$23.0 billion (excluding goodwill and other intangible assets reclassified as assets held for sale), or 40%, of our total assets. The impairment analyses of these assets are considered critical because of their significance to us and our segments.

We have assigned our goodwill balance to our segments at December 31, 2021 as follows:

	Business	Mass Markets	Total
	(Dollars in millions)		
As of December 31, 2021	\$ 11,235	4,751	15,986

Intangible assets arising from business combinations, such as goodwill, customer relationships, capitalized software, trademarks and tradenames, are initially recorded at estimated fair value. We amortize customer relationships primarily over an estimated life of 7 to 14 years, using the straight-line method, depending on the customer. Certain customer relationship intangible assets became fully amortized at the end of the first quarter 2021 using the sum-of-years-digits method, which is no longer used for any of our remaining intangible assets. We amortize capitalized software using the straight-line method primarily over estimated lives ranging up to 7 years. We amortize our other intangible assets using the sum-of-years-digits or straight-line method over an estimated life of 4 to 20 years. Other intangible assets not arising from business combinations are initially recorded at cost. Where there are no legal, regulatory, contractual or other factors that would reasonably limit the useful life of an intangible asset, we classify the intangible asset as indefinite-lived and such intangible assets are not amortized.

Our long-lived intangible assets, other than goodwill, with indefinite lives are assessed for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be an impairment. These assets are carried at the estimated fair value at the time of acquisition and assets not acquired in acquisitions are recorded at historical cost. However, if their estimated fair value is less than the carrying amount, we recognize an impairment charge for the amount by which the carrying amount of these assets exceeds their estimated fair value.

Our goodwill was derived from numerous acquisitions where the purchase price exceeded the fair value of the net assets acquired.

We are required to reassign goodwill to reporting units whenever reorganizations of our internal reporting structure changes the composition of our reporting units. Goodwill is reassigned to the reporting units using a relative fair value approach. When the fair value of a reporting unit is available, we allocate goodwill based on the relative fair value of the reporting units. When fair value is not available, we utilize an alternative allocation methodology that represents a reasonable approximation of the fair value of the operations being reorganized. For additional information on our segments, see Note 17—Segment Information to our consolidated financial statements in Item 8 of Part II of this report.

We are required to assess goodwill at least annually, or more frequently, if an event occurs or circumstances change that indicates it is more likely than not the fair values of any of our reporting units were less than their carrying values. In assessing goodwill for impairment, we may first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carry value.

Our annual impairment assessment date for goodwill is October 31, at which date we assess our reporting units. In January 2021, we began reporting under two segments: Business and Mass Markets. See Note 17—Segment Information to our consolidated financial statements in Item 8 of Part II of this report for more information on these segments and the underlying sales channels. Since effecting this reorganization, we have used five reporting units for goodwill impairment testing, which are (i) Mass Markets (ii) North America ("NA") Business, (iii) Europe, Middle East and Africa region ("EMEA"), (iv) Asia Pacific region ("APAC") and (v) Latin America region ("LATAM"). Prior to this reorganization, we used the following eight reporting units for goodwill impairment testing: consumer, small and medium business, enterprise, wholesale, North America global accounts ("NA GAM"), EMEA, LATAM and APAC.

Our reporting units are not discrete legal entities with discrete full financial statements. Our assets and liabilities are employed in and relate to the operations of multiple reporting units and are allocated to individual reporting units based on their relative revenue or earnings before interest, taxes depreciation and amortization ("EBITDA"). For each reporting unit, we compare its estimated fair value of equity to its carrying value of equity that we assign to the reporting unit. If the estimated fair value of the reporting unit is equal or greater than the carrying value, we conclude that no impairment exists. If the estimated fair value of the reporting unit is less than the carrying value, we record a non-cash impairment equal to the difference. Depending on the facts and circumstances, we typically estimate the fair value of our reporting units by considering either or both of (i) a discounted cash flow method, which is based on the present value of projected cash flows over a discrete projection period and a terminal value, which is based on the expected normalized cash flows of the reporting units following the discrete projection period, and (ii) a market approach, which includes the use of multiples of publicly-traded companies whose services are comparable to ours. With respect to our analysis used in the discounted cash flow method, the timing and amount of projected cash flows under these forecasts require estimates developed from our long-range plan, which is informed by wireline industry trends, the competitive landscape, product lifecycles, operational initiatives, capital allocation plans and other company-specific and external factors that influence our business. These cash flows consider recent historical results and are consistent with the Company's short-term financial forecasts and long-term business strategies. The development of these cash flows, and the discount rate applied to the cash flows, is subject to inherent uncertainties, and actual results could vary significantly from such estimates. Our determination of the discount rate is based on a weighted average cost of capital approach, which uses a market participant's cost of equity and after-tax cost of debt and reflects certain risks inherent in the future cash flows. With respect to a market approach, the fair value of a reporting unit is estimated based upon a market multiple applied to the reporting unit's revenue and EBITDA, adjusted for an appropriate control premium based on recent market transactions. The fair value of reporting units estimated using revenue and EBITDA market multiples are equally weighted to determine the estimated fair value under the market approach. We also reconcile the estimated fair values of the reporting units to our market capitalization to conclude whether the indicated control premium is reasonable in comparison to recent transactions in the marketplace. A decline in our stock price could potentially cause an impairment of goodwill. Changes in the underlying assumptions that we use in allocating the assets and liabilities to reporting units under either the discounted cash flow or market approach method can result in materially different determinations of fair value. We believe the estimates, judgments, assumptions and allocation methods used by us are reasonable, but changes in any of them can significantly affect whether we must incur impairment charges, as well as the size of such charges.

At October 31, 2021, we estimated the fair value of our five above-mentioned reporting units by considering both a market approach and a discounted cash flow method. We reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2021 and concluded that the indicated control premium of approximately 42% was reasonable based on recent market transactions. As of October 31, 2021, based on our assessment performed with respect to our five reporting units, the estimated fair value of our equity exceeded the carrying value of equity for our Mass Markets, NA Business, EMEA, LATAM and APAC reporting units by 277%, 8%, 57%, 100% and 125%, respectively. Based on our assessments performed, we concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of those reporting units at October 31, 2021. Therefore, we concluded no impairment existed as of our assessment date.

Our reclassification of held for sale assets, as described in Note 2—Planned Divestiture of the Latin American and ILEC Businesses to our consolidated financial statements in Item 8 of Part II of this report, was considered an event or change in circumstance which required an assessment of our goodwill for impairment as of July 31, 2021. At July 31, 2021, we estimated the fair value of our five above-mentioned reporting units by considering both a market approach and a discounted cash flow method. We reconciled the estimated fair values of the reporting units to our market capitalization as of July 31, 2021 and concluded that the indicated control premium of approximately 32% was reasonable based on recent market transactions. As of July 31, 2021, based on our assessment performed with respect to our five reporting units, the estimated fair value of our equity exceeded the carrying value of equity for our Mass Markets, NA Business, EMEA, LATAM and APAC reporting units by 150%, 24%, 58%, 100% and 134%, respectively. Based on our assessments performed, we concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of those reporting units at July 31, 2021. Therefore, we concluded no impairment existed as of our assessment date.

At October 31, 2020, we estimated the fair value of our eight above-mentioned reporting units (prior to the January 2021 reorganization) by considering both a market approach and a discounted cash flow method. We reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2020 and concluded that the indicated control premium of approximately 33% was reasonable based on recent market transactions. Due to the decline in our stock price at October 31, 2020 and our assessment performed with respect to the reporting units described above, we concluded that our consumer, wholesale, small and medium business and EMEA reporting units were impaired, resulting in a non-cash, non-tax-deductible goodwill impairment charge of \$2.6 billion. As of October 31, 2020, the estimated fair value of equity exceeded the carrying value of equity for our enterprise, NA GAM, LATAM, and APAC reporting units by 2%, 46%, 74% and 23%, respectively. Based on our assessments performed, we concluded it was more likely than not that the fair value of our enterprise, NA GAM, LATAM, and APAC reporting units exceeded the carrying value of equity of those reporting units at October 31, 2020. Therefore, we concluded no impairment existed with respect to those four reporting units as of our assessment date.

At October 31, 2019, we estimated the fair value of our eight above-mentioned reporting units by considering both a market approach and a discounted cash flow method. We reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2019 and concluded that the indicated control premium of approximately 45% was reasonable based on recent market transactions. As of October 31, 2019, the estimated fair value of our equity exceeded the carrying value of equity for our consumer, small and medium business, enterprise, wholesale, NA GAM, EMEA, LATAM, and APAC reporting units by 44%, 41%, 53%, 46%, 55%, 5%, 63% and 38%, respectively. Based on our assessments performed, we concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of those reporting units at October 31, 2019. Therefore, we concluded no impairment existed as of our assessment date.

Both our January 2019 internal reorganization and the decline in our stock price indicated the carrying values of our reporting units were more likely than not in excess of their fair values, requiring an impairment test in the first quarter of 2019. Consequently, we evaluated our goodwill in January 2019 and again as of March 31, 2019. Because our low stock price was a key trigger for impairment testing in early 2019, we estimated the fair value of our operations using only the market approach. Applying this approach, we utilized company comparisons and analyst reports within the telecommunications industry which have historically supported a range of fair values derived from annualized revenue and EBITDA multiples between 2.1x and 4.9x and 4.9x and 9.8x, respectively. We selected a revenue and EBITDA multiple for each of our reporting units within this range. We reconciled the estimated fair values of the reporting units to our market capitalization as of the date of each of our impairment tests during the first quarter and concluded that the indicated control premiums of approximately 4.5% and 4.1% were reasonable based on recent market transactions. In the quarter ended March 31, 2019, based on our assessments performed with respect to the reporting units as described above, we concluded that the estimated fair value of certain of our reporting units was less than our carrying value of equity as of the date of both of our impairment tests during the first quarter. As a result, we recorded non-cash, non-tax-deductible goodwill impairment charges aggregating to \$6.5 billion in the quarter ended March 31, 2019.

For additional information on our goodwill balances by segment, see Note 3—Goodwill, Customer Relationships and Other Intangible Assets to our consolidated financial statements in Item 8 of Part II of this report.

Pension and Post-retirement Benefits

We sponsor a noncontributory qualified defined benefit pension plan (referred to as our qualified pension plan) for a substantial portion of our current and former employees in the United States. In addition to this tax-qualified pension plan, we also maintain several non-qualified pension plans for certain eligible highly compensated employees. We also maintain post-retirement benefit plans that provide health care and life insurance benefits for certain eligible retirees. Due to the insignificant impact of these non-qualified plans on our consolidated financial statements, we have excluded them from the following pension and post-retirement benefits disclosures for 2021, 2020 and 2019.

As of January 1, 2021, our qualified pension plan had a net actuarial loss balance of approximately \$3.0 billion. A portion of this balance was subject to amortization as a component of net periodic expense over the average remaining service period for participating employees expected to receive benefits under the plan. During 2021, our lump sum pension settlement payments exceeded the settlement threshold and as a result we recognized a non-cash settlement charge of \$383 million, accelerating previously unrecognized actuarial losses from our net actuarial loss balance. For our post-retirement benefit plans, the majority of the beginning net actuarial loss balance of \$346 million continued to be deferred during 2021.

In 2020, approximately 59% of the qualified pension plan's January 1, 2020 net actuarial loss balance of \$3.0 billion was subject to amortization as a component of net periodic expense over the average remaining service period of 9 years for participating employees expected to receive benefits under the plan. The other 41% of the qualified pension plan's beginning net actuarial loss balance was treated as indefinitely deferred during 2020. The entire beginning net actuarial loss of \$175 million for the post-retirement benefit plans was treated as indefinitely deferred during 2020.

In 2019, approximately 60% of the qualified pension plan's January 1, 2019 net actuarial loss balance of \$3.0 billion was subject to amortization as a component of net periodic expense over the average remaining service period of 9 years for participating employees expected to receive benefits under the plan. The other 40% of the qualified pension plan's beginning net actuarial loss balance was treated as indefinitely deferred during 2019. The entire beginning net actuarial gain of \$7 million for the post-retirement benefit plans was treated as indefinitely deferred during 2019.

In computing our pension and post-retirement health care and life insurance benefit obligations, our most significant assumptions are the discount rate and mortality rates. In computing our periodic pension expense, our most significant assumptions are the discount rate and the expected rate of return on plan assets. In computing our post-retirement benefit expense, our most significant assumption is the discount rate. Plan assets, and thus the expected rate of return on plan assets, for our post-retirement benefit plans are not significant.

The discount rate for each plan is the rate at which we believe we could effectively settle the plan's benefit obligations as of the end of the year. We selected each plan's discount rate based on a cash flow matching analysis using hypothetical yield curves from U.S. corporate bonds rated high quality and projections of the future benefit payments that constitute the projected benefit obligation for the plans. This process establishes the uniform discount rate that produces the same present value of the estimated future benefit payments as is generated by discounting each year's benefit payments by a spot rate applicable to that year. The spot rates used in this process are derived from a yield curve created from yields on the 60th to 90th percentile of U.S. high quality bonds.

Published mortality rates help predict the expected life of plan participants and are based on historical demographic studies by the Society of Actuaries ("SOA"). The SOA publishes new mortality rates (mortality tables and projection scales) on a regular basis which reflect updates to projected life expectancies in North America. Historically, we have adopted the new projection tables immediately after publication. In 2021, we adopted the revised mortality tables and projection scale released by the SOA, which increased the projected benefit obligation of our benefit plans by approximately \$37 million for the year ended December 31, 2021. The change in the projected benefit obligation of our benefit plans was recognized as part of the net actuarial loss and is included in accumulated other comprehensive loss, a portion of which is subject to amortization over the remaining average estimated life of plan participants, which was approximately 8 years as of December 31, 2021.

The expected rate of return on plan assets is the long-term rate of return we expect to earn on the plans' assets in the future, net of administrative expenses paid from plan assets. The rate of return is determined by the strategic allocation of plan assets and the long-term risk and return forecast for each asset class. The forecasts for each asset class are generated primarily from an analysis of the long-term expectations of various third-party investment management organizations, to which we then add a factor of 50 basis points to reflect the benefit we expect to result from our active management of the assets. The expected rate of return on plan assets is reviewed annually and revised, as necessary, to reflect changes in the financial markets and our investment strategy.

Changes in any of the above factors could significantly impact operating expenses in our consolidated statements of operations and other comprehensive loss in our consolidated statements of comprehensive income (loss) as well as the value of the liability and accumulated other comprehensive loss of stockholders' equity on our consolidated balance sheets.

Loss Contingencies and Litigation Reserves

We are involved in several potentially material legal proceedings, as described in more detail in Note 18—Commitments, Contingencies and Other Items. On a quarterly basis, we assess potential losses in relation to these and other pending or threatened tax and legal matters. For matters not related to income taxes, if a loss is considered probable and the amount can be reasonably estimated, we recognize an expense for the estimated loss. To the extent these estimates are more or less than the actual liability resulting from the resolution of these matters, our earnings will be increased or decreased accordingly. If the differences are material, our consolidated financial statements could be materially impacted.

For matters related to income taxes, if we determine in our judgment that the impact of an uncertain tax position is more likely than not to be sustained upon audit by the relevant taxing authority, then we recognize in our financial statements a benefit for the largest amount that is more likely than not to be sustained. No portion of an uncertain tax position will be recognized if we determine in our judgment that the position has less than a 50% likelihood of being sustained. Though the validity of any tax position is a matter of tax law, the body of statutory, regulatory and interpretive guidance on the application of the law is complex and often ambiguous, particularly in certain of the non-U.S. jurisdictions in which we operate. Because of this, whether a tax position will ultimately be sustained may be uncertain.

Income Taxes

Our provision for income taxes includes amounts for tax consequences deferred to future periods. We record deferred income tax assets and liabilities reflecting future tax consequences attributable to (i) tax credit carryforwards, (ii) differences between the financial statement carrying value of assets and liabilities and the tax basis of those assets and liabilities and (iii) tax net operating loss carryforwards, or NOLs. Deferred taxes are computed using enacted tax rates expected to apply in the year in which the differences are expected to affect taxable income. The effect of a change in tax rate on deferred income tax assets and liabilities is recognized in earnings in the period that includes the enactment date.

The measurement of deferred taxes often involves the exercise of considerable judgment related to the realization of tax basis. Our deferred tax assets and liabilities reflect our assessment that tax positions taken in filed tax returns and the resulting tax basis are more likely than not to be sustained if they are audited by taxing authorities. Assessing tax rates that we expect to apply and determining the years when the temporary differences are expected to affect taxable income requires judgment about the future apportionment of our income among the states in which we operate. Any changes in our practices or judgments involved in the measurement of deferred tax assets and liabilities could materially impact our financial condition or results of operations.

In connection with recording deferred income tax assets and liabilities, we establish valuation allowances when necessary to reduce deferred income tax assets to amounts that we believe are more likely than not to be realized. We evaluate our deferred tax assets quarterly to determine whether adjustments to our valuation allowance are appropriate in light of changes in facts or circumstances, such as changes in tax law, interactions with taxing authorities and developments in case law. In making this evaluation, we rely on our recent history of pre-tax earnings. We also rely on our forecasts of future earnings and the nature and timing of future deductions and benefits represented by the deferred tax assets, all of which involve the exercise of significant judgment. At December 31, 2021, we established a valuation allowance of \$1.6 billion primarily related to foreign and state NOLs, based on our determination that it was more likely than not that this amount of these NOLs would expire unused. If forecasts of future earnings and the nature and estimated timing of future deductions and benefits change in the future, we may determine that existing valuation allowances must be revised or eliminated or new valuation allowances created, any of which could materially impact our financial condition or results of operations. See Note 16—Income Taxes to our consolidated financial statements in Item 8 of Part II of this report.

Liquidity and Capital Resources

Overview of Sources and Uses of Cash

We are a holding company that is dependent on the capital resources of our subsidiaries to satisfy our parent company liquidity requirements. Several of our significant operating subsidiaries have borrowed funds either on a standalone basis or as part of a separate restricted group with certain of its subsidiaries or affiliates. The terms of the instruments governing the indebtedness of these borrowers or borrowing groups may restrict our ability to access their accumulated cash. In addition, our ability to access the liquidity of these and other subsidiaries may be limited by tax, legal and other considerations.

At December 31, 2021, we held cash and cash equivalents of \$394 million, which includes cash and cash equivalents classified as held for sale, and we also had \$2.0 billion of borrowing capacity available under our revolving credit facility. We typically use our revolving credit facility as a source of liquidity for operating activities and our other cash requirements. We had approximately \$89 million of cash and cash equivalents outside the United States at December 31, 2021. We currently believe that there are no material restrictions on our ability to repatriate cash and cash equivalents into the United States, and that we may do so without paying or accruing U.S. taxes. Other than transactions related to our Latin American divestiture, we do not currently intend to repatriate to the United States any of our foreign cash and cash equivalents from operating entities.

In response to COVID-19, the U.S. Congress passed the CARES Act on March 27, 2020. Under the CARES Act, we deferred \$134 million of our 2020 payroll taxes, \$67 million of which were repaid in 2021, with the remainder to be repaid in installments over 2022.

Our executive officers and our Board of Directors periodically review our sources and potential uses of cash in connection with our annual budgeting process. Generally speaking, our principal funding source is cash from operating activities, and our principal cash requirements include operating expenses, capital expenditures, income taxes, debt repayments, dividends, periodic securities repurchases, periodic pension contributions and other benefits payments. The impact of the pending sale of our Latin American and ILEC businesses is further described below.

Based on our current capital allocation objectives, during 2022 we project expending approximately \$3.2 billion to \$3.4 billion of capital expenditures and approximately \$1.00 per share for cash dividends on our common stock (based on the assumptions described below under "Dividends").

For the 12 month period ending December 31, 2022, we project that our fixed commitments will include (i) \$125 million of scheduled term loan amortization payments, (ii) \$31 million of finance lease and other fixed payments (which includes \$2 million of finance lease obligations that have been reclassified as held for sale) and (iii) \$1.4 billion of debt maturities.

We will continue to monitor our future sources and uses of cash, and anticipate that we will make adjustments to our capital allocation strategies when, as and if determined by our Board of Directors. We may also draw on our revolving credit facility as a source of liquidity for operating activities and to give us additional flexibility to finance our capital investments, repayments of debt, pension contributions and other cash requirements.

For additional information, see "Risk Factors—Financial Risks" in Item 1A of Part I of this report.

Impact of the Planned Divestiture of the Latin American and ILEC Businesses

As discussed in Note 2—Planned Divestiture of the Latin American and ILEC Businesses to our consolidated financial statements in Item 8 of Part II of this report, we entered into definitive agreements to divest our Latin American and ILEC businesses on July 25, 2021 and August 3, 2021, respectively. As further described elsewhere herein, these transactions are expected to provide us with a substantial amount of cash proceeds upon closing, but ultimately will reduce our base of income-generating assets that generate our recurring cash from operating activities that we use to fund our cash requirements.

Capital Expenditures

We incur capital expenditures on an ongoing basis to expand and improve our service offerings, enhance and modernize our networks and compete effectively in our markets. We evaluate capital expenditure projects based on a variety of factors, including expected strategic impacts (such as forecasted impact on revenue growth, productivity, expenses, service levels and customer retention) and our expected return on investment. The amount of capital investment is influenced by, among other things, current and projected demand for our services and products, cash flow generated by operating activities, cash required for other purposes and regulatory considerations (such as governmentally-mandated infrastructure buildout requirements).

Our capital expenditures continue to be focused on enhancing network operating efficiencies and supporting new service developments. For more information on our capital spending, see (i) "—Overview of Sources and Uses of Cash" above, (ii) "Cash Flow Activities—Investing Activities" below and (iii) Item 1 of Part 1 of this report.

Debt and Other Financing Arrangements

Subject to market conditions, we expect to continue to issue debt securities from time to time in the future to refinance a substantial portion of our maturing debt, including issuing debt securities of certain of our subsidiaries to refinance their maturing debt to the extent feasible and consistent with our capital allocation strategies. The availability, interest rate and other terms of any new borrowings will depend on the ratings assigned by credit rating agencies, among other factors.

As of the date of this report, the credit ratings for the senior secured and unsecured debt of Lumen Technologies, Inc., Level 3 Financing, Inc. and Qwest Corporation were as follows:

Borrower	Moody's Investors Service, Inc.	Standard & Poor's	Fitch Ratings
Lumen Technologies, Inc.:			
Unsecured	B2	BB-	BB
Secured	Ba3	BBB-	BB+
Level 3 Financing, Inc.:			
Unsecured	Ba3	BB	BB
Secured	Ba1	BBB-	BBB-
Qwest Corporation:			
Unsecured	Ba2	BBB-	BB

Our credit ratings are reviewed and adjusted from time to time by the rating agencies. Any future changes in the senior unsecured or secured debt ratings of us or our subsidiaries could impact our access to capital or borrowing costs. See "Risk Factors—Financial Risks" in Item 1A of Part I of this report.

Net Operating Loss Carryforwards

As of December 31, 2021, Lumen Technologies had approximately \$2.9 billion of federal net operating loss carryforwards ("NOLs"), which for U.S. federal income tax purposes can be used to offset future taxable income. These NOLs are primarily related to federal NOLs we acquired through the Level 3 acquisition on November 1, 2017 and are subject to limitations under Section 382 of the Internal Revenue Code and related U.S. Treasury Department regulations. We maintain a Section 382 rights agreement designed to safeguard through late 2023 our ability to use those NOLs. Assuming we can continue using these NOLs in the amounts projected, we expect to utilize a substantial portion of our NOLs to offset taxable gains generated by the completion of our pending divestitures. The amounts of our near-term future tax payments will depend upon many factors, including our future earnings and tax circumstances and the impact of any corporate tax reform or taxable transactions. Based on current laws and our current assumptions and projections, we estimate our cash income tax liability related to 2022 will be approximately \$100 million. If, as expected, we use a substantial portion of our NOLs in 2022 to offset divestiture-related gains, we anticipate that our cash income tax liabilities will increase substantially in future periods.

We cannot assure you we will be able to use our NOL carryforwards fully. See "Risk Factors—Financial Risks—We may not be able to fully utilize our NOLs" in Item 1A of Part I of this report.

Dividends

We currently expect to continue our current practice of paying quarterly cash dividends in respect of our common stock subject to our Board of Directors' discretion to modify or terminate this practice at any time and for any reason without prior notice. Our current quarterly common stock dividend rate is \$0.25 per share, as approved by our Board of Directors, which we believe is a payout rate which enables us to balance our multiple objectives of managing and investing in our business deleveraging our balance sheet and returning a substantial portion of our cash to our shareholders. Assuming continued authorization by our Board during 2022 at this rate of \$0.25 per share, our average total dividend paid each quarter would be approximately \$257 million based on the number of our currently outstanding shares (which figure (i) assumes no increases or decreases in the number of shares and (ii) includes dividend payments in connection with the anticipated vesting of currently outstanding equity awards). Dividend payments upon the vesting of equity incentive awards was \$29 million during the year ended December 31, 2021. See "Risk Factors—Business Risks" in Item 1A of Part I of this report.

Stock Repurchases

Effective August 3, 2021, our Board of Directors authorized a 24-month program to repurchase up to an aggregate of \$1.0 billion of our outstanding common stock (the "August 2021 stock repurchase program"). During the year ended December 31, 2021, we repurchased 80.9 million shares of our outstanding common stock in the open market for an aggregate market price of \$1.0 billion, or an average purchase price of \$12.36 per share, thereby fully exhausting the program authorized on August 3, 2021. All repurchased common stock has been retired.

Revolving Facilities and Other Debt Instruments

At December 31, 2021, we had \$12.4 billion of outstanding consolidated secured indebtedness, \$17.8 billion of outstanding consolidated unsecured indebtedness (including long-term debt reclassified as liabilities held for sale, but excluding finance lease obligations, unamortized premiums, net and unamortized debt issuance costs) and \$2.0 billion of unused borrowing capacity under our revolving credit facility, as discussed further below.

Under our amended and restated credit agreement dated as of January 31, 2020 (the "Amended Credit Agreement"), we maintained at December 31, 2021 (i) a \$2.2 billion senior secured revolving credit facility, under which we owed \$200 million as of such date, and (ii) \$6.3 billion of senior secured term loan facilities. For additional information, see (i) "—Overview of Sources and Uses of Cash," and (ii) Note 7—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report.

At December 31, 2021, we had \$21 million of letters of credit outstanding under our \$225 million uncommitted letter of credit facility. Additionally, under separate facilities maintained by one of our affiliates, we had outstanding letters of credit, or other similar obligations, of approximately \$67 million as of December 31, 2021, of which \$5 million was collateralized by cash that is reflected on our consolidated balance sheets as restricted cash.

In addition to its indebtedness under our Amended Credit Agreement, Lumen Technologies is indebted under its outstanding senior notes, and several of its subsidiaries are indebted under separate credit facilities or senior notes. For information on the terms and conditions of other debt instruments of ours and our subsidiaries, including financial and operating covenants, see (i) Note 7—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report and (ii) "—Other Matters" below.

Pension and Post-retirement Benefit Obligations

We are subject to material obligations under our existing defined benefit pension plans and post-retirement benefit plans. At December 31, 2021, the accounting unfunded status of our qualified and non-qualified defined benefit pension plans and our qualified post-retirement benefit plans was \$1.2 billion and \$2.8 billion, respectively. For additional information about our pension and post-retirement benefit arrangements, see "Critical Accounting Policies and Estimates—Pension and Post-retirement Benefits" in Item 7 of Part II of this report and Note 11—Employee Benefits to our consolidated financial statements in Item 8 of Part II of this report.

Benefits paid by our qualified pension plan are paid through a trust that holds all of the plan's assets. Based on current laws and circumstances, we do not expect any contributions to be required for our qualified pension plan during 2022. The amount of required contributions to our qualified pension plan in 2023 and beyond will depend on a variety of factors, most of which are beyond our control, including earnings on plan investments, prevailing interest rates, demographic experience, changes in plan benefits and changes in funding laws and regulations. We occasionally make voluntary contributions to our plans in addition to required contributions and reserve the right to do so in the future. We last made a voluntary contribution to the trust for our qualified pension plan during 2018. We currently do not expect to make a voluntary contribution to the trust for our qualified pension plan in 2022.

Substantially all of our post-retirement health care and life insurance benefits plans are unfunded and are paid by us with available cash. As described further in Note 11—Employee Benefits, aggregate benefits paid by us under these plans (net of participant contributions and direct subsidy receipts) were \$203 million, \$211 million and \$241 million for the years ended December 31, 2021, 2020 and 2019, respectively. For additional information on our expected future benefits payments for our post-retirement benefit plans, see Note 11—Employee Benefits to our consolidated financial statements in Item 8 of Part II of this report.

For 2021, our expected annual long-term rates of return on the pension plan assets and post-retirement health care and life insurance benefit plan assets, net of administrative expenses, were 5.5% and 4.0%, respectively. For 2022, our expected annual long-term rates of return on these assets are 5.5% and 4.0%, respectively. However, actual returns could be substantially different.

Our pension plan contains provisions that allow us, from time to time, to offer lump sum payment options to certain former employees in settlement of their future retirement benefits. We record an accounting settlement charge, consisting of the recognition of certain deferred costs of the pension plan, associated with these lump sum payments only if, in the aggregate, they exceed the sum of the annual service and interest costs for the plan's net periodic pension benefit cost, which represents the settlement accounting threshold. As of December 31, 2021, lump sum pension settlement payments exceeded the settlement threshold. As a result, for the year ended December 31, 2021 we recognized a non-cash settlement charge of \$383 million to accelerate the recognition of a portion of the previously unrecognized actuarial losses in the qualified pension plan, which has been allocated and reflected in other expense, net in our consolidated statement of operations for the year ended December 31, 2021. The amount of any future non-cash settlement charges after 2021 will be dependent on several factors, including the total amount of our future lump sum benefit payments.

On October 19, 2021, we, as sponsor of the Combined Pension Plan, along with the Plan's independent fiduciary, entered into an agreement committing the Plan to use a portion of its plan assets to purchase an annuity from an insurance company (the "Insurer") to transfer \$1.4 billion of the Plan's pension liabilities. This agreement irrevocably transferred to the Insurer future Plan benefit obligations for approximately 22,600 U.S. Lumen participants ("Transferred Participants") effective on December 31, 2021. This annuity transaction was funded entirely by existing Plan assets and is intended to provide equivalent benefits to the Transferred Participants. The Insurer is committed to assume responsibility for administrative and customer service support, including distribution of payments to the Transferred Participants.

As of January 1, 2022, a new pension plan (the "Lumen Pension Plan") was spun off from the Combined Pension Plan in anticipation of the pending sale of the ILEC business, as described further in Note 2—Planned Divestiture of the Latin American and ILEC Businesses to our consolidated financial statements in Item 8 of Part II of this report. See additional information on this subsequent event in Note 11—Employee Benefits to our consolidated financial statements in Item 8 of Part II of this report for more information.

Future Contractual Obligations

Our estimated future obligations as of December 31, 2021 include both current and long term obligations. These amounts include liabilities that have been reclassified as liabilities held for sale on our consolidated balance sheet. We have a current obligation of \$1.6 billion and a long-term obligation of \$29.0 billion of long-term debt (excluding unamortized premiums, net and unamortized debt issuance costs). Under our operating leases, we have a current obligation of \$464 million and a long-term obligation of \$1.5 billion. We have current obligations related to right-of-way agreements and purchase commitments of \$660 million and a long-term obligation of \$2.0 billion. Additionally, we have a current obligation for asset retirement obligation of \$22 million and a long-term obligation of \$172 million. Finally, our pension and post-retirement benefit plans have an unfunded benefit obligation, of which \$216 million is classified as current and \$3.8 billion is classified as long-term.

Federal Broadband Support Programs

Since 2015, we have been receiving approximately \$500 million annually through Phase II of the CAF, a program that ended on December 31, 2021. In connection with the CAF funding, we were required to meet certain specified infrastructure buildout requirements in 33 states by the end of 2021, which required substantial capital expenditures.

In early 2020, the FCC created the RDOF, which is a new federal support program designed to replace the CAF Phase II program. On December 7, 2020, the FCC allocated in its RDOF Phase I auction \$9.2 billion in support payments over 10 years to deploy high speed broadband to over 5.2 million unserved locations. We won bids for RDOF Phase I support payments of \$26 million, annually. We expect our support payments under the RDOF Phase I program will begin soon after our anticipated receipt of the FCC's approval of our pending application. Assuming we timely complete our pending divestiture of the ILEC business assets on the terms described herein, we expect a portion of these payments will accrue to the purchaser of that business. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses to our consolidated financial statements in Item 8 of Part II of this report.

For additional information on these programs, see (i) "Business—Regulation of Our Business" in Item 1 of Part I of this report and (ii) "Risk Factors—Financial Risks" in Item 1A of Part I of this report.

Federal officials have proposed changes to current programs and laws that could impact us, including proposals designed to increase broadband access, increase competition among broadband providers, lower broadband costs and re-adopt "net neutrality" rules similar to those adopted under the Obama Administration. In November 2021, the U.S. Congress enacted legislation that appropriated \$65 billion to improve broadband affordability and access, primarily through federally funded state grants. As of the date of this report, the U.S. Department of Commerce is still developing guidance regarding these grants, so it is premature to speculate on the potential impact of this legislation on us.

Cash Flow Activities

The following tables summarize our consolidated cash flow activities for the year ended December 31, 2021 and 2020. For information regarding cash flow activities for the year ended December 31, 2019, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of our Annual Report Form 10-K for the year ended December 31, 2020.

	Years Ended December 31,		Increase / (Decrease)
	2021	2020	
	(Dollars in millions)		
Net cash provided by operating activities	\$ 6,501	6,524	(23)
Net cash used in investing activities	(2,712)	(3,564)	(852)
Net cash used in financing activities	(3,807)	(4,250)	(443)

Operating Activities

Net cash provided by operating activities decreased by \$23 million for the year ended December 31, 2021 as compared to the year ended December 31, 2020 primarily due to decreased collections on accounts receivable, partially offset by decreased payments on accounts payable. Cash provided by operating activities is subject to variability period over period as a result of timing differences, including with respect to the collection of receivables and payments of interest expense, accounts payable and bonuses.

For additional information about our operating results, see "Results of Operations" above.

Investing Activities

Net cash used in investing activities decreased by \$852 million for the year ended December 31, 2021 as compared to the year ended December 31, 2020 primarily due to a decrease in capital expenditures.

Financing Activities

Net cash used in financing activities decreased by \$443 million for the year ended December 31, 2021 as compared to the year ended December 31, 2020 primarily due to lower payments of long-term debt and proceeds from our revolving line of credit, partially offset by lower net proceeds from issuance of long-term debt and repurchases of common stock.

See Note 7—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report for additional information on our outstanding debt securities.

Other Matters

We have cash management and loan arrangements with a majority of our income-generating subsidiaries, in which a substantial portion of the aggregate cash of those subsidiaries' is periodically advanced or loaned to us or our service company affiliate. Although we periodically repay these advances to fund the subsidiaries' cash requirements throughout the year, at any given point in time we may owe a substantial sum to our subsidiaries under these arrangements. In accordance with generally accepted accounting principles, these arrangements are reflected in the balance sheets of our subsidiaries, but are eliminated in consolidation and therefore not recognized on our consolidated balance sheets.

We also are involved in various legal proceedings that could substantially impact our financial position. See Note 18—Commitments, Contingencies and Other Items to our consolidated financial statements in Item 8 of Part II of this report for additional information.

Market Risk

As of December 31, 2021, we are exposed to market risk from changes in interest rates on our variable rate long-term debt obligations and fluctuations in certain foreign currencies.

Management periodically reviews our exposure to interest rate fluctuations and periodically implements strategies to manage the exposure. From time to time, we have used derivative instruments to (i) swap our exposure to variable interest rates for fixed interest rates or (ii) to swap obligations to pay fixed interest rates for variable interest rates. We have established policies and procedures for risk assessment and the approval, reporting and monitoring of derivative instrument activities. As of December 31, 2021, we did not hold or issue derivative financial instruments for trading or speculative purposes.

In 2019, we executed swap transactions that reduced our exposure to floating rates with respect to \$4.0 billion principal amount of floating rate debt, maturing on March 31, 2022 and June 30, 2022. See Note 15—Derivative Financial Instruments to our consolidated financial statements in Item 1 of Part I of this report for additional disclosure regarding our hedging arrangements.

As of December 31, 2021, we had approximately \$9.8 billion floating rate debt potentially subject to LIBOR, \$4.0 billion of which was subject to the above-described hedging arrangements. A hypothetical increase of 100 basis points in LIBOR relating to our \$5.8 billion of unhedged floating rate debt would, among other things, decrease our annual pre-tax earnings by approximately \$58 million. Additionally, our credit agreements contain language about a possible change from LIBOR to an alternative index.

We conduct a portion of our business in currencies other than the U.S. dollar, the currency in which our consolidated financial statements are reported. Our European subsidiaries and certain Latin American subsidiaries use the local currency as their functional currency, as the majority of their revenue and purchases are transacted in their local currencies. Certain Latin American countries previously designated as highly inflationary economies use the U.S. dollar as their functional currency. Although we continue to evaluate strategies to mitigate risks related to the effect of fluctuations in currency exchange rates, we will likely recognize gains or losses from international transactions. Accordingly, changes in foreign currency rates relative to the U.S. dollar could adversely impact our operating results.

Certain shortcomings are inherent in the method of analysis presented in the computation of exposures to market risks. Actual values may differ materially from those disclosed by us from time to time if market conditions vary from the assumptions used in the analyses performed. These analyses only incorporate the risk exposures that existed at December 31, 2021.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Market Risk" in Item 7 of Part II of this report is incorporated herein by reference.

ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors
Lumen Technologies, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Lumen Technologies, Inc. and subsidiaries (the Company) as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive income (loss), cash flows, and stockholders' equity for each of the years in the three-year period ended December 31, 2021, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 24, 2022 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Testing of revenue

As discussed in Note 4 to the consolidated financial statements, the Company recorded \$19.7 billion of operating revenues for the year ended December 31, 2021. The processing and recording of revenue are reliant upon multiple information technology (IT) systems.

We identified the evaluation of the sufficiency of audit evidence over revenue as a critical audit matter. Complex auditor judgment was required in evaluating the sufficiency of audit evidence over revenue due to the large volume of data and the number and complexity of the revenue accounting systems. Specialized skills and knowledge were needed to test the IT systems used for the processing and recording of revenue.

The following are the primary procedures we performed to address this critical audit matter. We applied auditor judgment to determine the nature and extent of procedures to be performed over the processing and recording of revenue, including the IT systems tested. We evaluated the design and tested the operating effectiveness of certain internal controls related to the processing and recording of revenue. This included manual and automated controls over the IT systems used for the processing and recording of revenue. For a selection of transactions, we compared the amount of revenue recorded to a combination of Company internal data, executed contracts, and other relevant third-party data. In addition, we involved IT professionals with specialized skills and knowledge who assisted in the design and performance of audit procedures related to certain IT systems used by the Company for the processing and recording of revenue. We evaluated the sufficiency of audit evidence obtained by assessing the results of procedures performed, including the relevance and reliability of evidence obtained.

/s/ KPMG LLP

We have served as the Company's auditor since 1977.

Denver, Colorado

February 24, 2022

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors Lumen Technologies, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Lumen Technologies, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive income (loss), cash flows, and stockholders' equity for each of the years in the three-year period ended December 31, 2021, and the related notes (collectively, the consolidated financial statements), and our report dated February 24, 2022 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

Denver, Colorado
February 24, 2022

LUMEN TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions, except per share amounts, and shares in thousands)		
OPERATING REVENUE	\$ 19,687	20,712	21,458
OPERATING EXPENSES			
Cost of services and products (exclusive of depreciation and amortization)	8,488	8,934	9,134
Selling, general and administrative	2,895	3,464	3,715
Depreciation and amortization	4,019	4,710	4,829
Goodwill impairment	—	2,642	6,506
Total operating expenses	15,402	19,750	24,184
OPERATING INCOME (LOSS)	4,285	962	(2,726)
OTHER EXPENSE			
Interest expense	(1,522)	(1,668)	(2,021)
Other expense, net	(62)	(76)	(19)
Total other expense, net	(1,584)	(1,744)	(2,040)
INCOME (LOSS) BEFORE INCOME TAXES	2,701	(782)	(4,766)
Income tax expense	668	450	503
NET INCOME (LOSS)	\$ 2,033	(1,232)	(5,269)
BASIC AND DILUTED EARNINGS (LOSS) PER COMMON SHARE			
BASIC	\$ 1.92	(1.14)	(4.92)
DILUTED	\$ 1.91	(1.14)	(4.92)
WEIGHTED AVERAGE COMMON SHARES OUTSTANDING			
BASIC	1,059,541	1,079,130	1,071,441
DILUTED	1,066,778	1,079,130	1,071,441

See accompanying notes to consolidated financial statements.

LUMEN TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
NET INCOME (LOSS)	\$ 2,033	(1,232)	(5,269)
OTHER COMPREHENSIVE INCOME (LOSS):			
Items related to employee benefit plans:			
Change in net actuarial loss, net of \$(134), \$26, and \$60 tax	424	(92)	(195)
Settlement charges recognized in net income (loss), net of \$(93), \$— and \$— tax	290	—	—
Change in net prior service cost, net of \$(5), \$(12), and \$(4) tax	14	33	13
Curtailment loss, net of \$—, \$(1), and \$— tax	—	3	—
Reclassification of realized loss on interest rate swaps to net income (loss), net of \$(20), \$(16), and \$— tax	63	46	2
Unrealized holding loss on interest rate swaps, net of \$—, \$29, and \$12 tax	(1)	(86)	(41)
Foreign currency translation adjustment, net of \$30, \$(43), and \$(6) tax	(135)	(37)	2
Other comprehensive income (loss)	655	(133)	(219)
COMPREHENSIVE INCOME (LOSS)	<u>\$ 2,688</u>	<u>(1,365)</u>	<u>(5,488)</u>

See accompanying notes to consolidated financial statements.

LUMEN TECHNOLOGIES, INC.
CONSOLIDATED BALANCE SHEETS

	As of December 31,	
	2021	2020
	(Dollars in millions and shares in thousands)	
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 354	406
Accounts receivable, less allowance of \$114 and \$191	1,544	1,962
Assets held for sale	8,809	—
Other	829	808
Total current assets	11,536	3,176
Property, plant and equipment, net of accumulated depreciation of \$19,271 and \$31,596	20,895	26,338
GOODWILL AND OTHER ASSETS		
Goodwill	15,986	18,870
Other intangible assets, net	6,970	8,219
Other, net	2,606	2,791
Total goodwill and other assets	25,562	29,880
TOTAL ASSETS	\$ 57,993	59,394
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Current maturities of long-term debt	\$ 1,554	2,427
Accounts payable	758	1,134
Accrued expenses and other liabilities		
Salaries and benefits	860	1,008
Income and other taxes	228	314
Current operating lease liabilities	385	379
Interest	278	291
Other	232	328
Liabilities held for sale	2,257	—
Current portion of deferred revenue	617	753
Total current liabilities	7,169	6,634
LONG-TERM DEBT	27,428	29,410
DEFERRED CREDITS AND OTHER LIABILITIES		
Deferred income taxes, net	4,049	3,342
Benefit plan obligations, net	3,710	4,556
Other	3,797	4,290
Total deferred credits and other liabilities	11,556	12,188
COMMITMENTS AND CONTINGENCIES (Note 18)		
STOCKHOLDERS' EQUITY		
Preferred stock — non-redeemable, \$25.00 par value, authorized 2,000 and 2,000 shares, issued and outstanding 7 and 7 shares	—	—
Common stock, \$1.00 par value, authorized 2,200,000 and 2,200,000 shares, issued and outstanding 1,023,512 and 1,096,921 shares	1,024	1,097
Additional paid-in capital	18,972	20,909
Accumulated other comprehensive loss	(2,158)	(2,813)
Accumulated deficit	(5,998)	(8,031)
Total stockholders' equity	11,840	11,162
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	\$ 57,993	59,394

See accompanying notes to consolidated financial statements.

LUMEN TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
OPERATING ACTIVITIES			
Net income (loss)	\$ 2,033	(1,232)	(5,269)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	4,019	4,710	4,829
Goodwill impairment	—	2,642	6,506
Deferred income taxes	598	366	440
Provision for uncollectible accounts	105	189	145
Net (gain) loss on early retirement and modification of debt	(8)	105	(72)
Stock-based compensation	120	175	162
Changes in current assets and liabilities:			
Accounts receivable	(8)	115	(5)
Accounts payable	(261)	(543)	(261)
Accrued income and other taxes	(69)	27	20
Other current assets and liabilities, net	(353)	(262)	(32)
Retirement benefits	163	(111)	(12)
Changes in other noncurrent assets and liabilities, net	283	246	245
Other, net	(121)	97	(16)
Net cash provided by operating activities	6,501	6,524	6,680
INVESTING ACTIVITIES			
Capital expenditures	(2,900)	(3,729)	(3,628)
Proceeds from sale of property, plant and equipment and other assets	135	153	93
Other, net	53	12	(35)
Net cash used in investing activities	(2,712)	(3,564)	(3,570)
FINANCING ACTIVITIES			
Net proceeds from issuance of long-term debt	1,881	4,361	3,707
Payments of long-term debt	(3,598)	(7,315)	(4,157)
Net proceeds from (payments on) revolving line of credit	50	(100)	(300)
Dividends paid	(1,087)	(1,109)	(1,100)
Repurchases of common stock	(1,000)	—	—
Other, net	(53)	(87)	(61)
Net cash used in financing activities	(3,807)	(4,250)	(1,911)
Net (decrease) increase in cash, cash equivalents and restricted cash	(18)	(1,290)	1,199
Cash, cash equivalents and restricted cash at beginning of period	427	1,717	518
Cash, cash equivalents and restricted cash at end of period	\$ 409	427	1,717

Supplemental cash flow information:				
Income taxes (paid) refunded, net	\$	(112)	28	34
Interest paid (net of capitalized interest of \$53, \$75 and \$72)	\$	(1,487)	(1,627)	(2,028)
Supplemental non-cash information regarding investing activities:				
Sale of property, plant and equipment in exchange for note receivable		56	—	—
Supplemental non-cash information regarding financing activities:				
Purchase of software subscription in exchange for installment debt		77	—	—
Cash, cash equivalents and restricted cash:				
Cash and cash equivalents	\$	354	406	1,690
Cash and cash equivalents included in Assets held for sale		40	—	—
Restricted cash included in Other current assets		2	3	3
Restricted cash included in Other, net noncurrent assets		13	18	24
Total	\$	409	427	1,717

See accompanying notes to consolidated financial statements.

LUMEN TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions except per share amounts)		
COMMON STOCK			
Balance at beginning of period	\$ 1,097	1,090	1,080
Issuance of common stock through dividend reinvestment, incentive and benefit plans	8	7	10
Repurchases of common stock	(81)	—	—
Balance at end of period	1,024	1,097	1,090
ADDITIONAL PAID-IN CAPITAL			
Balance at beginning of period	20,909	21,874	22,852
Repurchases of common stock	(919)	—	—
Shares withheld to satisfy tax withholdings	(45)	(40)	(37)
Stock-based compensation and other, net	122	187	163
Dividends declared	(1,095)	(1,112)	(1,104)
Balance at end of period	18,972	20,909	21,874
ACCUMULATED OTHER COMPREHENSIVE LOSS			
Balance at beginning of period	(2,813)	(2,680)	(2,461)
Other comprehensive income (loss)	655	(133)	(219)
Balance at end of period	(2,158)	(2,813)	(2,680)
ACCUMULATED DEFICIT			
Balance at beginning of period	(8,031)	(6,814)	(1,643)
Net income (loss)	2,033	(1,232)	(5,269)
Cumulative effect of adoption of ASU 2016-13, Measurement of Credit Losses, net of \$(2) tax	—	9	—
Cumulative effect of adoption of ASU 2016-02, Leases, net of \$(37) tax	—	—	96
Other	—	6	2
Balance at end of period	(5,998)	(8,031)	(6,814)
TOTAL STOCKHOLDERS' EQUITY	\$ 11,840	11,162	13,470
DIVIDENDS DECLARED PER COMMON SHARE	\$ 1.00	1.00	1.00

See accompanying notes to consolidated financial statements.

LUMEN TECHNOLOGIES, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

References in the Notes to "Lumen Technologies" or "Lumen," "we," "us," the "Company," and "our" refer to Lumen Technologies, Inc. and its consolidated subsidiaries, unless the context otherwise requires. References in the Notes to "Level 3" refer to Level 3 Parent, LLC and its predecessor, Level 3 Communications, Inc., which we acquired on November 1, 2017.

(1) Background and Summary of Significant Accounting Policies

General

We are an international facilities-based technology and communications company engaged primarily in providing a broad array of integrated products and services to our business and mass markets customers. Our specific products and services are detailed in Note 4—Revenue Recognition.

Basis of Presentation

The accompanying consolidated financial statements include our accounts and the accounts of our subsidiaries in which we have a controlling interest. Intercompany amounts and transactions with our consolidated subsidiaries have been eliminated. In connection with our acquisition of Level 3 in 2017, we acquired its deconsolidated Venezuela subsidiary and due to exchange restrictions and other conditions have assigned no value to this subsidiary's assets. Additionally, we have excluded this subsidiary from our consolidated financial statements.

To simplify the overall presentation of our consolidated financial statements, we report immaterial amounts attributable to noncontrolling interests in certain of our subsidiaries as follows: (i) income attributable to noncontrolling interests in other expense, net, (ii) equity attributable to noncontrolling interests in additional paid-in capital and (iii) cash flows attributable to noncontrolling interests in other, net financing activities.

We reclassified certain prior period amounts to conform to the current period presentation, including the categorization of our revenue and expenses in our segment reporting for 2021, 2020 and 2019. See Note 17—Segment Information for additional information. These changes had no impact on total operating revenue, total operating expenses or net income (loss) for any period.

Operating Expenses

Our current definitions of operating expenses are as follows:

- *Cost of services and products (exclusive of depreciation and amortization)* are expenses incurred in providing products and services to our customers. These expenses include: employee-related expenses directly attributable to operating and maintaining our network (such as salaries, wages, benefits and professional fees); facilities expenses (which include third-party telecommunications expenses we incur for using other carriers' networks to provide services to our customers); rents and utilities expenses; equipment sales expenses (such as data integration and modem expenses); and other expenses directly related to our operations; and
- *Selling, general and administrative expenses* are corporate overhead and other operating expenses. These expenses include: employee-related expenses (such as salaries, wages, internal commissions, benefits and professional fees) directly attributable to selling products or services and employee-related expenses for administrative functions; marketing and advertising; property and other operating taxes and fees; external commissions; litigation expenses associated with general matters; bad debt expense; and other selling, general and administrative expenses.

These expense classifications may not be comparable to those of other companies.

Summary of Significant Accounting Policies

Use of Estimates

Our consolidated financial statements are prepared in accordance with U.S. generally accepted accounting principles. These accounting principles require us to make certain estimates, judgments and assumptions. We believe that the estimates, judgments and assumptions we make when accounting for specific items and matters are reasonable, based on information available at the time they are made. These estimates, judgments and assumptions can materially affect the reported amounts of assets, liabilities and components of stockholders' equity as of the dates of the consolidated balance sheets, as well as the reported amounts of revenue, expenses and components of cash flows during the periods presented in our other consolidated financial statements. We also make estimates in our assessments of potential losses in relation to threatened or pending tax and legal matters. See Note 16—Income Taxes and Note 18—Commitments, Contingencies and Other Items for additional information.

For matters not related to income taxes, if a loss contingency is considered probable and the amount can be reasonably estimated, we recognize an expense for the estimated loss. If we have the potential to recover a portion of the estimated loss from a third party, we make a separate assessment of recoverability and reduce the estimated loss if recovery is also deemed probable.

For matters related to income taxes, if we determine that the impact of an uncertain tax position is more likely than not to be sustained upon audit by the relevant taxing authority, then we recognize a benefit for the largest amount that is more likely than not to be sustained. No portion of an uncertain tax position will be recognized if the position has less than a 50% likelihood of being sustained. Interest is recognized on the amount of unrecognized benefit from uncertain tax positions.

For all of these and other matters, actual results could differ materially from our estimates.

Assets Held for Sale

We classify assets and related liabilities as held for sale when: (i) management has committed to a plan to sell the assets, (ii) the net assets are available for immediate sale, (iii) there is an active program to locate a buyer and (iv) the sale and transfer of the net assets is probable within one year. Assets and liabilities held for sale are presented separately on our consolidated balance sheets with a valuation allowance, if necessary, to recognize the net carrying amount at the lower of cost or fair value, less costs to sell. Depreciation of property, plant and equipment and amortization of finite-lived intangible assets and right-of-use assets are not recorded while these assets are classified as held for sale. For each period that assets are classified as being held for sale, they are tested for recoverability. Unless otherwise specified, the amounts and information presented in the notes do not include assets and liabilities that have been reclassified as held for sale as of December 31, 2021. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses for additional information.

Revenue Recognition

We earn most of our consolidated revenue from contracts with customers, primarily through the provision of communications and other services. Revenue from contracts with customers is accounted for under Accounting Standards Codification ("ASC") 606. We also earn revenue from leasing arrangements (primarily fiber capacity and colocation agreements) and governmental subsidy payments, which are not accounted for under ASC 606.

Revenue is recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to receive in exchange for those goods or services. Revenue is recognized based on the following five-step model:

- Identification of the contract with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and

- Recognition of revenue when, or as, we satisfy a performance obligation.

We provide an array of communications services to business and residential customers, including local voice, VPN, Ethernet, data, broadband, private line (including special access), network access, transport, voice, information technology, video and other ancillary services. We provide these services to a wide range of businesses, including global, enterprise, wholesale, government, and small and medium business customers. Certain contracts also include the sale of equipment, which is not significant to our business.

We recognize revenue for services when we provide the applicable service or when control of a product is transferred. Recognition of certain payments received in advance of services being provided is deferred. These advance payments may include certain activation and certain installation charges. If the activation and installation charges are not separate performance obligations, we recognize them as revenue over the actual or expected contract term using historical experience, which ranges from one to five years depending on the service. In most cases, termination fees or other fees on existing contracts that are negotiated in conjunction with new contracts are deferred and recognized over the new contract term.

For access services, we generally bill fixed monthly charges one month in advance to customers and recognize revenue as service is provided over the contract term in alignment with the customer's receipt of service. For usage and other ancillary services, we generally bill in arrears and recognize revenue as usage or delivery occurs. In most cases, the amount invoiced for our service offerings constitutes the price that would be billed on a standalone basis.

In certain cases, customers may be permitted to modify their contracts. We evaluate the change in scope or price to identify whether the modification should be treated as a separate contract, whether the modification is a termination of the existing contract and creation of a new contract, or if it is a change to the existing contract.

Customer contracts are evaluated to determine whether the performance obligations are separable. If the performance obligations are deemed separable and separate earnings processes exist, the total transaction price that we expect to receive with the customer is allocated to each performance obligation based on its relative standalone selling price. The revenue associated with each performance obligation is then recognized as earned.

We periodically sell optical capacity on our network. These transactions are generally structured as indefeasible rights of use, commonly referred to as IRUs, which are the exclusive right to use a specified amount of capacity or fiber for a specified term, typically 10 to 20 years. In most cases, we account for the cash consideration received on transfers of optical capacity as ASC 606 revenue which is adjusted for the time value of money and is recognized ratably over the term of the agreement. Cash consideration received on transfers of dark fiber is accounted for as non-ASC 606 lease revenue, which we also recognize ratably over the term of the agreement. We do not recognize revenue on any contemporaneous exchanges of our optical capacity assets for other non-owned optical capacity assets.

In connection with offering products and services provided to the end user by third-party vendors, we review the relationship between us, the vendor and the end user to assess whether revenue should be reported on a gross or net basis. In assessing whether revenue should be reported on a gross or net basis, we consider whether we act as a principal in the transaction and control the goods and services used to fulfill the performance obligations associated with the transaction.

We have service level commitments pursuant to contracts with certain of our customers. To the extent that we determine that such service levels were not achieved or may not have been achieved, we estimate the amount of credits to be issued and record a corresponding reduction to revenue in the period that the service level commitment was not met.

Customer payments are made based on billing schedules included in our customer contracts, which is typically on a monthly basis.

We defer (or capitalize) incremental contract acquisition and fulfillment costs and recognize (or amortize) such costs over the average contract life. Our deferred contract costs for our customers have average amortization periods of approximately 30 months for mass markets customers and 29 months for business customers. These deferred costs are periodically monitored to reflect any significant change in assumptions.

See Note 4—Revenue Recognition for additional information.

Advertising Costs

Costs related to advertising are expensed as incurred and included in selling, general and administrative expenses in our consolidated statements of operations. Our advertising expense was \$56 million, \$56 million and \$62 million for the years ended December 31, 2021, 2020 and 2019, respectively.

Legal Costs

In the normal course of our business, we incur costs to hire and retain external legal counsel to advise us on regulatory, litigation and other matters. Subject to certain exceptions, we expense these costs as the related services are received.

Income Taxes

We file a consolidated federal income tax return with our eligible subsidiaries. The provision for income taxes reflects taxes currently payable, tax consequences deferred to future periods and adjustments to our liabilities for uncertain tax positions. We record deferred income tax assets and liabilities reflecting future tax consequences attributable to tax net operating loss carryforwards ("NOLs"), tax credit carryforwards and differences between the financial statement carrying value of assets and liabilities and the tax basis of those assets and liabilities. Deferred taxes are computed using enacted tax rates expected to apply in the year in which the differences are expected to affect taxable income. The effect on deferred income tax assets and liabilities of a change in tax rate is recognized in earnings in the period that includes the enactment date.

We establish valuation allowances when necessary to reduce deferred income tax assets to the amounts that we believe are more likely than not to be recovered. Each quarter we evaluate the need to retain or adjust each valuation allowance on our deferred tax assets. See Note 16—Income Taxes for additional information.

Cash and Cash Equivalents

Cash and cash equivalents include highly liquid investments that are readily convertible into cash and are not subject to significant risk from fluctuations in interest rates. As a result, the value at which cash and cash equivalents are reported in our consolidated financial statements approximates their fair value. In evaluating investments for classification as cash equivalents, we require that individual securities have original maturities of ninety days or less and that individual investment funds have dollar-weighted average maturities of ninety days or less. To preserve capital and maintain liquidity, we invest with financial institutions we deem to be of sound financial condition and in high quality and relatively risk-free investment products. Our cash investment policy limits the concentration of investments with specific financial institutions or among certain products and includes criteria related to credit worthiness of any particular financial institution.

Book overdrafts occur when we have issued checks but they have not yet been presented to our controlled disbursement bank accounts for payment. Disbursement bank accounts allow us to delay funding of issued checks until the checks are presented for payment. Until the issued checks are presented for payment, the book overdrafts are included in accounts payable on our consolidated balance sheets. This activity is included in the operating activities section in our consolidated statements of cash flows. There were no book overdrafts included in accounts payable at December 31, 2021 or 2020.

Restricted Cash

Restricted cash consists primarily of cash and investments that collateralize our outstanding letters of credit and certain performance and operating obligations. Restricted cash and securities are recorded as current or non-current assets in the consolidated balance sheets depending on the duration of the restriction and the purpose for which the restriction exists. Restricted securities are stated at cost which approximated their fair value as of December 31, 2021 and 2020.

Accounts Receivable and Allowance for Credit Losses

Accounts receivable are recognized based upon the amount due from customers for the services provided or at cost for purchased and other receivables, less an allowance for credit losses. We use a loss rate method to estimate our allowance for credit losses. For more information on our methodology for estimating our allowance for credit losses, see Note 6—Credit Losses on Financial Instruments.

We generally consider our accounts past due if they are outstanding over 30 days. Our past due accounts are written off against our allowance for credit losses when collection is considered to be not probable. Any recoveries of accounts previously written off are generally recognized as a reduction in bad debt expense in the period received. The carrying value of accounts receivable net of the allowance for credit losses approximates fair value. Accounts receivable balances acquired in a business combination are recorded at fair value for all balances receivable at the acquisition date and at the invoiced amount for those amounts invoiced after the acquisition date.

Property, Plant and Equipment

We record property, plant and equipment acquired in connection with our acquisitions based on its estimated fair value as of its acquisition date plus the estimated value of any associated legally or contractually required retirement obligations. We record purchased and constructed property, plant and equipment at cost, plus the estimated value of any associated legally or contractually required retirement obligations. We depreciate the majority of our property, plant and equipment using the straight-line group method over the estimated useful lives of groups of assets, but depreciate certain of our assets using the straight-line method over the estimated useful lives of the specific asset. Under the straight-line group method, assets dedicated to providing telecommunications services (which comprise the majority of our property, plant and equipment) that have similar physical characteristics, use and expected useful lives are pooled for purposes of depreciation and tracking. The equal life group procedure is used to establish each pool's average remaining useful life. Generally, under the straight-line group method, when an asset is sold or retired in the course of normal business activities, the cost is deducted from property, plant and equipment and charged to accumulated depreciation without recognition of a gain or loss. A gain or loss is recognized in our consolidated statements of operations only if a disposal is unusual. Leasehold improvements are amortized over the shorter of the useful lives of the assets or the expected lease term. Expenditures for maintenance and repairs are expensed as incurred. Interest is capitalized during the construction phase of network and other internal-use capital projects. Employee-related costs for construction of network and other internal use assets are also capitalized during the construction phase. Property, plant and equipment supplies used internally are carried at average cost, except for significant individual items which are carried at actual cost.

We perform annual internal reviews to evaluate the reasonableness of the depreciable lives for our property, plant and equipment. Our reviews utilize models that take into account actual usage, physical wear and tear, replacement history, assumptions about technology evolution and, in certain instances, actuarially determined probabilities to estimate the remaining useful life of our asset base. Our remaining useful life assessments evaluate the possible loss in service value of assets that may precede the physical retirement. Assets shared among many customers may lose service value as those customers reduce their use of the asset. However, the asset is not retired until all customers no longer utilize the asset and we determine there is no alternative use for the asset.

We have asset retirement obligations associated with the legally or contractually required removal of a limited group of property, plant and equipment assets from leased properties and the disposal of certain hazardous materials present in our owned properties. When an asset retirement obligation is identified, usually in association with the acquisition of the asset, we record the fair value of the obligation as a liability. The fair value of the obligation is also capitalized as property, plant and equipment and then amortized over the estimated remaining useful life of the associated asset. Where the removal obligation is not legally binding, the net cost to remove assets is expensed in the period in which the costs are actually incurred.

We review long-lived tangible assets for impairment whenever facts and circumstances indicate that the carrying amounts of the assets may not be recoverable. For assessment purposes, long-lived assets are grouped with other assets and liabilities at the lowest identifiable level for which we generate cash flows independently of other groups of assets and liabilities, absent a material change in operations. An impairment loss is recognized only if the carrying amount of the asset group is not recoverable and exceeds its estimated fair value. Recoverability of the asset group to be held and used is assessed by comparing the carrying amount of the asset group to the estimated undiscounted future net cash flows expected to be generated by the asset group. If the asset group's carrying value is not recoverable, we recognize an impairment charge for the amount by which the carrying amount of the asset group exceeds its estimated fair value.

Goodwill, Customer Relationships and Other Intangible Assets

Intangible assets arising from business combinations, such as goodwill, customer relationships, capitalized software, trademarks and trade names, are initially recorded at estimated fair value. We amortize customer relationships primarily over an estimated life of 7 to 14 years, using the straight-line method, depending on the type of customer. Certain customer relationship intangible assets became fully amortized at the end of the first quarter 2021 using the sum-of-years-digits method, which is no longer used. We amortize capitalized software using the straight-line method primarily over estimated lives ranging up to 7 years. We amortize our other intangible assets using the straight-line method over an estimated life of 4 to 20 years. Other intangible assets not arising from business combinations are initially recorded at cost. Where there are no legal, regulatory, contractual or other factors that would reasonably limit the useful life of an intangible asset, we classify the intangible asset as indefinite-lived and such intangible assets are not amortized.

Internally used software, whether purchased or developed by us, is capitalized and amortized using the straight-line method over its estimated useful life. We have capitalized certain costs associated with software such as costs of employees devoted to software development and external direct costs for materials and services. Costs associated with software to be used for internal purposes are expensed until the point at which the project has reached the development stage. Subsequent additions, modifications or upgrades to internal-use software are capitalized only to the extent that they allow the software to perform a task it previously did not perform. Software maintenance, data conversion and training costs are expensed in the period in which they are incurred. We review the remaining economic lives of our capitalized software annually. Capitalized software is included in other intangible assets, net, in our consolidated balance sheets.

Our long-lived intangible assets, other than goodwill, with indefinite lives are assessed for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be an impairment. These assets are carried at the estimated fair value at the time of acquisition and assets not acquired in acquisitions are recorded at historical cost. However, if their estimated fair value is less than the carrying amount, we recognize an impairment charge for the amount by which the carrying amount of these assets exceeds their estimated fair value.

We are required to assess goodwill for impairment at least annually, or more frequently, if an event occurs or circumstances change that indicates it is more likely than not that the fair values of any of our reporting units were less than their carrying values. We are required to write-down the value of goodwill in periods in which the recorded carrying value of equity exceeds the fair value of equity. Our reporting units are not discrete legal entities with discrete full financial statements. Therefore, the equity carrying value and future cash flows are assessed each time a goodwill impairment assessment is performed on a reporting unit. To do so, we assign our assets, liabilities and cash flows to reporting units using reasonable and consistent allocation methodologies, which entail various estimates, judgments and assumptions.

We are required to reassign goodwill to reporting units whenever reorganizations of our internal reporting structure changes the composition of our reporting units. Goodwill is reassigned to the reporting units using a relative fair value approach. When the fair value of a reporting unit is available, we allocate goodwill based on the relative fair value of the reporting units. When fair value is not available, we utilize an alternative allocation methodology that represents a reasonable approximation of the fair value of the operations being reorganized.

For more information, see Note 3—Goodwill, Customer Relationships and Other Intangible Assets.

Derivatives and Hedging

From time to time we have used derivative instruments to hedge exposure to interest rate risks arising from fluctuation in interest rates. We account for derivative instruments in accordance with ASC 815, *Derivatives and Hedging*, which establishes accounting and reporting standards for derivative instruments. We do not use derivative financial instruments for speculative purposes.

Derivatives are recognized in the consolidated balance sheets at their fair values. When we become a party to a derivative instrument and intend to apply hedge accounting, we formally document the hedge relationship and the risk management objective for undertaking the hedge which includes designating the instrument for financial reporting purposes as a fair value hedge, a cash flow hedge, or a net investment hedge.

We evaluate the effectiveness of our variable-to-fixed interest rate swap agreements described in Note 15—Derivative Financial Instruments (designated as cash-flow hedges) qualitatively on a quarterly basis. The change in the fair value of the interest rate swaps is reflected in Accumulated Other Comprehensive Loss ("AOCI") and is subsequently reclassified into earnings in the period the hedged transaction affects earnings, by virtue of qualifying as effective cash flow hedges. For more information see Note 15—Derivative Financial Instruments.

Pension and Post-Retirement Benefits

We recognize the funded status of our defined benefit and post-retirement plans as an asset or a liability on our consolidated balance sheets. Each year's actuarial gains or losses are a component of our other comprehensive loss, which is then included in our accumulated other comprehensive loss. Pension and post-retirement benefit expenses are recognized over the period in which the employee renders service and becomes eligible to receive benefits. We make significant assumptions (including the discount rate, expected rate of return on plan assets, mortality and health care trend rates) in computing the pension and post-retirement benefits expense and obligations. See Note 11—Employee Benefits for additional information.

Foreign Currency

Local currencies of our foreign subsidiaries are the functional currencies for financial reporting purposes except for certain foreign subsidiaries, primarily in Latin America. For operations outside the United States that have functional currencies other than the U.S. dollar, assets and liabilities are translated to U.S. dollars at period-end exchange rates, and revenue, expenses and cash flows are translated using average monthly exchange rates. A significant portion of our non-United States subsidiaries use either the British pound, the Euro or the Brazilian Real as their functional currency, each of which experienced significant fluctuations against the U.S. dollar during the years ended December 31, 2021, 2020 and 2019. We recognize foreign currency translation gains and losses as a component of accumulated other comprehensive loss in stockholders' equity and in our consolidated statements of comprehensive income (loss) in accordance with accounting guidance for foreign currency translation. Prior to the announcement of our divestitures as discussed in Note 2—Planned Divestiture of the Latin American and ILEC Businesses, we considered the majority of our investments in our foreign subsidiaries to be long-term in nature. Our foreign currency transaction gains (losses), including where transactions with our non-United States subsidiaries are not considered to be long-term in nature, are included within other expense, net on our consolidated statements of operations. See the description of our Assets Held for Sale policy above for more information on assets in foreign subsidiaries to be divested.

Common Stock

As of December 31, 2021, we had 36 million shares authorized for future issuance under our equity incentive plans.

Preferred Stock

Holders of outstanding Lumen Technologies preferred stock are entitled to receive cumulative dividends, receive preferential distributions equal to \$25 per share plus unpaid dividends upon Lumen's liquidation and vote as a single class with the holders of common stock.

Section 382 Rights Plan

We maintain a Section 382 Rights Plan to protect our U.S. federal net operating loss carryforwards from certain Internal Revenue Code Section 382 limitations. Under the plan, one preferred stock purchase right was distributed for each share of our outstanding common stock as of the close of business on February 25, 2019, and those rights currently trade in tandem with the common stock until they expire or detach under the plan. This plan was designed to deter trading that would result in a change of control (as defined in Code Section 382), and therefore protect our ability to use our historical federal net operating losses in the future.

Dividends

The declaration and payment of dividends is at the discretion of our Board of Directors.

Recently Adopted Accounting Pronouncements

During 2021, we adopted Accounting Standards Update ("ASU") 2020-09, *"Debt (Topic 470) Amendments to SEC Paragraphs Pursuant to SEC Release No. 33-10762"* ("ASU 2020-09"), ASU 2020-01, *"Investments - Equity Securities (Topic 321), Investments - Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815) - Clarifying the Interactions between Topic 321, Topic 323, and Topic 815"* ("ASU 2020-01"), and ASU 2019-12, *"Simplifying the Accounting for Income Taxes (Topic 740)"* ("ASU 2019-12"). During 2020, we adopted ASU 2016-13, *"Measurement of Credit Losses on Financial Instruments"* ("ASU 2016-13"). During 2019, we adopted ASU 2016-02, *"Leases (ASC 842)"* ("ASU 2016-02").

Each of these is described further below.

Debt

On January 1, 2021, we adopted ASU 2020-09. This ASU amends and supersedes various SEC guidance to reflect SEC Release No. 33-10762, which includes amendments to the financial disclosure requirements applicable to registered debt offerings that include credit enhancements, such as subsidiary guarantees. The adoption of ASU 2020-09 did not have a material impact to our consolidated financial statements.

Investments

On January 1, 2021, we adopted ASU 2020-01. This ASU, among other things, clarifies that a company should consider observable transactions that require a company to either apply or discontinue the equity method of accounting under Topic 323, Investments - Equity Method and Joint Ventures, for the purposes of applying the measurement alternative in accordance with Topic 321 immediately before applying or upon discontinuing the equity method. As of December 31, 2021, we determined there was no application or discontinuation of the equity method during the reporting periods covered in this report. The adoption of ASU 2020-01 did not have a material impact to our consolidated financial statements.

Income Taxes

On January 1, 2021, we adopted ASU 2019-12. This ASU removes certain exceptions for investments, intra-period allocations and interim calculations, and adds guidance to reduce complexity in accounting for income taxes. The adoption of ASU 2019-12 did not have a material impact to our consolidated financial statements.

Measurement of Credit Losses on Financial Instruments

We adopted ASU 2016-13 on January 1, 2020, and recognized a cumulative adjustment to our accumulated deficit as of the date of adoption of \$9 million, net of tax effect of \$2 million. Please refer to Note 6—Credit Losses on Financial Instruments for more information.

Leases

We adopted ASU 2016-02 on January 1, 2019, using the non-comparative transition option pursuant to ASU 2018-11 and recognized ASC 842's cumulative effect transition adjustment (discussed below) as of January 1, 2019. In addition, we elected to apply the practical expedients permitted under the transition guidance within the new standard, which among other things (i) allowed us to carry forward the historical lease classification; (ii) did not require us to reassess whether any expired or existing contracts are or contain leases under the new definition of a lease; and (iii) did not require us to reassess whether previously capitalized initial direct costs for any existing leases would qualify for capitalization under ASC 842. We also elected to apply the practical expedient related to land easements, allowing us to carry forward our accounting treatment for land easements on existing agreements. We did not elect to apply the hindsight practical expedient regarding the likelihood of exercising a lessee purchase option or assessing any impairment of right-of-use assets for existing leases.

On March 5, 2019, the Financial Accounting Standards Board ("FASB") issued ASU 2019-01, *"Leases (ASC 842): Codification Improvements"*, ("ASU 2019-01") effective for public companies for fiscal years beginning after December 15, 2019. The new ASU aligns the guidance in ASC 842 for determining fair value of the underlying asset by lessors that are not manufacturers or dealers, with that of existing guidance. As a result, the fair value of the underlying asset at lease commencement is its cost, reflecting any volume or trade discounts that may apply. However, if there has been a significant lapse of time between when the underlying asset is acquired and when the lease commences, the definition of *fair value* (in ASC 820, *"Fair Value Measurement"*) should be applied. We adopted ASU 2019-01 as of January 1, 2019.

We recorded a \$96 million cumulative adjustment (net of tax of \$37 million) to accumulated deficit as of January 1, 2019, for the impact of the new accounting standards.

Recently Issued Accounting Pronouncements

In November 2021, the FASB issued ASU 2021-10, *"Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance"* ("ASU 2021-10"). These amendments are expected to increase transparency in financial reporting by requiring business entities to disclose information about certain types of government assistance they receive. ASU 2021-10 will become effective for us in the first quarter of fiscal 2022 and early adoption is permitted. As of December 31, 2021, we do not expect the cumulative effect of initially applying ASU 2021-10 in the first quarter of fiscal 2022 will have a material impact to our consolidated financial statements.

In October 2021, the FASB issued ASU 2021-08, *"Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers"* ("ASU 2021-08"), which requires entities to apply Topic 606 to recognize and measure contract assets and contract liabilities in a business combination. ASU 2021-08 will become effective for us in the first quarter of fiscal 2023 and early adoption is permitted. As of December 31, 2021, we do not expect the cumulative effect of initially applying ASU 2021-08 on January 1, 2023 will have a material impact to our consolidated financial statements.

In July 2021, the FASB issued ASU 2021-05, *"Leases (Topic 842): Lessors—Certain Leases with Variable Lease Payments"* ("ASU 2021-05"), which amends the lease classification requirements for lessors to align them with practice under ASC Topic 840. Under this ASU, lessors should classify and account for a lease with variable lease payments that do not depend on a reference index or a rate as an operating lease if certain criteria are met; and when a lease is classified as operating, the lessor does not recognize a net investment in the lease, does not derecognize the underlying asset, and, therefore, does not recognize a selling profit or loss. ASU 2021-05 will become effective for us in the first quarter of fiscal 2022 and early adoption is permitted. As of December 31, 2021, we do not expect the cumulative effect of initially applying ASU 2021-05 on January 1, 2022 will have a material impact to our consolidated financial statements.

In January 2021, the FASB issued ASU 2021-01, "*Reference Rate Reform (Topic 848): Scope*" ("ASU 2021-01"), which clarifies that certain optional expedients and exceptions in Topic 848 for contract modifications and hedge accounting apply to derivatives that are affected by the discounting transition. ASU 2021-01 also amends the expedients and exceptions in Topic 848 to capture the incremental consequences of the scope clarification and to tailor the existing guidance to derivative instruments affected by the discounting transition. These amendments are effective immediately and may be applied prospectively to contract modifications made and hedging relationships entered into or evaluated on or before December 31, 2022. ASU 2021-01 provides option guidance for a limited time to ease the potential burden in accounting for reference rate reform. Based on our review of our key material contracts through December 31, 2021, we do not expect ASU 2021-01 will have a material impact to our consolidated financial statements.

In August 2020, the FASB issued ASU 2020-06, "*Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity*", which simplifies accounting for convertible instruments by removing major separation models required under the current ASC. Consequently, more convertible debt instruments will be reported as a single liability instrument and more convertible preferred stock as a single equity instrument with no separate accounting for embedded conversion features. ASU 2020-06 will become effective for us in the first quarter of fiscal 2022 and early adoption is permitted. As of December 31, 2021, we do not expect the cumulative effect of initially applying ASU 2020-06 on January 1, 2022 will have a material impact to our consolidated financial statements.

In March 2020, the FASB issued ASU 2020-04, "*Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*" ("ASU 2020-04" or "Reference Rate Reform"), designed to ease the burden of accounting for contract modifications related to the global market-wide reference rate transition period. Subject to certain criteria, ASU 2020-04 provides qualifying entities the option to apply expedients and exceptions to contract modifications and hedging accounting relationships made until December 31, 2022. These amendments are effective immediately and may be applied prospectively to contract modifications made and hedging relationships entered into or evaluated on or before December 31, 2022. ASU 2020-04 provides optional guidance for a limited time to ease the potential burden in accounting for reference rate reform. Based on our review of our key material contracts through December 31, 2021, we do not expect ASU 2020-04 will have a material impact to our consolidated financial statements.

(2) Planned Divestiture of the Latin American and ILEC Businesses

On July 25, 2021, affiliates of Level 3 Parent, LLC, an indirect wholly-owned subsidiary of Lumen Technologies, Inc., entered into a definitive agreement to divest Lumen's Latin American business to an affiliate of a fund advised by Stonepeak Partners LP in exchange for \$2.7 billion cash, subject to certain working capital, other purchase price adjustments and related transaction expenses (estimated to be approximately \$50 million). Level 3 Parent, LLC anticipates closing the transaction mid-year 2022, upon receipt of all requisite regulatory approvals in the U.S. and certain countries where the Latin American business operates, as well as the satisfaction of other customary conditions.

On August 3, 2021, we and certain of our affiliates entered into a definitive agreement to divest our incumbent local exchange ("ILEC") business conducted within 20 Midwestern and Southern states to an affiliate of funds advised by Apollo Global Management, Inc. In exchange, we would receive \$7.5 billion, subject to offsets for (i) assumed indebtedness (expected to be approximately \$1.4 billion) and (ii) certain purchaser's transaction expenses along with working capital, tax, other customary purchase price adjustments and related transaction expenses (estimated to be approximately \$1.7 billion). We anticipate closing the transaction mid-year 2022 upon receipt of all regulatory approvals and the satisfaction of other customary closing conditions.

The actual amount of our net after-tax proceeds from these divestitures could vary substantially from the amounts we currently estimate, particularly if we experience delays in completing the transactions or if any of our other assumptions prove to be incorrect.

We do not believe these divestiture transactions represent a strategic shift for Lumen. Therefore, neither divested business meets the criteria to be classified as a discontinued operation. As a result, we will continue to report our operating results for the Latin American and ILEC businesses (the "disposal groups") in our consolidated operating results until the transactions are closed. The pre-tax net income of the disposal groups is estimated to be and reported as follows in the tables below:

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
Latin American business pre-tax net income	\$ 214	160	30
ILEC business pre-tax net income	851	649	655
Total disposal groups pre-tax net income	\$ 1,065	809	685

As of December 31, 2021 in the accompanying consolidated balance sheet, the assets and liabilities of our Latin American and ILEC businesses are classified as held for sale and are measured at the lower of (i) the carrying value when we classified the disposal groups as held for sale and (ii) the fair value of the disposal groups, less costs to sell. Effective with the designation of both disposal groups as held for sale on July 25, 2021 and August 3, 2021, respectively, we suspended recording depreciation of property, plant and equipment and amortization of finite-lived intangible assets and right-of-use assets while these assets are classified as held for sale. We estimate that we would have recorded an additional \$272 million of depreciation, intangible amortization, and amortization of right-of-use assets for the year ended December 31, 2021 if the Latin American and ILEC businesses did not meet the held for sale criteria.

As a result of our evaluation of the recoverability of the carrying value of the assets and liabilities held for sale relative to the agreed upon sales price, adjusted for costs to sell, we did not record any estimated loss on disposal during the year ended December 31, 2021. The recoverability of each disposal group will be re-evaluated each reporting period until the closing of each transaction.

The principal components of the held for sale assets and liabilities are as follows:

	December 31, 2021		
	Latin American Business	ILEC Business	Total
	(Dollars in millions)		
Assets held for sale			
Cash and cash equivalents	\$ 39	1	40
Accounts receivable, less allowance of \$3, \$21 and \$24	83	227	310
Other current assets	81	45	126
Property, plant and equipment, net accumulated depreciation of \$434, \$8,303 and \$8,737	1,591	3,491	5,082
Goodwill ⁽¹⁾	239	2,615	2,854
Other intangible assets, net	126	158	284
Other non-current assets	75	38	113
Total assets held for sale	\$ 2,234	6,575	8,809
Liabilities held for sale			
Accounts payable	\$ 101	64	165
Salaries and benefits	23	25	48
Income and other taxes	27	24	51
Interest	—	10	10
Current portion of deferred revenue	26	90	116
Other current liabilities	7	35	42
Long-term debt, net of discounts ⁽²⁾	—	1,377	1,377
Deferred income taxes, net	129	—	129
Pension and other post-retirement benefits ⁽³⁾	2	56	58
Other non-current liabilities	120	141	261
Total liabilities held for sale	\$ 435	1,822	2,257

(1) The assignment of goodwill was based on the relative fair values of the applicable reporting units prior to being reclassified as held for sale.

(2) Long-term debt, net of discounts, includes \$1.4 billion of Embarq Senior notes, \$117 million of related unamortized discounts and \$57 million of long-term finance lease obligations.

(3) Excludes pension obligation of approximately \$2.5 billion for the ILEC business as of December 31, 2021, which will be transferred to the purchaser of the ILEC business upon closing. As of December 31, 2021, approximately \$2.2 billion, or 88%, of this pension obligation is expected to be funded through the transfer of Lumen pension plan assets to the purchaser. The remaining portion of the obligation is expected to be separately funded with cash paid by Lumen at the time of closing. See Note 11—Employee Benefits for additional information.

(3) Goodwill, Customer Relationships and Other Intangible Assets

Goodwill, customer relationships and other intangible assets consisted of the following:

	As of December 31,	
	2021	2020
	(Dollars in millions)	
Goodwill	\$ 15,986	18,870
Indefinite-lived intangible assets	\$ 9	278
Other intangible assets subject to amortization:		
Customer relationships, less accumulated amortization of \$11,740 and \$11,060	5,365	6,344
Capitalized software, less accumulated amortization of \$3,624 and \$3,279	1,459	1,520
Trade names, patents and other, less accumulated amortization of \$160 and \$120	137	77
Total other intangible assets, net	\$ 6,970	8,219

As of December 31, 2021, the gross carrying amount of goodwill, customer relationships, indefinite-lived and other intangible assets was \$38.5 billion.

When we acquired Embarq Corporation ("Embarq") in 2009, we acquired certain right-of-way assets and, because there were no legal, regulatory, contractual or other factors that would reasonably limit the useful life of these assets, we classified them as indefinite-lived and, as such, initially did not amortize these assets. Our recent digital transformation efforts and continued focus on our fiber-based infrastructure assets have prompted management to reassess and ultimately change the accounting treatment of these indefinite-lived assets to align with our focus on growth products versus our declining copper-based products. As a result, during the first quarter of 2021, we reclassified an indefinite-lived intangible asset to finite-lived intangible asset. As of January 1, 2021 we began amortizing the \$268 million asset over its estimated nine-year remaining life. On August 3, 2021, upon entering into a definitive agreement to divest our ILEC business, we reclassified \$169 million of the \$268 million asset as held for sale. At this time, we discontinued recording amortization on the portion of the finite-lived intangible assets that had been reclassified as held for sale (see Note 2—Planned Divestiture of the Latin American and ILEC Businesses for more information). The above-described change in the estimated remaining economic life of these assets, as modified by the subsequent reclassification of a portion thereof, resulted in an increase in amortization expense of approximately \$22 million for the year ending December 31, 2021. The increase in amortization expense, net of tax, reduced consolidated net income (loss) by approximately \$17 million, or \$0.02 per basic and diluted common share, for the year ended December 31, 2021.

Our goodwill was derived from numerous acquisitions where the purchase price exceeded the fair value of the net assets acquired.

We assess our goodwill and other indefinite-lived intangible assets for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be impairment. Our annual impairment assessment date for indefinite-lived intangible assets other than goodwill is December 31. We completed our qualitative assessment of our indefinite-lived intangible assets other than goodwill as of December 31, 2021 and 2020 and concluded it is more likely than not that our indefinite-lived intangible assets are not impaired; thus, no impairment charge for these assets was recorded in 2021 or 2020. We are required to write down the value of goodwill only when our assessment determines the carrying value of equity of any of our reporting units exceeds its fair value. Our annual impairment assessment date for goodwill is October 31, at which date we assess our reporting units.

Since our internal reorganization described in Note 17—Segment Information we have used five reporting units for goodwill impairment testing, which are (i) Mass Markets, (ii) North America ("NA") Business (iii) Europe, Middle East and Africa region ("EMEA"), (iv) Asia Pacific region ("APAC") and (v) Latin America region ("LATAM"). At October 31, 2020 and 2019, we used eight reporting units for goodwill impairment testing, which were consumer, small and medium business, enterprise, wholesale, North American global accounts ("NA GAM"), EMEA, LATAM and APAC.

Our reporting units are not discrete legal entities with discrete full financial statements. Our assets and liabilities are employed in and relate to the operations of multiple reporting units. For each reporting unit, we compare its estimated fair value of equity to its carrying value of equity that we assign to the reporting unit. If the estimated fair value of the reporting unit is greater than the carrying value, we conclude that no impairment exists. If the estimated fair value of the reporting unit is less than the carrying value, we record a non-cash impairment equal to the excess amount. Depending on the facts and circumstances, we typically estimate the fair value of our reporting units by considering either or both of (i) a discounted cash flow method, which is based on the present value of projected cash flows over a discrete projection period and a terminal value, which is based on the expected normalized cash flows of the reporting units following the discrete projection period, and (ii) a market approach, which includes the use of market multiples of publicly-traded companies whose services are comparable to ours.

At October 31, 2021, we estimated the fair value of our five above-mentioned reporting units by considering both a market approach and a discounted cash flow method. As of October 31, 2021, we determined that the estimated fair value of equity exceeded the carrying value of equity for our Mass Markets, NA Business, EMEA, LATAM and APAC reporting units by 277%, 8%, 57%, 100% and 125%, respectively. Based on our assessments performed, we concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of those reporting units at October 31, 2021. Therefore, we concluded no impairment existed as of our assessment date.

Our reclassification of held for sale assets, as described in Note 2—Planned Divestiture of the Latin American and ILEC Businesses, was considered an event or change in circumstance which required an assessment of our goodwill for impairment as of July 31, 2021. We performed a pre-reclassification goodwill impairment test to determine whether there was an impairment prior to the reclassification of these assets and to determine the July 31, 2021 fair values to be utilized for goodwill allocation regarding the Latin American and ILEC businesses to be reclassified as assets held for sale. We concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of those reporting units at July 31, 2021. We also performed a post-reclassification goodwill impairment test using our estimated post-divestiture cash flows and carrying value of equity to evaluate whether the fair value of our reporting units that will remain following the divestitures exceeds the carrying value of the equity of such reporting units after reclassification of assets held for sale. At July 31, 2021, we estimated the fair value of our five above-mentioned reporting units by considering both a market approach and a discounted cash flow method. As of July 31, 2021, we determined that the estimated fair value of equity exceeded the carrying value of equity for our Mass Markets, NA Business, EMEA, LATAM and APAC reporting units by 150%, 24%, 58%, 100% and 134%, respectively. Based on our assessments performed, we concluded it was more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of our reporting units at July 31, 2021. Therefore, we concluded no impairment existed as of our assessment date.

Our January 2021 reorganization was considered an event or change in circumstance which required an assessment of our goodwill for impairment. We performed a qualitative impairment assessment in the first quarter of 2021 and concluded it is more likely than not that the fair value of each of our reporting units exceeded the carrying value of equity of those reporting units at January 31, 2021. Therefore, we concluded no impairment existed as of our assessment date.

At October 31, 2020, we estimated the fair value of our eight above-mentioned reporting units (prior to the January 2021 reorganization) by considering both a market approach and a discounted cash flow method. We discounted the projected cash flows for our consumer, enterprise, wholesale, small and medium business and NA GAM reporting units using a rate that represented their weighted average cost of capital, which we determined to be approximately 7.6% as of the assessment date (which comprised an after-tax cost of debt of 2.5% and a cost of equity of 10.7%). We discounted the projected cash flows of our EMEA, LATAM and APAC reporting units using a rate that represents their estimated weighted average cost of capital, which we determined to be approximately 8.0%, 14.3% and 10.1%, respectively, as of the measurement date (which was comprised of an after-tax cost of debt of 2.9%, 6.9% and 3.9% and a cost of equity of 11.2%, 18.8% and 14.0%, respectively). We utilized company comparisons and analyst reports within the telecommunications industry which have historically supported a range of fair values derived from annualized revenue and earnings before interest, taxes, depreciation and amortization ("EBITDA") multiples between 2.0x and 5.5x and 4.8x and 12.5x, respectively. We selected a revenue and EBITDA multiple for each of our reporting units, resulting in an overall company revenue and EBITDA multiple of 2.3x and 5.7x, respectively. We also reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2020 and concluded that the indicated control premium of approximately 33% was reasonable based on recent market transactions. Due to the decline in our stock price at October 31, 2020 and our assessment performed with respect to the reporting units described above, we concluded that the estimated fair value of our consumer, wholesale, small and medium business and EMEA reporting units was less than our carrying value of equity for those reporting units. As a result, these reporting units were impaired, resulting in a non-cash, non-tax-deductible goodwill impairment charge of \$2.6 billion. See the table below for the impairment charges by segment. As of October 31, 2020, the estimated fair value of equity exceeded the carrying value of equity for our enterprise, NA GAM, LATAM and APAC reporting units by 2%, 46%, 74% and 23%, respectively. Based on our assessments performed, we concluded that the goodwill assigned to our enterprise, NA GAM, LATAM and APAC reporting units was not impaired at October 31, 2020.

At October 31, 2019, we estimated the fair value of our eight above-mentioned reporting units (prior to the January 2021 reorganization) by considering both a market approach and a discounted cash flow method. As of October 31, 2019, based on our assessment performed with respect to our eight reporting units, the estimated fair value of equity exceeded the carrying value of equity for our consumer, small and medium business, enterprise, wholesale, NA GAM, EMEA, LATAM, and APAC reporting units by 44%, 41%, 53%, 46%, 55%, 5%, 63% and 38%, respectively. Based on our assessments performed, we concluded that the goodwill for our eight reporting units was not impaired as of October 31, 2019.

Both our January 2019 internal reorganization and the decline in our stock price indicated the carrying values of our reporting units were more likely than not in excess of their fair values, requiring an impairment test in the first quarter of 2019. Because our low stock price was a key trigger for impairment testing during the first quarter of 2019, we estimated the fair value of our operations in such quarter using only the market approach. Applying this approach, we utilized company comparisons and analyst reports within the telecommunications industry which have historically supported a range of fair values derived from annualized revenue and EBITDA (earnings before interest, taxes, depreciation and amortization) multiples between 2.1x and 4.9x and 4.9x and 9.8x, respectively. We selected a revenue and EBITDA multiple for each of our reporting units within this range. We reconciled the estimated fair values of the reporting units to our market capitalization as of the date of each of our impairment tests during the first quarter of 2019 and concluded that the indicated control premium of approximately 4.5% and 4.1% was reasonable based on recent market transactions. In the quarter ended March 31, 2019, based on our assessments performed with respect to the reporting units as described above, we concluded that the estimated fair value of certain of our reporting units was less than our carrying value of equity as of the date of both of our impairment tests during the first quarter. As a result, we recorded non-cash, non-tax-deductible goodwill impairment charges aggregating to \$6.5 billion in the quarter ended March 31, 2019. See the table below for the impairment charges by segment.

The following table shows the rollforward of goodwill assigned to our reportable segments (including the January 2021 reorganization discussed above) from December 31, 2019 through December 31, 2021.

	International and Global Accounts	Enterprise	Small and Medium Business	Wholesale	Consumer	Business	Mass Markets	Total
(Dollars in millions)								
As of December 31, 2019 ⁽¹⁾	\$ 2,670	4,738	3,259	3,813	7,054	—	—	21,534
Effect of foreign currency exchange rate change and other	(15)	—	(7)	—	—	—	—	(22)
Impairment	(100)	—	(444)	(699)	(1,399)	—	—	(2,642)
As of December 31, 2020 ⁽¹⁾	2,555	4,738	2,808	3,114	5,655	—	—	18,870
January 2021 reorganization	(2,555)	(4,738)	(2,808)	(3,114)	(5,655)	12,173	6,697	—
Reclassified as held for sale ⁽²⁾	—	—	—	—	—	(913)	(1,946)	(2,859)
Effect of foreign currency exchange rate change and other	—	—	—	—	—	(25)	—	(25)
As of December 31, 2021 ⁽¹⁾	\$ —	—	—	—	—	11,235	4,751	15,986

⁽¹⁾ Goodwill at December 31, 2021, December 31, 2020 and December 31, 2019 is net of accumulated impairment losses of \$7.7 billion, \$12.9 billion and \$10.3 billion, respectively. The change in accumulated impairment losses at December 31, 2021 is a result of amounts reclassified as held for sale related to our planned divestitures.

⁽²⁾ Includes \$2.9 billion of goodwill, net of accumulated impairment loss reclassified as held for sale related to our pending divestitures. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses.

For additional information on our segments, see Note 17—Segment Information.

As of December 31, 2021, the weighted average remaining useful lives of our finite-lived intangible assets were approximately 7 years in total, approximately 8 years for customer relationships, 4 years for capitalized software and 1 year for trade names.

Total amortization expense for finite-lived intangible assets for the years ended December 31, 2021, 2020 and 2019 was \$1.3 billion, \$1.7 billion and \$1.7 billion, respectively.

We estimate that total amortization expense for finite-lived intangible assets for the years ending December 31, 2022 through 2026 will be as provided in the table below. As a result of reclassifying our Latin American and ILEC businesses as being held for sale on our December 31, 2021 consolidated balance sheet, the amounts presented below do not include future amortization expense for intangible assets of the businesses to be divested. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses for more information.

	(Dollars in millions)
2022	\$ 1,034
2023	940
2024	849
2025	798
2026	721

(4) Revenue Recognition

Product and Service Categories

Since the first quarter of 2021, we have categorized our products and services revenue among the following categories for the Business segment:

- *Compute and Application Services*, which include our Edge Cloud services, IT solutions, Unified Communications and Collaboration ("UC&C"), data center, content delivery network ("CDN") and Managed Security services;
- *IP and Data Services*, which include Ethernet, IP, and VPN data networks, including software-defined wide area networks ("SD WAN") based services, Dynamic Connections and Hyper WAN;
- *Fiber Infrastructure Services*, which include dark fiber, optical services and equipment; and
- *Voice and Other*, which include Time Division Multiplexing ("TDM") voice, private line and other legacy services.

Since the first quarter of 2021, we have categorized our products and services revenue among the following categories for the Mass Markets segment:

- *Consumer Broadband*, which includes high speed fiber-based and lower speed DSL-based broadband services to residential customers;
- *Small Business Group ("SBG") Broadband*, which includes high speed fiber-based and lower speed DSL-based broadband services to small businesses;
- *Voice and Other*, which include primarily local and long-distance services, professional services and other ancillary services; and
- *Connect America Fund ("CAF") II*, which consists of CAF Phase II payments through the end of 2021 to support voice and broadband in FCC-designated high-cost areas.

Reconciliation of Total Revenue to Revenue from Contracts with Customers

The following tables provide total revenue by segment, sales channel and product category. They also provide the amount of revenue that is not subject to ASC 606, "Revenue from Contracts with Customers" ("ASC 606"), but is instead governed by other accounting standards:

Year Ended December 31, 2021			
	Total Revenue	Adjustments for Non-ASC 606 Revenue ⁽¹⁾	Total Revenue from Contracts with Customers
(Dollars in millions)			
Business Segment by Sales Channel and Product Category			
International and Global Accounts ("IGAM")			
Compute and Application Services	\$ 715	(280)	435
IP and Data Services	1,708	—	1,708
Fiber Infrastructure	886	(129)	757
Voice and Other	744	—	744
Total IGAM Revenue	4,053	(409)	3,644
Large Enterprise			
Compute and Application Services	698	(63)	635
IP and Data Services	1,554	—	1,554
Fiber Infrastructure	521	(50)	471
Voice and Other	949	—	949
Total Large Enterprise Revenue	3,722	(113)	3,609
Mid-Market Enterprise			
Compute and Application Services	139	(31)	108
IP and Data Services	1,754	(5)	1,749
Fiber Infrastructure	218	(8)	210
Voice and Other	618	—	618
Total Mid-Market Enterprise Revenue	2,729	(44)	2,685
Wholesale			
Compute and Application Services	189	(159)	30
IP and Data Services	1,196	—	1,196
Fiber Infrastructure	623	(118)	505
Voice and Other	1,607	(252)	1,355
Total Wholesale Revenue	3,615	(529)	3,086
Business Segment by Product Category			
Compute and Application Services	1,741	(533)	1,208
IP and Data Services	6,212	(5)	6,207
Fiber Infrastructure	2,248	(305)	1,943
Voice and Other	3,918	(252)	3,666
Total Business Segment Revenue	14,119	(1,095)	13,024
Mass Markets Segment by Product Category			
Consumer Broadband	2,875	(211)	2,664
SBG Broadband	156	(16)	140
Voice and Other	2,047	(80)	1,967
CAF II	490	(490)	—
Total Mass Markets Revenue	5,568	(797)	4,771
Total Revenue	\$ 19,687	(1,892)	17,795
Timing of revenue			
Goods and services transferred at a point in time		\$	138
Services performed over time			17,657
Total revenue from contracts with customers		\$	17,795

Year Ended December 31, 2020			
	Total Revenue	Adjustments for Non-ASC 606 Revenue ⁽¹⁾	Total Revenue from Contracts with Customers
(Dollars in millions)			
Business Segment by Sales Channel and Product Category			
International and Global Accounts ("IGAM")			
Compute and Application Services	\$ 772	(265)	507
IP and Data Services	1,731	—	1,731
Fiber Infrastructure	822	(110)	712
Voice and Other	793	—	793
Total IGAM Revenue	4,118	(375)	3,743
Large Enterprise			
Compute and Application Services	663	(82)	581
IP and Data Services	1,588	(2)	1,586
Fiber Infrastructure	590	(46)	544
Voice and Other	1,074	(2)	1,072
Total Large Enterprise Revenue	3,915	(132)	3,783
Mid-Market Enterprise			
Compute and Application Services	137	(16)	121
IP and Data Services	1,845	(6)	1,839
Fiber Infrastructure	218	(9)	209
Voice and Other	769	—	769
Total Mid-Market Enterprise Revenue	2,969	(31)	2,938
Wholesale			
Compute and Application Services	183	(161)	22
IP and Data Services	1,249	—	1,249
Fiber Infrastructure	618	(121)	497
Voice and Other	1,765	(258)	1,507
Total Wholesale Revenue	3,815	(540)	3,275
Business Segment by Product Category			
Compute and Application Services	1,755	(524)	1,231
IP and Data Services	6,413	(8)	6,405
Fiber Infrastructure	2,248	(286)	1,962
Voice and Other	4,401	(260)	4,141
Total Business Segment Revenue	14,817	(1,078)	13,739
Mass Markets Segment by Product Category			
Consumer Broadband	2,909	(221)	2,688
SBG Broadband	153	(15)	138
Voice and Other	2,341	(109)	2,232
CAF II	492	(492)	—
Total Mass Markets Revenue	5,895	(837)	5,058
Total Revenue	\$ 20,712	(1,915)	18,797
Timing of revenue			
Goods and services transferred at a point in time		\$	250
Services performed over time			18,547
Total revenue from contracts with customers		\$	18,797

Year Ended December 31, 2019			
	Total Revenue	Adjustments for Non-ASC 606 Revenue ⁽¹⁾	Total Revenue from Contracts with Customers
(Dollars in millions)			
Business Segment by Sales Channel and Product Category			
International and Global Accounts ("IGAM")			
Compute and Application Services	\$ 790	(265)	525
IP and Data Services	1,764	—	1,764
Fiber Infrastructure	785	(99)	686
Voice and Other	833	—	833
Total IGAM Revenue	4,172	(364)	3,808
Large Enterprise			
Compute and Application Services	610	(89)	521
IP and Data Services	1,589	—	1,589
Fiber Infrastructure	524	(44)	480
Voice and Other	1,113	(1)	1,112
Total Large Enterprise Revenue	3,836	(134)	3,702
Mid-Market Enterprise			
Compute and Application Services	147	(11)	136
IP and Data Services	1,894	—	1,894
Fiber Infrastructure	219	(20)	199
Voice and Other	892	(1)	891
Total Mid-Market Enterprise Revenue	3,152	(32)	3,120
Wholesale			
Compute and Application Services	188	(168)	20
IP and Data Services	1,319	—	1,319
Fiber Infrastructure	629	(122)	507
Voice and Other	1,943	(279)	1,664
Total Wholesale Revenue	4,079	(569)	3,510
Business Segment by Product Category			
Compute and Application Services	1,735	(533)	1,202
IP and Data Services	6,566	—	6,566
Fiber Infrastructure	2,157	(285)	1,872
Voice and Other	4,781	(281)	4,500
Total Business Segment Revenue	15,239	(1,099)	14,140
Mass Markets Segment by Product Category			
Consumer Broadband	2,876	(215)	2,661
SBG Broadband	163	(4)	159
Voice and Other	2,688	(143)	2,545
CAF II	492	(492)	—
Total Mass Markets Revenue	6,219	(854)	5,365
Total Revenue	\$ 21,458	(1,953)	19,505
Timing of revenue			
Goods and services transferred at a point in time		\$	221
Services performed over time			19,284
Total revenue from contracts with customers		\$	19,505

(1) Includes regulatory revenue and lease revenue not within the scope of ASC 606.

Customer Receivables and Contract Balances

The following table provides balances of customer receivables, contract assets and contract liabilities, net of amounts reclassified as held for sale, as of December 31, 2021 and December 31, 2020:

	December 31, 2021	December 31, 2020
	(Dollars in millions)	
Customer receivables ⁽¹⁾⁽²⁾	\$ 1,493	1,889
Contract assets ⁽³⁾	73	108
Contract liabilities ⁽⁴⁾	680	950

(1) Reflects gross customer receivables of \$1.6 billion and \$2.1 billion, net of allowance for credit losses of \$102 million and \$174 million, at December 31, 2021 and December 31, 2020, respectively.

(2) As of December 31, 2021, amount excludes customer receivables, net reclassified as held for sale of \$288 million.

(3) As of December 31, 2021, amount excludes contract assets reclassified as held for sale of \$9 million.

(4) As of December 31, 2021, amount excludes contract liabilities reclassified as held for sale of \$161 million.

Contract liabilities are consideration we have received from our customers or billed in advance of providing goods or services promised in the future. We defer recognizing this consideration as revenue until we have satisfied the related performance obligation to the customer. Contract liabilities include recurring services billed one month in advance and installation and maintenance charges that are deferred and recognized over the actual or expected contract term, which typically ranges from one to five years depending on the service. Contract liabilities are included within deferred revenue in our consolidated balance sheets. During the years ended December 31, 2021 and December 31, 2020, we recognized \$605 million and \$672 million, respectively, of revenue that was included in contract liabilities of \$950 million and \$1.0 billion as of January 1, 2021 and 2020, respectively.

Performance Obligations

As of December 31, 2021, our estimated revenue expected to be recognized in the future related to performance obligations associated with existing customer contracts that are partially or wholly unsatisfied is approximately \$6.2 billion. We expect to recognize approximately 77% of this revenue through 2024, with the balance recognized thereafter.

These amounts exclude (i) the value of unsatisfied performance obligations for contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed (for example, uncommitted usage or non-recurring charges associated with professional or technical services to be completed), (ii) contracts that are classified as leasing arrangements that are not subject to ASC 606 and (iii) the value of unsatisfied performance obligations for contracts which relate to our planned divestiture.

Contract Costs

The following tables provide changes in our contract acquisition costs and fulfillment costs:

	December 31, 2021	
	Acquisition Costs	Fulfillment Costs
	(Dollars in millions)	
Beginning of period balance	\$ 289	216
Costs incurred	176	151
Amortization	(209)	(149)
Reclassified as held for sale ⁽¹⁾	(34)	(32)
End of period balance	<u>\$ 222</u>	<u>186</u>

	December 31, 2020	
	Acquisition Costs	Fulfillment Costs
	(Dollars in millions)	
Beginning of period balance	\$ 326	221
Costs incurred	181	141
Amortization	(218)	(146)
End of period balance	<u>\$ 289</u>	<u>216</u>

⁽¹⁾ Represents the amounts reclassified as held for sale as of December 31, 2021 related to our planned divestitures. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses.

Acquisition costs include commission fees paid to employees as a result of obtaining contracts. Fulfillment costs include third party and internal costs associated with the provision, installation and activation of telecommunications services to customers, including labor and materials consumed for these activities.

Deferred acquisition and fulfillment costs are amortized based on the transfer of services on a straight-line basis over the average contract life of approximately 30 months for mass markets customers and 29 months for business customers. Amortized fulfillment costs are included in cost of services and products and amortized acquisition costs are included in selling, general and administrative expenses in our consolidated statements of operations. The amount of these deferred costs that are anticipated to be amortized in the next 12 months are included in other current assets on our consolidated balance sheets. The amount of deferred costs expected to be amortized beyond the next twelve months is included in other non-current assets on our consolidated balance sheets. Deferred acquisition and fulfillment costs are assessed for impairment on an annual basis.

(5) Leases

We primarily lease to or from third parties various office facilities and colocation facilities, equipment and dark fiber. Leases with an initial term of 12 months or less are not recorded on our consolidated balance sheets; we recognize lease expense for these leases on a straight-line basis over the lease term.

We determine if an arrangement is a lease at inception and whether that lease meets the classification criteria of a finance or operating lease. Lease-related assets, or right-of-use assets, are recognized at the lease commencement date at amounts equal to the respective lease liabilities. Lease-related liabilities are recognized at the present value of the remaining contractual fixed lease payments, discounted using our incremental borrowing rates. As part of the present value calculation for the lease liabilities, we use an incremental borrowing rate as the rates implicit in the leases are not readily determinable. The incremental borrowing rates used for lease accounting are based on our unsecured rates, adjusted to approximate the rates at which we could borrow on a collateralized basis over a term similar to the recognized lease term. We apply the incremental borrowing rates to lease components using a portfolio approach based upon the length of the lease term and the reporting entity in which the lease resides. Operating lease expense is recognized on a straight-line basis over the lease term, while variable lease payments are expensed as incurred. Operating lease assets are included in other, net under goodwill and other assets on our consolidated balance sheets. Noncurrent operating lease liabilities are included in other under deferred credits and other liabilities on our consolidated balance sheets.

Some of our lease arrangements contain lease components, non-lease components (including common-area maintenance costs) and executory costs (including real estate taxes and insurance costs). We generally account for each component separately based on the estimated standalone price of each component. For colocation leases, we account for the lease and non-lease components as a single lease component.

Many of our lease agreements contain renewal options; however, we do not recognize right-of-use assets or lease liabilities for renewal periods unless we determine that we are reasonably certain of renewing the lease. Certain leases also include options to purchase the leased property. The depreciable life of assets and leasehold improvements are limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain to be exercised. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants.

Lease expense consisted of the following:

	Years Ended December 31,	
	2021	2020
	(Dollars in millions)	
Operating and short-term lease cost	\$ 535	729
Finance lease cost:		
Amortization of right-of-use assets	37	36
Interest on lease liability	16	12
Total finance lease cost	53	48
Total lease cost	\$ 588	777

We primarily lease various equipment, office facilities, retail outlets, switching facilities and other network sites. These leases, with few exceptions, provide for renewal options and escalations that are either fixed or based on the consumer price index. Any rent abatements, along with rent escalations, are included in the computation of rent expense calculated on a straight-line basis over the lease term. The lease term for most leases includes the initial non-cancelable term plus any term under renewal options that we believe are reasonably assured.

During the years ended December 31, 2021 and 2020, we rationalized our lease footprint and ceased using 23 and 16 underutilized leased property locations, respectively. We determined that we no longer needed the leased space and, due to the limited remaining term on the contracts, concluded that we had neither the intent nor ability to sublease the properties. For the years ended December 31, 2021 and 2020, we incurred accelerated lease costs of approximately \$35 million and \$41 million, respectively. In conjunction with our plans to continue to reduce costs, we expect to continue our real estate rationalization efforts and may incur additional accelerated lease costs in future periods.

For the years ended December 31, 2021, 2020 and 2019, our gross rental expense, including the accelerated lease costs discussed above, was \$588 million, \$777 million and \$733 million, respectively. We also received sublease rental income for the years ended December 31, 2021, 2020 and 2019 of \$25 million, \$25 million and \$24 million, respectively.

Supplemental consolidated balance sheet information and other information related to leases is included below:

Leases (Dollars in millions)	Classification on the Balance Sheet	As of December 31,	
		2021	2020
Assets			
Operating lease assets	Other, net	\$ 1,451	1,699
Finance lease assets	Property, plant and equipment, net of accumulated depreciation	314	329
Total leased assets		<u>\$ 1,765</u>	<u>2,028</u>
Liabilities			
Current			
Operating	Current operating lease liabilities	\$ 385	379
Finance	Current maturities of long-term debt	19	26
Noncurrent			
Operating	Other	1,171	1,405
Finance	Long-term debt	251	267
Total lease liabilities		<u>\$ 1,826</u>	<u>2,077</u>
Weighted-average remaining lease term (years)			
Operating leases		6.8	6.7
Finance leases		13.1	12.1
Weighted-average discount rate			
Operating leases		5.54 %	6.01 %
Finance leases		4.89 %	4.94 %

At December 31, 2021, we classified certain operating and finance lease assets and liabilities as held for sale and discontinued recording amortization on the related right-of-use assets on the Latin American and ILEC businesses. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses for more information.

Supplemental consolidated cash flow statement information related to leases is included below:

	Years Ended December 31,	
	2021	2020
(Dollars in millions)		
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows for operating leases	\$ 525	566
Operating cash flows for finance leases	15	14
Financing cash flows for finance leases	52	40
Supplemental lease cash flow disclosures:		
Operating lease right-of-use assets obtained in exchange for new operating lease liabilities	\$ 165	375
Right-of-use assets obtained in exchange for new finance lease liabilities	94	124

As of December 31, 2021, maturities of lease liabilities were as follows:

	Operating Leases	Finance Leases
	(Dollars in millions)	
2022	\$ 457	33
2023	355	28
2024	253	28
2025	198	28
2026	149	28
Thereafter	490	223
Total lease payments	1,902	368
Less: interest	(346)	(98)
Total	1,556	270
Less: current portion	(385)	(19)
Long-term portion	\$ 1,171	251

As of December 31, 2021, we had entered into a \$15 million finance lease with a deferred commencement date.

Operating Lease Income

Lumen Technologies leases various dark fiber, office facilities, colocation facilities, switching facilities, other network sites and service equipment to third parties under operating leases. Lease and sublease income are included in operating revenue in the consolidated statements of operations.

For the years ended December 31, 2021, 2020 and 2019, our gross rental income was \$1.2 billion, \$1.3 billion and \$1.4 billion, respectively, which represents 6%, 6% and 7% respectively, of our operating revenue for the years ended December 31, 2021, 2020 and 2019.

(6) Credit Losses on Financial Instruments

In accordance with ASC 326, "*Financial Instruments - Credit Losses*", we aggregate financial assets with similar risk characteristics to align our expected credit losses with the credit quality or deterioration over the life of such assets. We periodically monitor certain risk characteristics within our aggregated financial assets and revise their composition accordingly, to the extent internal and external risk factors change. Financial assets that do not share risk characteristics with other financial assets are evaluated separately. Our financial assets measured at amortized cost primarily consist of accounts receivable.

We use a loss rate method to estimate our allowance for credit losses. Our determination of the current expected credit loss rate begins with our review of historical loss experience as a percentage of accounts receivable. We measure our historical loss period based on the average days to recognize accounts receivable as credit losses. When asset specific characteristics and current conditions change from those in the historical period, due to changes in our credit and collections strategy, certain classes of aged balances, or credit loss and recovery policies, we perform a qualitative and quantitative assessment to adjust our historical loss rate. We use regression analysis to develop an expected loss rate using historical experience and economic data over a forecast period. We measure our forecast period based on the average days to collect payment on billed accounts receivable. To determine our current allowance for credit losses, we combine the historical and expected credit loss rates and apply them to our period end accounts receivable.

If there is an unexpected deterioration of a customer's financial condition or an unexpected change in economic conditions (including changes caused by COVID-19 or other macroeconomic events), we assess the need to adjust the allowance for credit losses. Any such resulting adjustments would affect earnings in the period that adjustments are made.

The assessment of the correlation between historical observed default rates, current conditions and forecasted economic conditions requires judgment. Alternative interpretations of these factors could have resulted in different conclusions regarding the allowance for credit losses. The amount of credit loss is sensitive to changes in circumstances and forecasted economic conditions. Our historical credit loss experience, current conditions and forecast of economic conditions may also not be representative of the customers' actual default experience in the future, and we may use methodologies that differ from those used by other companies.

In conjunction with our January 2021 internal reorganization, as referenced in Note 17—Segment Information, we pooled certain assets with similar credit risk characteristics based on the nature of our customers, their industry, policies used to grant credit terms and their historical and expected credit loss patterns. Additionally, we reassessed our historical loss period for the segment portfolio reorganization.

The following tables present the activity of our allowance for credit losses by accounts receivable portfolio for the years ended December 31, 2021 and December 31, 2020:

	Business	Mass Markets	Total
	(Dollars in millions)		
Beginning balance at January 1, 2021 ⁽¹⁾	\$ 109	82	191
Provision for expected losses	50	55	105
Write-offs charged against the allowance	(76)	(101)	(177)
Recoveries collected	13	6	19
Reclassified as held for sale ⁽²⁾	(8)	(16)	(24)
Ending balance at December 31, 2021	<u>\$ 88</u>	<u>26</u>	<u>114</u>

	Business	Consumer	Total
	(Dollars in millions)		
Beginning balance at January 1, 2020 ⁽³⁾	\$ 58	37	95
Provision for expected losses	115	74	189
Write-offs charged against the allowance	(74)	(59)	(133)
Recoveries collected	24	18	42
Foreign currency exchange rate changes adjustment	(2)	—	(2)
Balance at December 31, 2020	<u>\$ 121</u>	<u>70</u>	<u>191</u>

(1) As described in Note 17—Segment Information, we completed an internal reorganization in January 2021. As a result of this change, allowance for credit losses previously included in the Consumer and Business portfolio of \$70 million related to consumer and \$12 million related to our small business group, respectively, were reclassified to the Mass Markets allowance for credit losses on January 1, 2021.

(2) Represents the amounts reclassified as held for sale related to our pending divestitures. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses.

(3) The beginning balance for the year ended December 31, 2020 includes the cumulative effect of \$11 million for the adoption of the new credit loss standard.

For the year ended December 31, 2021, we decreased our allowance for credit losses for our business and mass markets accounts receivable portfolios primarily due to higher write-off activity during 2021, along with the easing of prior delays due to COVID-19 related restrictions from 2020 and lower receivable balances.

For the year ended December 31, 2020, we increased our allowance for credit losses for our business and consumer accounts receivable portfolios due to an increase during the period in historical and expected loss experience in certain classes of aged balances, which were predominantly attributable to the COVID-19 induced economic slowdown. Decreased write-offs (net of recoveries) were driven by COVID-19 regulations and programs, which further contributed to the increase in our allowance for credit losses for the year ended December 31, 2020.

(7) Long-Term Debt and Credit Facilities

The following chart reflects the consolidated long-term debt of Lumen Technologies, Inc. and its subsidiaries as of the dates indicated below, including unamortized discounts and premiums and unamortized debt issuance costs, but excluding intercompany debt:

			As of December 31,	
	Interest Rates ⁽¹⁾	Maturities ⁽¹⁾	2021	2020
			(Dollars in millions)	
Senior Secured Debt: ⁽²⁾				
Lumen Technologies, Inc.				
Revolving Credit Facility	LIBOR + 2.00%	2025	\$ 200	150
Term Loan A ⁽³⁾	LIBOR + 2.00%	2025	1,050	1,108
Term Loan A-1 ⁽³⁾	LIBOR + 2.00%	2025	300	316
Term Loan B ⁽⁴⁾	LIBOR + 2.25%	2027	4,900	4,950
Senior notes	4.000%	2027	1,250	1,250
Subsidiaries:				
Level 3 Financing, Inc.				
Tranche B 2027 Term Loan ⁽⁵⁾	LIBOR + 1.75%	2027	3,111	3,111
Senior notes	3.400% - 3.875%	2027 - 2029	1,500	1,500
Embarq Corporation subsidiaries				
First mortgage bonds	7.125% - 8.375%	2023 - 2025	138	138
Senior Notes and Other Debt:				
Lumen Technologies, Inc.				
Senior notes	4.500% - 7.650%	2022 - 2042	8,414	8,645
Subsidiaries:				
Level 3 Financing, Inc.				
Senior notes	3.625% - 5.375%	2025 - 2029	5,515	5,515
Qwest Corporation				
Senior notes	6.500% - 7.750%	2025 - 2057	1,986	3,170
Term loan ⁽⁶⁾	LIBOR + 2.00%	2027	215	215
Qwest Capital Funding, Inc.				
Senior notes	6.875% - 7.750%	2028 - 2031	255	352
Embarq Corporation and subsidiary				
Senior notes ⁽⁷⁾	7.995%	2036	—	1,437
Finance lease and other obligations	Various	Various	347	295
Unamortized premiums (discounts), net			21	(78)
Unamortized debt issuance costs			(220)	(237)
Total long-term debt			28,982	31,837
Less current maturities			(1,554)	(2,427)
Long-term debt, excluding current maturities			\$ 27,428	29,410

(1) As of December 31, 2021.

(2) See the remainder of this Note for a description of certain parent or subsidiary guarantees and liens securing this debt.

(3) Term Loans A and A-1 had interest rates of 2.104% and 2.147% as of December 31, 2021 and December 31, 2020, respectively.

(4) Term Loan B had interest rates of 2.354% and 2.397% as of December 31, 2021 and December 31, 2020, respectively.

(5) The Level 3 Tranche B 2027 Term Loan had interest rates of 1.854% and 1.897% as of December 31, 2021 and December 31, 2020, respectively.

(6) The Qwest Corporation Term Loan had interest rates of 2.110% and 2.150% as of December 31, 2021 and December 31, 2020, respectively.

(7) As of December 31, 2021, the Embarq Senior notes have been reclassified as held for sale. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses for more information.

Long-Term Debt Maturities

Set forth below is the aggregate principal amount of our long-term debt as of December 31, 2021 (excluding unamortized premiums (discounts), net, unamortized debt issuance costs and intercompany debt) maturing during the following years. As a result of reclassifying our Latin American and ILEC businesses as being held for sale on our December 31, 2021 consolidated balance sheet, the amounts presented below do not include maturities of the debt obligations of those businesses. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses for more information.

	(Dollars in millions)⁽¹⁾	
2022	\$	1,554
2023		977
2024		1,158
2025		3,127
2026		2,062
2027 and thereafter		20,303
Total long-term debt	\$	29,181

(1) As of December 31, 2021, these amounts exclude \$1.5 billion of debt and finance lease obligations that have been reclassified as held for sale. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses for more information.

Debt of Lumen Technologies, Inc. and its Subsidiaries

At December 31, 2021, most of our outstanding consolidated debt had been incurred by Lumen Technologies, Inc. or one of the following four other primary borrowers or “borrowing groups,” each of which has borrowed funds either on a standalone basis or as part of a separate restricted group with certain of its subsidiaries:

- Level 3 Financing, Inc., including its parent guarantor Level 3 Parent, LLC, and one or more subsidiary guarantors;
- Qwest Corporation;
- Qwest Capital Funding, Inc., including its parent guarantor, Qwest Communications International Inc.; and
- Embarq Corporation.

Each of these borrowers or borrowing groups has entered into one or more credit agreements with certain financial institutions or other institutional lenders, or issued senior notes. Certain of these debt instruments are described further below.

Amended and Restated Credit Agreement

On January 31, 2020, we amended and restated our credit agreement dated June 19, 2017 (as so amended and restated, the "Amended Credit Agreement"). At December 31, 2021, the Amended Credit Agreement consisted of the following facilities:

- a \$2.2 billion senior secured revolving credit facility ("the Revolving Credit Facility");
- a \$1.05 billion senior secured Term Loan A credit facility;
- a \$300 million senior secured Term Loan A-1 credit facility with CoBank, ACB; and
- a \$4.9 billion senior secured Term Loan "B" credit facility (the term loan facilities and the Revolving Credit Facility being referred to collectively as the "Amended Secured Credit Facilities").

Loans under the Term Loan A and A-1 facilities and the Revolving Credit Facility bear interest at a rate equal to, at our option, the Eurodollar rate or the alternative base rate (each as defined in the Amended Credit Agreement) plus an applicable margin between 1.50% to 2.25% per annum for Eurodollar loans and 0.50% to 1.25% per annum for alternative base rate loans, depending on our then current total leverage ratio. Loans under the Term Loan B facility bear interest at the Eurodollar rate plus 2.25% per annum or the alternative base rate plus 1.25% per annum. Loans under each of the term loan facilities require certain specified quarterly amortization payments and certain specified mandatory prepayments in connection with certain asset sales and debt issuances and out of excess cash flow, among other things, subject in each case to certain significant exceptions.

Borrowings under the Revolving Credit Facility and the Term Loan A and A-1 facilities mature on January 31, 2025. Borrowings under the Term Loan B facility mature on March 15, 2027.

All of Lumen's obligations under the Amended Secured Credit Facilities are guaranteed by certain of its subsidiaries. The guarantees by certain of those guarantors are secured by a first priority security interest in substantially all assets (including certain subsidiaries stock) directly owned by them, subject to certain exceptions and limitations.

A portion of the Revolving Credit Facility in an amount not to exceed \$250 million is available for swingline loans, and a portion in an amount not to exceed \$800 million is available for the issuance of letters of credit.

Lumen Technologies is permitted under the Amended Credit Agreement to request certain incremental borrowings subject to the satisfaction of various conditions and to certain other limitations. Any incremental borrowings would be subject to the same terms and conditions under the Amended Credit Agreement.

The above described January 2020 amendments and related refinancing transactions discussed under "—Repayments" below resulted in an aggregate net loss of \$67 million from modification and extinguishment of the debt.

Term Loans and Certain Other Debt of Subsidiaries

Qwest Corporation

On October 23, 2020, Qwest Corporation borrowed \$215 million under a variable-rate term loan with CoBank ACB and used the resulting net proceeds to pay off its previous \$100 million term loan with CoBank ACB. Additionally, on October 26, 2020, Qwest Corporation used the remaining net proceeds to partially facilitate the redemption of the remaining \$160 million aggregate principal amount of its outstanding 6.625% Notes due 2055. The outstanding unpaid principal amount of this new term loan plus any accrued and unpaid interest is due on October 23, 2027. Interest is paid at least quarterly based upon either the London Interbank Offered Rate ("LIBOR") or the base rate (as defined in the credit agreement) plus an applicable margin between 1.50% to 2.50% per annum for LIBOR loans and 0.50% to 1.50% per annum for base rate loans depending on Qwest Corporation's then current senior unsecured long-term debt rating.

Level 3 Financing, Inc.

At December 31, 2021, Level 3 Financing, Inc. owed \$3.111 billion under a senior secured Tranche B 2027 Term Loan, which matures on March 1, 2027. The Tranche B 2027 Term Loan carries an interest rate, in the case of base rate borrowings, equal to (i) the greater of the Prime Rate, the Federal Funds Effective Rate plus 50 basis points, or LIBOR plus 100 basis points (with all such terms and calculations as defined or further specified in the credit agreement) plus (ii) 0.75% per annum. Any Eurodollar borrowings under the Tranche B 2027 Term Loan bear interest at LIBOR plus 1.75% per annum.

The Tranche B 2027 Term Loan requires certain specified mandatory prepayments in connection with certain asset sales and other transactions, subject to certain significant exceptions. The obligations of Level 3 Financing, Inc. under the Tranche B 2027 Term Loan are, subject to certain exceptions, secured by certain assets of Level 3 Parent, LLC and certain of its material domestic telecommunication subsidiaries. Also, Level 3 Parent, LLC and certain of its subsidiaries have guaranteed the obligations of Level 3 Financing, Inc. under the Tranche B 2027 Term Loan.

Embarq Subsidiaries

At December 31, 2021 and 2020, one of our Embarq subsidiaries had outstanding first mortgage bonds. These first mortgage bonds are secured by substantially all of the property, plant and equipment of the issuing subsidiary.

Revolving Letters of Credit

We use various financial instruments in the normal course of business. These instruments include letters of credit, which are conditional commitments issued on our behalf in accordance with specified terms and conditions. Lumen Technologies maintains an uncommitted \$225 million revolving letter of credit facility separate from the letter of credit facility included in the Revolving Credit Facility noted above. Letters of credit issued under this uncommitted facility are backed by credit enhancements in the form of secured guarantees issued by certain of our subsidiaries. As of December 31, 2021 and 2020, our outstanding letters of credit totaled \$88 million and \$97 million, respectively, and we had no letters of credit outstanding under our Revolving Credit Facility.

As of December 31, 2021, Level 3 Parent, LLC had outstanding letters of credit or other similar obligations of approximately \$9 million, of which \$5 million was collateralized by cash that is reflected on the consolidated balance sheet as restricted cash. As of December 31, 2020, Level 3 Parent, LLC had outstanding letters of credit or other similar obligations of approximately \$18 million of which \$11 million was collateralized by cash that is reflected on the consolidated balance sheet as restricted cash. None of our conditional commitments under our outstanding letters of credit are reflected as debt on our balance sheets.

Senior Notes

Lumen's consolidated indebtedness at December 31, 2021 included (i) senior secured notes issued by Lumen Technologies, Inc. and Level 3 Financing, Inc. and (ii) senior unsecured notes issued by Lumen Technologies, Inc., Level 3 Financing, Inc., Qwest Corporation, Qwest Capital Funding, Inc. and Embark Corporation. All of these notes carry fixed interest rates and all principal is due on the notes' respective maturity dates, which rates and maturity dates are summarized in the table above. The Lumen Technologies, Inc. secured senior notes are guaranteed by the same domestic subsidiaries that guarantee the Amended Credit Agreement. The senior notes issued by Level 3 Financing, Inc. are guaranteed by its parent, Level 3 Parent, LLC and one or more of its affiliates. The senior notes issued by Qwest Capital Funding, Inc. are guaranteed by its parent, Qwest Communications International Inc. Except for a limited number of senior notes issued by Qwest Corporation, the issuer generally can redeem the notes, at its option, in whole or in part, (i) pursuant to a fixed schedule of pre-established redemption prices, (ii) pursuant to a "make whole" redemption price or (iii) under certain other specified limited conditions. Under certain circumstances in connection with a "change of control" of Lumen Technologies, it will be required to make an offer to repurchase each series of these senior notes (other than two of its older series of notes) at a price of 101% of the principal amount redeemed, plus accrued and unpaid interest. Also, under certain circumstances in connection with a "change of control" of Level 3 Parent, LLC or Level 3 Financing, Inc., Level 3 Financing will be required to make an offer to repurchase each series of its outstanding senior notes at a price of 101% of the principal amount redeemed, plus accrued and unpaid interest.

Repayments

2021

During 2021, Lumen Technologies and its affiliates redeemed approximately \$1.1 billion of their respective debt obligations, which primarily included a \$900 million redemption of Level 3 Financing, Inc. senior notes and a \$235 million redemption of Qwest Corporation senior notes. These transactions resulted in a net gain of \$8 million.

Additionally, during 2021, Lumen Technologies (i) repaid at maturity approximately \$2.8 billion of its consolidated debt obligations, which primarily included a \$1.2 billion repayment at maturity of Lumen senior unsecured notes, a \$97 million repayment at maturity of Qwest Capital Funding, Inc. senior notes and a \$950 million repayment at maturity of Qwest Corporation senior notes, (ii) made \$125 million of scheduled amortization payments under our term loans and (iii) made payments on its Revolving Credit Facility.

2020

During 2020, Lumen Technologies and its affiliates redeemed approximately \$6.2 billion of their respective debt obligations, which primarily included \$1.3 billion of Lumen Technologies credit agreement debt, \$2.8 billion of Qwest Corporation senior notes, \$78 million of Lumen Technologies senior notes and \$2.0 billion of Level 3 Financing, Inc. senior notes. These transactions resulted in a net loss of \$109 million, including the \$67 million loss resulting from the modification of the Amended Credit Agreement discussed above.

Additionally, during 2020, Lumen Technologies (i) repaid at maturity \$973 million aggregate principal amount of its outstanding senior notes and (ii) made \$125 million of scheduled amortization payments under our term loans.

New Issuances

2021

On June 15, 2021, Lumen Technologies, Inc. issued \$1.0 billion aggregate principal amount of 5.375% Senior Notes due 2029 (the "2029 Notes"). The net proceeds were used, together with cash on hand, to repay at maturity our outstanding \$1.2 billion 6.450% Senior Notes, Series S, due 2021.

On January 13, 2021, Level 3 Financing, Inc. issued \$900 million aggregate principal amount of 3.750% Sustainability-Linked Senior Notes due 2029 (the "Sustainability-Linked Notes"). The net proceeds were used, together with cash on hand, to redeem \$900 million of our outstanding senior note indebtedness. The Sustainability-Linked Notes are guaranteed by Level 3 Parent, LLC and Level 3 Communications, LLC.

2020

On November 27, 2020, Lumen Technologies, Inc. issued \$1.0 billion of 4.500% Senior Notes due 2029. The proceeds from this offering were used to redeem outstanding senior notes of Qwest Corporation and reduce borrowings under the Revolving Credit Facility.

On August 12, 2020, Level 3 Financing, Inc., issued \$840 million aggregate principal amount of its 3.625% Senior Notes due 2029 (the "2029 Notes"). Level 3 Financing, Inc. used the net proceeds from this offering to redeem certain of its outstanding senior note indebtedness. The 2029 Notes are guaranteed by Level 3 Parent, LLC and Level 3 Communications, LLC.

On June 15, 2020, Level 3 Financing, Inc., issued \$1.2 billion aggregate principal amount of its 4.250% Senior Notes due 2028 (the "2028 Notes"). Level 3 Financing, Inc. used the net proceeds from this offering to redeem certain of its outstanding senior note indebtedness. The 2028 Notes are guaranteed by Level 3 Parent, LLC and Level 3 Communications, LLC.

On January 24, 2020, Lumen Technologies, Inc. issued \$1.25 billion aggregate principal amount of its 4.000% Senior Secured Notes due 2027 (the "2027 Notes"). Lumen Technologies, Inc. used the net proceeds from this offering to repay a portion of the outstanding indebtedness under its Term Loan B facility. The 2027 Notes are guaranteed by each of Lumen's domestic subsidiaries that guarantees Lumen's Amended Credit Agreement, subject to various exceptions and limitations. While the 2027 Notes are not secured by any of the assets of Lumen Technologies, Inc., certain of the note guarantees are secured by a first priority security interest in substantially all of the assets of such guarantors (including the stock of certain of their respective subsidiaries), which assets also secure obligations under the Amended Credit Agreement on a pari passu basis.

Interest Expense

Interest expense includes interest on total long-term debt. The following table presents the amount of gross interest expense, net of capitalized interest:

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
Interest expense:			
Gross interest expense	\$ 1,575	1,743	2,093
Capitalized interest	(53)	(75)	(72)
Total interest expense	\$ 1,522	1,668	2,021

Covenants

Lumen Technologies, Inc.

With respect to the Term Loan A and A-1 facilities and the Revolving Credit Facility, the Amended Credit Agreement requires us to maintain (i) a maximum total leverage ratio of not more than 4.75 to 1.00 and (ii) a minimum consolidated interest coverage ratio of at least 2.00 to 1.00, with such ratios being determined and calculated in the manner described in the Amended Credit Agreement.

The Amended Secured Credit Facilities contain various representations and warranties and extensive affirmative and negative covenants. Such covenants include, among other things and subject to certain significant exceptions, restrictions on our ability to declare or pay dividends, repurchase stock, repay certain other indebtedness, create liens, incur additional indebtedness, make investments, engage in transactions with our affiliates, dispose of assets and merge or consolidate with any other person.

The senior unsecured notes of Lumen Technologies, Inc. were issued under four separate indentures. These indentures restrict our ability to (i) incur, issue or create liens upon the property of Lumen Technologies, Inc. and (ii) consolidate with or merge into, or transfer or lease all or substantially all of our assets to any other party. These indentures do not contain any provisions that restrict the issuance of new securities in the event of a material adverse change to us. The senior secured notes of Lumen Technologies, Inc. were issued under a separate indenture that contains a more restrictive set of covenants. As indicated above under "Senior Notes", Lumen Technologies, Inc. will be required to offer to purchase certain of its long-term debt securities issued under its indentures under certain circumstances in connection with a "change of control" of Lumen Technologies, Inc.

Level 3 Companies

The term loan, senior secured notes and senior unsecured notes of Level 3 Financing, Inc. contain various representations and extensive affirmative and negative covenants. Such covenants include, among other things and subject to certain significant exceptions, restrictions on their ability to declare or pay dividends, repay certain other indebtedness, create liens, incur additional indebtedness, make investments, engage in transactions with their affiliates, dispose of assets and merge or consolidate with any other person. Also, as indicated above under "Senior Notes", Level 3 Financing, Inc. will be required to offer to repurchase or repay certain of its long-term debt under certain circumstances in connection with a "change of control" of Level 3 Financing or Level 3 Parent, LLC.

Qwest Companies

Under its term loan, Qwest Corporation must maintain a debt to EBITDA (earnings before interest, taxes, depreciation and amortization) ratio of not more than 2.85 to 1.00, as determined and calculated in the manner described in the applicable term loan documentation. The term loan also contains a negative pledge covenant, which generally requires Qwest Corporation to secure equally and ratably any advances under the term loan if it pledges assets or permits liens on its property for the benefit of other debtholders.

The senior notes of Qwest Corporation were issued under indentures dated April 15, 1990 and October 15, 1999. These indentures contain restrictions on the incurrence of liens and the consummation of certain transactions substantially similar to the above-described covenants in Lumen's indentures (but contain no mandatory repurchase provisions). The senior notes of Qwest Capital Funding, Inc. were issued under an indenture dated June 29, 1998 containing terms substantially similar to those set forth in Qwest Corporation's indentures.

Embarq

Embarq's senior notes (which, as indicated above, were classified as held for sale at December 31, 2021) were issued pursuant to an indenture dated as of May 17, 2006. While Embarq is generally prohibited from creating liens on its property unless its senior notes are secured equally and ratably, Embarq can create liens on its property without equally and ratably securing its senior notes so long as the sum of all indebtedness so secured does not exceed 15% of Embarq's consolidated net tangible assets. The indenture also contains restrictions on the consummation of certain transactions substantially similar to Lumen's above-described covenants (but without mandatory repurchase provision), as well as certain customary covenants to maintain properties and pay all taxes and lawful claims.

Impact of Covenants

The debt covenants applicable to Lumen Technologies, Inc. and its subsidiaries could have a material adverse impact on their ability to operate or expand their respective businesses, to pursue strategic transactions, or to otherwise pursue their plans and strategies. The covenants of the Level 3 companies may significantly restrict the ability of Lumen Technologies, Inc. to receive cash from the Level 3 companies, to distribute cash from the Level 3 companies to other of Lumen's affiliated entities, or to enter into other transactions among Lumen's wholly-owned entities.

Certain of the debt instruments of Lumen Technologies, Inc. and its subsidiaries contain cross payment default or cross acceleration provisions. When present, these provisions could have a wider impact on liquidity than might otherwise arise from a default or acceleration of a single debt instrument.

The ability of Lumen Technologies, Inc. and its subsidiaries to comply with the financial covenants in their respective debt instruments could be adversely impacted by a wide variety of events, including unforeseen contingencies, many of which are beyond their control.

Compliance

As of December 31, 2021, Lumen Technologies, Inc. believes it and its subsidiaries were in compliance with the provisions and financial covenants in their respective material debt agreements in all material respects.

Guarantees

Lumen Technologies does not guarantee the debt of any unaffiliated parties, but, as noted above, as of December 31, 2021 certain of its largest subsidiaries guaranteed (i) its debt outstanding under its Amended Secured Credit Facilities, its senior secured notes and its \$225 million letter of credit facility and (ii) the outstanding term loans or senior notes issued by certain other subsidiaries. As further noted above, several of the subsidiaries guaranteeing these obligations have pledged substantially all of their assets to secure their respective guarantees.

(8) Accounts Receivable

The following table presents details of our accounts receivable balances:

	As of December 31,	
	2021	2020
	(Dollars in millions)	
Trade and purchased receivables	\$ 1,281	1,717
Earned and unbilled receivables	315	345
Other	62	91
Total accounts receivable	1,658	2,153
Less: allowance for credit losses	(114)	(191)
Accounts receivable, less allowance	\$ 1,544	1,962

We are exposed to concentrations of credit risk from our customers. We generally do not require collateral to secure our receivable balances. We have agreements with other communications service providers whereby we agree to bill and collect on their behalf for services rendered by those providers to our customers within our local service area. We purchase accounts receivable from other communications service providers primarily on a recourse basis and include these amounts in our accounts receivable balance. We have not experienced any significant loss associated with these purchased receivables.

The following table presents details of our allowance for credit losses accounts:

	Beginning Balance	Additions	Deductions	Ending Balance
	(Dollars in millions)			
2021	\$ 191	105	(182)	114
2020 ⁽¹⁾	106	189	(104)	191
2019	142	145	(181)	106

⁽¹⁾ On January 1, 2020, we adopted ASU 2016-13 "Measurement of Credit Losses on Financial Instruments" and recognized a cumulative adjustment to our accumulated deficit as of the date of adoption of \$9 million, net of \$2 million tax effect. This adjustment is included within "Deductions." See Note 6—Credit Losses on Financial Instruments for more information.

(9) Property, Plant and Equipment

Net property, plant and equipment is composed of the following:

	Depreciable Lives	As of December 31,	
		2021	2020
(Dollars in millions)			
Land	N/A	\$ 751	848
Fiber, conduit and other outside plant ⁽¹⁾	15-45 years	15,366	26,522
Central office and other network electronics ⁽²⁾	3-10 years	15,394	20,692
Support assets ⁽³⁾	3-30 years	7,181	8,261
Construction in progress ⁽⁴⁾	N/A	1,474	1,611
Gross property, plant and equipment		40,166	57,934
Accumulated depreciation		(19,271)	(31,596)
Net property, plant and equipment		\$ 20,895	26,338

(1) Fiber, conduit and other outside plant consists of fiber and metallic cable, conduit, poles and other supporting structures. Fiber, conduit and other outside plant decreased as of December 31, 2021 compared to December 31, 2020 due to the retirement of a portion of our copper-based infrastructure being replaced with our Quantum Fiber infrastructure.

(2) Central office and other network electronics consists of circuit and packet switches, routers, transmission electronics and electronics providing service to customers.

(3) Support assets consist of buildings, cable landing stations, data centers, computers and other administrative and support equipment.

(4) Construction in progress includes inventory held for construction and property of the aforementioned categories that has not been placed in service as it is still under construction.

At December 31, 2021, we classified \$5.1 billion of certain property, plant and equipment, net as held for sale and discontinued recording depreciation on these disposal groups. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses for more information.

We recorded depreciation expense of \$2.7 billion, \$3.0 billion and \$3.1 billion for the years ended December 31, 2021, 2020 and 2019, respectively.

Asset Retirement Obligations

As of December 31, 2021 and 2020, our asset retirement obligations balance was primarily related to estimated future costs of removing equipment from leased properties and estimated future costs of properly disposing of asbestos and other hazardous materials upon remodeling or demolishing buildings. Asset retirement obligations are included in other long-term liabilities on our consolidated balance sheets.

Our fair value estimates were determined using the discounted cash flow method.

The following table provides asset retirement obligation activity:

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
Balance at beginning of year	\$ 199	197	190
Accretion expense	10	10	11
Liabilities settled	(13)	(8)	(14)
Change in estimate	(2)	—	10
Reclassified as held for sale ⁽¹⁾	(12)	—	—
Balance at end of year	<u>\$ 182</u>	<u>199</u>	<u>197</u>

⁽¹⁾ Represents the amounts reclassified as held for sale related to our planned divestitures. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses.

The 2019 and 2021 changes in estimates referred to in the table above were offset against gross property, plant and equipment.

(10) Severance

Periodically, we reduce our workforce and accrue liabilities for the related severance costs. These workforce reductions result primarily from the progression or completion of our post-acquisition integration plans, increased competitive pressures, cost reduction initiatives, process improvements through automation and reduced workload demands due to reduced demand for certain services.

We report severance liabilities within accrued expenses and other liabilities - salaries and benefits in our consolidated balance sheets and report severance expenses in selling, general and administrative expenses in our consolidated statements of operations. As described in Note 17—Segment Information, we do not allocate these severance expenses to our segments.

Changes in our accrued liabilities for severance expenses were as follows:

	Severance
	(Dollars in millions)
Balance at December 31, 2019	\$ 89
Accrued to expense	151
Payments, net	(137)
Balance at December 31, 2020	103
Accrued to expense	3
Payments, net	(70)
Balance at December 31, 2021	<u>\$ 36</u>

(11) Employee Benefits

Pension, Post-Retirement and Other Post-Employment Benefits

We sponsor various defined benefit pension plans (qualified and non-qualified) which, in the aggregate, cover a substantial portion of our employees including legacy CenturyLink, legacy Level 3, legacy Qwest Communications International Inc. ("Qwest") and legacy Embarq employees. Pension benefits for participants of the Lumen Combined Pension Plan ("Combined Pension Plan") who are represented by a collective bargaining agreement are based on negotiated schedules. All other participants' pension benefits are based on each individual participant's years of service and compensation. We also maintain non-qualified pension plans for certain current and former highly compensated employees. We maintain post-retirement benefit plans that provide health care and life insurance benefits for certain eligible retirees. We also provide other post-employment benefits for certain eligible former employees. We use a December 31 measurement date for all our plans.

Pension Benefits

United States funding laws require a company with a pension shortfall to fund the annual cost of benefits earned in addition to a seven-year amortization of the shortfall. Our funding policy for our Combined Pension Plan is to make contributions with the objective of accumulating ample assets to pay all qualified pension benefits when due under the terms of the plan. The accounting unfunded status of the Combined Pension Plan was \$1.1 billion and \$1.7 billion as of December 31, 2021 and 2020, respectively.

We made no voluntary cash contributions to the Combined Pension Plan in 2021 and 2020, respectively, and paid \$5 million of benefits directly to participants of our non-qualified pension plans in 2021 and 2020, respectively.

Benefits paid by the Combined Pension Plan are paid through a trust that holds all of the Plan's assets. The amount of required contributions to the Combined Pension Plan in 2022 and beyond will depend on a variety of factors, most of which are beyond our control, including earnings on plan investments, prevailing interest rates, demographic experience, changes in plan benefits and changes in funding laws and regulations. Based on current laws and circumstances, we do not believe we are required to make any contributions to the Combined Pension Plan in 2022. We do not expect to make voluntary contributions to the trust for the Combined Pension Plan in 2022. We estimate that in 2022 we will pay \$4 million of benefits directly to participants of our non-qualified pension plans.

We recognize in our consolidated balance sheets the funded status of the legacy Level 3 defined benefit post-retirement plans. The net unfunded status of these plans was \$17 million and \$33 million, as of December 31, 2021 and 2020, respectively. Additionally, as previously mentioned, we sponsor unfunded non-qualified pension plans for certain current and former highly-compensated employees. The net unfunded status of our non-qualified pension plans was \$46 million and \$51 million for the years ended December 31, 2021 and 2020, respectively. Due to the insignificant impact of these pension plans on our consolidated financial statements, we have predominantly excluded them from the remaining employee benefit disclosures in this Note, unless specifically stated.

Post-Retirement Benefits

Our post-retirement benefit plans provide post-retirement benefits to qualified retirees and allow (i) eligible employees retiring before certain dates to receive benefits at no or reduced cost and (ii) eligible employees retiring after certain dates to receive benefits on a shared cost basis. The post-retirement benefits not paid by the trusts are funded by us and we expect to continue funding these post-retirement obligations as benefits are paid. The accounting unfunded status of our qualified post-retirement benefit plan was \$2.8 billion and \$3.0 billion as of December 31, 2021 and 2020, respectively.

Assets in the post-retirement trusts were substantially depleted as of December 31, 2016; as of December 31, 2019 the Company ceased to pay certain post-retirement benefits through the trusts. No contributions were made to the post-retirement trusts in 2021 nor 2020. Starting in 2020, benefits were paid directly by us with available cash. In 2021, we paid \$203 million of post-retirement benefits, net of participant contributions and direct subsidies. In 2022, we currently expect to pay directly \$217 million of post-retirement benefits, net of participant contributions and direct subsidies.

We expect our expected health care cost trend to range from 5.00% to 5.75% in 2022 and grading to 4.50% by 2025. Our post-retirement benefit cost, for certain eligible legacy Qwest retirees and certain eligible legacy CenturyLink retirees, is capped at a set dollar amount. Therefore, those health care benefit obligations are not subject to increasing health care trends after the effective date of the caps.

Expected Cash Flows

The Combined Pension Plan payments, post-retirement health care benefit payments and premiums, and life insurance premium payments are either distributed from plan assets or paid by us. The estimated benefit payments provided below are based on actuarial assumptions using the demographics of the employee and retiree populations and have been reduced by estimated participant contributions.

	Combined Pension Plan	Post-Retirement Benefit Plans	Medicare Part D Subsidy Receipts
	(Dollars in millions)		
Estimated future benefit payments:			
2022	\$ 850	220	(3)
2023	729	216	(3)
2024	706	211	(3)
2025	686	206	(3)
2026	664	200	(3)
2027 - 2031	2,978	899	(10)

Net Periodic Benefit Expense (Income)

We utilize a full yield curve approach in connection with estimating the service and interest components of net periodic benefit expense by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flow.

The actuarial assumptions used to compute the net periodic benefit expense for our Combined Pension Plan and post-retirement benefit plans are based upon information available as of the beginning of the year, as presented in the following table.

	Combined Pension Plan			Post-Retirement Benefit Plans		
	2021	2020	2019	2021	2020	2019
Actuarial assumptions at beginning of year:						
Discount rate	1.70% - 2.88%	2.79% - 3.55%	3.94% - 4.44%	1.58% - 2.60%	1.69% - 3.35%	3.84% - 4.38%
Rate of compensation increase	3.25 %	3.25 %	3.25 %	N/A	N/A	N/A
Expected long-term rate of return on plan assets ⁽¹⁾	5.50 %	6.50 %	6.50 %	4.00 %	4.00 %	4.00 %
Initial health care cost trend rate	N/A	N/A	N/A	6.25% / 5.00%	6.50% / 5.00%	6.50% / 5.00%
Ultimate health care cost trend rate	N/A	N/A	N/A	4.50 %	4.50 %	4.50 %
Year ultimate trend rate is reached	N/A	N/A	N/A	2025	2025	2025

N/A - Not applicable

⁽¹⁾ Rates are presented net of projected fees and administrative costs.

Net periodic benefit expense (income) for our Combined Pension Plan includes the following components:

Combined Pension Plan Years Ended December 31,			
	2021	2020	2019
(Dollars in millions)			
Service cost	\$ 56	59	56
Interest cost	201	324	436
Expected return on plan assets	(535)	(593)	(618)
Settlement charges	383	—	—
Special termination benefits charge	6	13	6
Recognition of prior service credit	(9)	(9)	(8)
Recognition of actuarial loss	184	202	223
Net periodic pension expense (income)	\$ 286	(4)	95

Net periodic benefit expense for our post-retirement benefit plans includes the following components:

Post-Retirement Plans Years Ended December 31,			
	2021	2020	2019
(Dollars in millions)			
Service cost	\$ 14	14	15
Interest cost	47	69	110
Expected return on plan assets	—	(1)	(1)
Recognition of prior service cost	15	16	16
Recognition of actuarial loss	4	—	—
Curtailment loss	—	8	—
Net periodic post-retirement benefit expense	\$ 80	106	140

Service costs for our Combined Pension Plan and post-retirement benefit plans are included in the cost of services and products and selling, general and administrative line items on our consolidated statements of operations and all other costs listed above are included in other expense, net on our consolidated statements of operations for the years ended December 31, 2021, 2020 and 2019. Additionally, a portion of the service cost is also allocated to certain assets under construction, which are capitalized and reflected as part of property, plant and equipment in our consolidated balance sheets. As a result of ongoing efforts to reduce our workforce, we recognized one-time charges in 2021 of \$6 million, in 2020 of \$21 million and in 2019 of \$6 million for curtailment and special termination benefit enhancements paid to certain eligible employees upon voluntary retirement.

Our pension plan contains provisions that allow us, from time to time, to offer lump sum payment options to certain former employees in settlement of their future retirement benefits. We record an accounting settlement charge, consisting of the recognition of certain deferred costs of the pension plan associated with these lump sum payments only if, in the aggregate, they exceed or are probable to exceed the sum of the annual service and interest costs for the plan's net periodic pension benefit cost, which represents the settlement accounting threshold. The lump sum pension settlement payments for 2021 exceeded the settlement threshold. In addition, during the fourth quarter of 2021, we executed an annuity purchase contract with a third party insurer that triggered additional settlement activity (see "Pension Annuitization" section below for further information). As a result, we recognized a non-cash settlement charge of \$383 million as of December 31, 2021 to accelerate the recognition of a portion of the previously unrecognized actuarial losses in the qualified pension plan, which is reflected in other expense, net in our consolidated statement of operations for the year ended December 31, 2021. This non-cash charge reduced our recorded net income and increased our recorded accumulated deficit, with an offset to accumulated other comprehensive loss in shareholders' equity for the year ended December 31, 2021. The amount of any future non-cash settlement charges after 2021 will be dependent on several factors, including the total amount of our future lump sum benefit payments.

Benefit Obligations

The actuarial assumptions used to compute the funded status for the plans are based upon information available as of December 31, 2021 and 2020 and are as follows:

	Combined Pension Plan		Post-Retirement Benefit Plans	
	December 31,		December 31,	
	2021	2020	2021	2020
Actuarial assumptions at end of year:				
Discount rate	2.85 %	2.43 %	2.84 %	2.40 %
Rate of compensation increase	3.25 %	3.25 %	N/A	N/A
Initial health care cost trend rate	N/A	N/A	5.75% / 5.00%	6.25% / 5.00%
Ultimate health care cost trend rate	N/A	N/A	4.50 %	4.50 %
Year ultimate trend rate is reached	N/A	N/A	2025	2025

N/A - Not applicable

In 2021, 2020 and 2019, we adopted the revised mortality tables and projection scales released by the Society of Actuaries, which increased the projected benefit obligation of our benefit plans by \$37 million for 2021 and decreased the projected benefit obligation of our benefit plans by \$3 million and \$4 million for 2020 and 2019, respectively. The change in the projected benefit obligation of our benefit plans was recognized as part of the net actuarial loss and is included in accumulated other comprehensive loss, a portion of which is subject to amortization over the remaining estimated life of plan participants, which was approximately 8 years as of December 31, 2021.

The short-term and long-term interest crediting rates during 2021 for cash balance components of the Combined Pension Plan were 1.5% and 3.5%, respectively.

The following tables summarize the change in the benefit obligations for the Combined Pension Plan and post-retirement benefit plans:

	Combined Pension Plan		
	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
Change in benefit obligation			
Benefit obligation at beginning of year	\$ 12,202	12,217	11,594
Service cost	56	59	56
Interest cost	201	324	436
Plan amendments	(13)	(3)	(9)
Special termination benefits charge	6	13	6
Actuarial (gain) loss	(337)	749	1,249
Benefits paid from plan assets	(766)	(1,157)	(1,115)
Settlement payments and annuity purchase	(1,671)	—	—
Benefit obligation at end of year	\$ 9,678	12,202	12,217

Post-Retirement Benefit Plans Years Ended December 31,			
	2021	2020	2019
	(Dollars in millions)		
Change in benefit obligation			
Benefit obligation at beginning of year	\$ 3,048	3,037	2,977
Service cost	14	14	15
Interest cost	47	69	110
Participant contributions	41	46	52
Direct subsidy receipts	3	6	7
Actuarial (gain) loss	(125)	134	180
Curtailment loss	—	4	—
Benefits paid by company	(247)	(255)	(300)
Benefits paid from plan assets	—	(7)	(4)
Benefit obligation at end of year	<u>\$ 2,781</u>	<u>3,048</u>	<u>3,037</u>

Pension Annuitization

On October 19, 2021, we, as sponsor of the Combined Pension Plan, along with the Plan's independent fiduciary, entered into an agreement committing the Plan to use a portion of its plan assets to purchase an annuity from an insurance company (the "Insurer") to transfer approximately \$1.4 billion of the Plan's pension liabilities. This agreement irrevocably transferred to the Insurer future Plan benefit obligations for approximately 22,600 U.S. Lumen participants ("Transferred Participants") effective on December 31, 2021. This annuity transaction was funded entirely by existing Plan assets.

The Insurer assumed responsibility for administrative and customer service support, including distribution of payments to the Transferred Participants. Transferred Participants' benefits were not reduced as a result of this transaction.

Plan Assets

We maintain plan assets for our Combined Pension Plan and certain post-retirement benefit plans. As previously noted, assets in the post-retirement benefit plan trusts were substantially depleted as of December 31, 2016. Fair value of post-retirement benefit plan assets of December 31, 2021, 2020 and 2019 was \$5 million, \$5 million and \$13 million, respectively. Due to the insignificance of these assets on our consolidated financial statements, we have predominantly excluded them from the disclosures of plan assets in this Note, unless otherwise indicated.

The following table summarizes the change in the fair value of plan assets for the Combined Pension Plan:

Combined Pension Plan Years Ended December 31,			
	2021	2020	2019
	(Dollars in millions)		
Change in plan assets			
Fair value of plan assets at beginning of year	\$ 10,546	10,493	10,033
Return on plan assets	422	1,210	1,575
Benefits paid from plan assets	(766)	(1,157)	(1,115)
Settlement payments and annuity purchase	(1,671)	—	—
Fair value of plan assets at end of year	<u>\$ 8,531</u>	<u>10,546</u>	<u>10,493</u>

The expected rate of return on plan assets is the long-term rate of return we expect to earn on the plan's assets, net of administrative expenses paid from plan assets. It is determined annually based on the strategic asset allocation and the long-term risk and return forecast for each asset class.

Our investment objective for the Combined Pension Plan assets is to achieve an attractive risk-adjusted return over time that will provide for the payment of benefits and minimize the risk of large losses. We employ a liability-aware investment strategy designed to reduce the volatility of pension assets relative to pension liabilities. This strategy is evaluated frequently and is expected to evolve over time with changes in the funded status and other factors. Approximately 55% of plan assets is targeted to long-duration investment grade bonds and interest rate sensitive derivatives and 45% is targeted to diversified equity, fixed income and private market investments that are expected to outperform the liability with moderate funded status risk. At the beginning of 2022, our expected annual long-term rate of return on pension assets before consideration of administrative expenses is assumed to be 6.0%. Administrative expenses, including projected PBGC (Pension Benefit Guaranty Corporation) premiums reduce the annual long-term expected return net of administrative expenses to 5.5%.

Permitted investments: Plan assets are managed consistent with the restrictions set forth by the Employee Retirement Income Security Act of 1974, as amended.

Fair Value Measurements: Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between independent and knowledgeable parties who are willing and able to transact for an asset or liability at the measurement date. We use valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs when determining fair value and then we rank the estimated values based on the reliability of the inputs used following the fair value hierarchy set forth by the FASB. For additional information on the fair value hierarchy, see Note 14—Fair Value of Financial Instruments.

At December 31, 2021, we used the following valuation techniques to measure fair value for assets. There were no changes to these methodologies during 2021:

- Level 1—Assets were valued using the closing price reported in the active market in which the individual security was traded. U.S. Treasury securities are valued at the bid price reported in an active market in which the security is traded. Variation margin due from/(to) brokers is valued at the expected next day cash settlement amount.
- Level 2—Assets were valued using quoted prices in markets that are not active, broker dealer quotations, and other methods by which all significant inputs were observable at the measurement date. Fixed income securities primarily utilize observable market information and are based on a spread to U.S. Treasury securities and consider yields available on comparable securities of issuers with similar credit ratings, the new issue market for similar securities, secondary trading markets and dealer quotes. Option adjusted spread models are utilized to evaluate fixed income securities that have early redemption features. Derivative securities traded over the counter are valued based on gains or losses due to fluctuations in indices, interest rates, foreign currency exchange rates, security prices or other underlying factors. Repurchase agreements are valued based on expected settlement per the contract terms.
- Level 3—Assets were valued using unobservable inputs in which little or no market data exists as reported by the respective institutions at the measurement date. Valuation methods may consider a range of factors, including estimates based on the assumptions of the investment entity or actuarial assumptions of insurers for valuing Group Annuity Contracts.

The plan's assets are invested in various asset categories utilizing multiple strategies and investment managers. Interests in commingled funds are fair valued using a practical expedient to the net asset value ("NAV") per unit (or its equivalent) of each fund. The NAV reported by the fund manager is based on the market value of the underlying investments owned by each fund, minus its liabilities, divided by the number of shares outstanding. Commingled funds can be redeemed at NAV, with a frequency that includes, daily, monthly, quarterly, semi-annually and annually. These commingled funds include redemption notice periods between same day and 180 days. Investments in private funds, primarily limited partnerships, represent long-term commitments with a fixed maturity date and are also valued at NAV. The plan has unfunded commitments related to certain private fund investments, which in aggregate are not material to the plan. Valuation inputs for these private fund interests are generally based on assumptions and other information not observable in the market. Underlying investments held in funds are aggregated and are classified based on the fund mandate. Investments held in separate accounts are individually classified.

The table below present the fair value of plan assets by category and the input levels used to determine those fair values at December 31, 2021. It is important to note that the asset allocations do not include market exposures that are gained with derivatives. Investments include dividend and interest receivables, pending trades and accrued expenses.

	Fair Value of Combined Pension Plan Assets at December 31, 2021			
	Level 1	Level 2	Level 3	Total
	(Dollars in millions)			
Assets				
Investment grade bonds (a)	\$ 862	3,744	—	4,606
High yield bonds (b)	—	172	6	178
Emerging market bonds (c)	64	169	—	233
U.S. stocks (d)	330	3	5	338
Non-U.S. stocks (e)	256	—	—	256
Multi-asset strategies (l)	41	—	—	41
Derivatives (m)	—	1	—	1
Cash equivalents and short-term investments (o)	2	379	—	381
Total investments, excluding investments valued at NAV	\$ 1,555	4,468	11	6,034
Liabilities				
Repurchase agreements (n)	\$ —	(193)	—	(193)
Investments valued at NAV				2,690
Total pension plan assets				\$ 8,531

The table below present the fair value of plan assets by category and the input levels used to determine those fair values at December 31, 2020. It is important to note that the asset allocations do not include market exposures that are gained with derivatives. Investments include dividend and interest receivable, pending trades and accrued expenses.

	Fair Value of Combined Pension Plan Assets at December 31, 2020			
	Level 1	Level 2	Level 3	Total
	(Dollars in millions)			
Assets				
Investment grade bonds (a)	\$ 726	4,066	—	4,792
High yield bonds (b)	—	262	6	268
Emerging market bonds (c)	218	172	—	390
U.S. stocks (d)	653	—	2	655
Non-U.S. stocks (e)	593	1	—	594
Multi-asset strategies (l)	199	—	—	199
Cash equivalents and short-term investments (o)	—	281	—	281
Total investments, excluding investments valued at NAV	\$ 2,389	4,782	8	7,179
Liabilities				
Derivatives (m)	\$ —	(1)	—	(1)
Investments valued at NAV				3,368
Total pension plan assets				\$ 10,546

The table below presents the fair value of plan assets valued at NAV by category for our Combined Pension Plan at December 31, 2021 and 2020.

Fair Value of Plan Assets Valued at NAV		
Combined Pension Plan at December 31,		
	2021	2020
	(Dollars in millions)	
Investment grade bonds (a)	\$ 127	352
High yield bonds (b)	70	25
U.S. stocks (d)	71	192
Non-U.S. stocks (e)	398	308
Emerging market stocks (f)	11	81
Private equity (g)	348	283
Private debt (h)	495	505
Market neutral hedge funds (i)	141	222
Directional hedge funds (j)	241	254
Real estate (k)	420	543
Multi-asset strategies (l)	38	375
Cash equivalents and short-term investments (o)	330	228
Total investments valued at NAV	\$ 2,690	3,368

Below is an overview of the asset categories and the underlying strategies used in the preceding tables:

(a) *Investment grade bonds* represent investments in fixed income securities as well as commingled bond funds comprised of U.S. Treasury securities, agencies, corporate bonds, mortgage-backed securities, asset-backed securities and commercial mortgage-backed securities.

(b) *High yield bonds* represent investments in below investment grade fixed income securities as well as commingled high yield bond funds.

(c) *Emerging market bonds* represent investments in securities issued by governments and other entities located in emerging countries as well as registered mutual funds and commingled emerging market bond funds.

(d) *U.S. stocks* represent investments in stocks of U.S. based companies as well as commingled U.S. stock funds.

(e) *Non-U.S. stocks* represent investments in stocks of companies based in developed countries outside the U.S. as well as commingled funds.

(f) *Emerging market stocks* represent investments in commingled funds comprised of stocks of companies located in emerging markets.

(g) *Private equity* represents non-public investments in domestic and foreign buy out and venture capital funds. Private equity funds are primarily structured as limited partnerships and are valued according to the valuation policy of each partnership, subject to prevailing accounting and other regulatory guidelines.

(h) *Private debt* represents non-public investments in distressed or mezzanine debt funds and pension group insurance contracts.

(i) *Market neutral hedge funds* hold investments in a diversified mix of instruments that are intended in combination to exhibit low correlations to market fluctuations. These investments are typically combined with futures to achieve uncorrelated excess returns over various markets.

(j) *Directional hedge funds*—This asset category represents investments that may exhibit somewhat higher correlations to market fluctuations than the market neutral hedge funds. Investments in hedge funds include both direct investments and investments in diversified funds of funds.

(k) *Real estate* represents investments in commingled funds and limited partnerships that invest in a diversified portfolio of real estate properties.

(l) *Multi-asset strategies* represent broadly diversified strategies that have the flexibility to tactically adjust exposures to different asset classes through time.

(m) *Derivatives* include exchange traded futures contracts as well as privately negotiated over the counter contracts. The market values represent gains or losses that occur due to differences between stated contract terms and fluctuations in underlying market instruments.

(n) *Repurchase Agreements* includes contracts where the security owner sells a security with the agreement to buy it back at a future date and price.

(o) *Cash equivalents and short-term investments* represent investments that are used in conjunction with derivatives positions or are used to provide liquidity for the payment of benefits or other purposes.

Derivative instruments: Derivative instruments are used to reduce risk as well as provide return. The gross notional exposure of the derivative instruments directly held by the Combined Pension Plan is shown below. The notional amount of the derivatives corresponds to market exposure but does not represent an actual cash investment.

Gross Notional Exposure Combined Pension Plan Years Ended December 31,		
	2021	2020
(Dollars in millions)		
<u>Derivative instruments:</u>		
Exchange-traded U.S. equity futures	\$ 108	84
Exchange-traded Treasury and other interest rate futures	1,688	1,033
Exchange-traded Foreign currency futures	11	12
Exchange-traded EURO futures	5	6
Interest rate swaps	127	124
Credit default swaps	132	43
Index swaps	1,036	1,297
Foreign exchange forwards	93	769
Options	654	222

Concentrations of Risk: Investments, in general, are exposed to various risks, such as significant world events, interest rate, credit, foreign currency and overall market volatility risk. These risks are managed by broadly diversifying assets across numerous asset classes and strategies with differing expected returns, volatilities and correlations. Risk is also broadly diversified across numerous market sectors and individual companies. Financial instruments that potentially subject the plans to concentrations of counterparty risk consist principally of investment contracts with high quality financial institutions. These investment contracts are typically collateralized obligations and/or are actively managed, limiting the amount of counterparty exposure to any one financial institution. Although the investments are well diversified, the value of plan assets could change materially depending upon the overall market volatility, which could affect the funded status of the plan.

The table below presents a rollforward of the Combined Pension Plan assets valued using Level 3 inputs:

Combined Pension Plan Assets Valued Using Level 3 Inputs				
	High Yield Bonds	U.S. Stocks	Private Debt	Total
(Dollars in millions)				
Balance at December 31, 2019	\$ 5	1	16	22
Acquisitions (dispositions)	1	—	(17)	(16)
Actual return on plan assets	—	1	1	2
Balance at December 31, 2020	6	2	—	8
Actual return on plan assets	—	3	—	3
Balance at December 31, 2021	\$ 6	5	—	11

Certain gains and losses are allocated between assets sold during the year and assets still held at year-end based on transactions and changes in valuations that occurred during the year. These allocations also impact our calculation of net acquisitions and dispositions.

For the year ended December 31, 2021, the investment program produced actual gains on Combined Pension Plan assets of \$422 million as compared to expected returns of \$535 million, for a difference of \$113 million. For the year ended December 31, 2020, the investment program produced actual gains on Combined Pension Plan assets of \$1.2 billion as compared to the expected returns of \$593 million, for a difference of \$618 million. The short-term annual returns on plan assets will almost always be different from the expected long-term returns and the plans could experience net gains or losses, due primarily to the volatility occurring in the financial markets during any given year.

Unfunded Status

The following table presents the unfunded status of the Combined Pension Plan and post-retirement benefit plans:

	Combined Pension Plan		Post-Retirement Benefit Plans	
	Years Ended December 31,		Years Ended December 31,	
	2021	2020	2021	2020
	(Dollars in millions)			
Benefit obligation	\$ (9,678)	(12,202)	(2,781)	(3,048)
Fair value of plan assets	8,531	10,546	5	5
Unfunded status	(1,147)	(1,656)	(2,776)	(3,043)
Current portion of unfunded status	—	—	(212)	(228)
Non-current portion of unfunded status	\$ (1,147)	(1,656)	(2,564)	(2,815)

The current portion of our post-retirement benefit obligations is recorded on our consolidated balance sheets in accrued expenses and other current liabilities-salaries and benefits.

Accumulated Other Comprehensive Loss-Recognition and Deferrals

The following table presents cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2020, items recognized as a component of net periodic benefits expense in 2021, additional items deferred during 2021 and cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2021. The items not recognized as a component of net periodic benefits expense have been recorded on our consolidated balance sheets in accumulated other comprehensive loss:

As of and for the Years Ended December 31,					
	2020	Recognition of Net Periodic Benefits Expense	Deferrals	Net Change in AOCL	2021
(Dollars in millions)					
Accumulated other comprehensive (loss) income					
Pension plans:					
Net actuarial (loss) gain	\$ (2,993)	186	243	429	(2,564)
Settlement charge	—	383	—	383	383
Prior service benefit (cost)	41	(9)	13	4	45
Deferred income tax benefit (expense)	755	(137)	(59)	(196)	559
Total pension plans	(2,197)	423	197	620	(1,577)
Post-retirement benefit plans:					
Net actuarial (loss) gain	(346)	4	125	129	(217)
Prior service (cost) benefit	(20)	15	—	15	(5)
Curtailment loss	4	—	—	—	4
Deferred income tax benefit (expense)	90	(5)	(31)	(36)	54
Total post-retirement benefit plans	(272)	14	94	108	(164)
Total accumulated other comprehensive (loss) income	<u>\$ (2,469)</u>	<u>437</u>	<u>291</u>	<u>728</u>	<u>(1,741)</u>

The following table presents cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2019, items recognized as a component of net periodic benefits expense in 2020, additional items deferred during 2020 and cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2019. The items not recognized as a component of net periodic benefits expense have been recorded on our consolidated balance sheets in accumulated other comprehensive loss:

As of and for the Years Ended December 31,					
	2019	Recognition of Net Periodic Benefits Expense	Deferrals	Net Change in AOCL	2020
	(Dollars in millions)				
Accumulated other comprehensive (loss) income					
Pension plans:					
Net actuarial (loss) gain	\$ (3,046)	203	(150)	53	(2,993)
Prior service benefit (cost)	47	(9)	3	(6)	41
Deferred income tax benefit (expense)	770	(47)	32	(15)	755
Total pension plans	(2,229)	147	(115)	32	(2,197)
Post-retirement benefit plans:					
Net actuarial (loss) gain	(175)	—	(171)	(171)	(346)
Prior service (cost) benefit	(71)	16	35	51	(20)
Curtailment loss	—	4	—	4	4
Deferred income tax benefit (expense)	62	(5)	33	28	90
Total post-retirement benefit plans	(184)	15	(103)	(88)	(272)
Total accumulated other comprehensive (loss) income	\$ (2,413)	162	(218)	(56)	(2,469)

Medicare Prescription Drug, Improvement and Modernization Act of 2003

We sponsor post-retirement health care plans with several benefit options that provide prescription drug benefits that we deem actuarially equivalent to or exceeding Medicare Part D. We recognize the impact of the federal subsidy received under the Medicare Prescription Drug, Improvement and Modernization Act of 2003 in the calculation of our post-retirement benefit obligation and net periodic post-retirement benefit expense.

Other Benefit Plans

Health Care and Life Insurance

We provide health care and life insurance benefits to essentially all of our active employees. We are largely self-funded for the cost of the health care plan. Our health care benefit expense for current employees was \$309 million, \$307 million and \$381 million for the years ended December 31, 2021, 2020 and 2019, respectively. Union-represented employee benefits are based on negotiated collective bargaining agreements. Employees contributed \$120 million, \$133 million, \$148 million for the years ended December 31, 2021, 2020 and 2019, respectively. Our group basic life insurance plans are fully insured and the premiums are paid by us.

401(k) Plans

We sponsor a qualified defined contribution plan covering substantially all of our U.S. employees. Under this plan, employees may contribute a percentage of their annual compensation up to certain maximums, as defined by the plan and by the Internal Revenue Service. Currently, we match a percentage of employee contributions in cash. At December 31, 2021 and 2020, the assets of the plan included approximately 10 million and 11 million shares of our common stock, respectively, all of which were the result of the combination of previous employer match and participant directed contributions. We recognized expenses related to this plan of \$96 million, \$101 million and \$113 million for the years ended December 31, 2021, 2020 and 2019, respectively.

Deferred Compensation Plans

We sponsored non-qualified deferred compensation plans for various groups that included certain of our current and former highly compensated employees. The value of liabilities related to these plans was not significant.

Subsequent Event

As of January 1, 2022, a new pension plan (the "Lumen Pension Plan") was spun off from the Lumen Combined Pension Plan in anticipation of the sale of the ILEC business, as described further in Note 2—Planned Divestiture of the Latin American and ILEC Businesses. The Lumen Pension Plan covers approximately 2,500 active plan participants along with 19,000 other participants, resulting in a pension benefit obligation of \$2.5 billion and assets of \$2.2 billion allocated to the Lumen Pension Plan. In addition, the December 31, 2021 actuarial (loss) gain and prior service cost included in accumulated other comprehensive loss was allocated to the Lumen Pension Plan or the Lumen Combined Pension Plan. The amounts allocated to the Lumen Pension Plan are subject to adjustment up to the closing of the sale of the ILEC business. We will recognize pension costs related to both plans during 2022 until the sale of the ILEC business, at which time balances related to the Lumen Pension Plan will be included in the calculation of our gain on the sale of the business.

(12) Stock-based Compensation

We maintain an equity incentive program that allows our Board of Directors (through its Compensation Committee or a senior officer acting under delegated authority) to grant incentives to certain employees and outside directors in one or more forms, including: incentive and non-qualified stock options, stock appreciation rights, restricted stock awards, restricted stock units and market and performance shares. Stock options generally expire ten years from the date of grant. There was an insignificant amount of outstanding stock options as of December 31, 2020 and none as of December 31, 2021.

Restricted Stock Awards and Restricted Stock Unit Awards

For equity based restricted stock and restricted stock unit awards that contain only service conditions for vesting (time-based awards), we calculate the award fair value based on the closing price of Lumen Technologies common stock on the accounting grant date. We also grant equity-based awards that contain service conditions as well as additional market or performance conditions. For awards having both service and market conditions, the award fair value is calculated using Monte-Carlo simulations. Awards with service as well as market or performance conditions specify a target number of shares for the award, although each recipient ultimately has the opportunity to receive between 0% and 200% of the target number of shares. For awards with service and market conditions, the percentage received is based on our total shareholder return over the three-year service period versus that of selected peer companies. For awards with service and performance conditions, the percentage received depends upon the attainment of one or more financial performance targets during the two- or three-year service period.

The following table summarizes activity involving restricted stock and restricted stock unit awards for the year ended December 31, 2021:

	Number of Shares	Weighted- Average Grant Date Fair Value
	(in thousands)	
Non-vested at December 31, 2020	21,508	\$ 12.37
Granted	13,908	13.95
Vested	(11,161)	13.56
Forfeited	(1,828)	12.58
Non-vested at December 31, 2021	<u>22,427</u>	<u>12.74</u>

During 2021, we granted 13.9 million shares of restricted stock and restricted stock unit awards at a weighted-average price of \$13.95. During 2020, we granted 17.8 million shares of restricted stock and restricted stock unit awards at a weighted-average price of \$12.08. During 2019, we granted 9.8 million shares of restricted stock and restricted stock unit awards at a weighted-average price of \$12.41. The total fair value of restricted stock that vested during 2021, 2020 and 2019, was \$139 million, \$126 million and \$118 million, respectively. We do not estimate forfeitures, but recognize them as they occur.

Compensation Expense and Tax Benefit

We recognize compensation expense related to our market and performance stock-based awards with graded vesting that only have a service condition on a straight-line basis over the requisite service period for the entire award. Total compensation expense for all stock-based payment arrangements for the years ended December 31, 2021, 2020 and 2019, was \$120 million, \$175 million and \$162 million, respectively. Our tax benefit recognized in the consolidated statements of operations for our stock-based payment arrangements for the years ended December 31, 2021, 2020 and 2019, was \$29 million, \$43 million and \$39 million, respectively. At December 31, 2021, there was \$147 million of total unrecognized compensation expense related to our stock-based payment arrangements, which we expect to recognize over a weighted-average period of 1.5 years.

(13) Earnings (Loss) Per Common Share

Basic and diluted earnings (loss) per common share for the years ended December 31, 2021, 2020 and 2019 were calculated as follows:

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions, except per share amounts, shares in thousands)		
Income (Loss) (Numerator)			
Net Income (Loss)	\$ 2,033	(1,232)	(5,269)
Net income (loss) applicable to common stock for computing basic earnings (loss) per common share	2,033	(1,232)	(5,269)
Net income (loss) as adjusted for purposes of computing diluted earnings (loss) per common share	\$ 2,033	(1,232)	(5,269)
Shares (Denominator):			
Weighted average number of shares:			
Outstanding during period	1,077,393	1,096,284	1,088,730
Non-vested restricted stock	(17,852)	(17,154)	(17,289)
Weighted average shares outstanding for computing basic earnings (loss) per common share	1,059,541	1,079,130	1,071,441
Incremental common shares attributable to dilutive securities:			
Shares issuable under convertible securities	10	—	—
Shares issuable under incentive compensation plans	7,227	—	—
Number of shares as adjusted for purposes of computing diluted earnings (loss) per common share	1,066,778	1,079,130	1,071,441
Basic earnings (loss) per common share	\$ 1.92	(1.14)	(4.92)
Diluted earnings (loss) per common share ⁽¹⁾	\$ 1.91	(1.14)	(4.92)

(1) For the years ended December 31, 2020 and December 31, 2019, we excluded from the calculation of diluted loss per share 5.3 million shares and 3.0 million shares, respectively, potentially issuable under incentive compensation plans or convertible securities, as their effect, if included, would have been anti-dilutive.

Our calculation of diluted earnings (loss) per common share excludes shares of common stock that are issuable upon exercise of stock options when the exercise price is greater than the average market price of our common stock. We also exclude unvested restricted stock awards that are antidilutive as a result of unrecognized compensation cost. Such shares were 3.2 million, 3.2 million and 6.8 million for 2021, 2020 and 2019, respectively.

(14) Fair Value of Financial Instruments

Our financial instruments consist of cash, cash equivalents, restricted cash, accounts receivable, accounts payable, long-term debt, excluding finance lease and other obligations, interest rate swap contracts and certain investments. Due primarily to their short-term nature, the carrying amounts of our cash, cash equivalents, restricted cash, accounts receivable and accounts payable approximate their fair values.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between independent and knowledgeable parties who are willing and able to transact for an asset or liability at the measurement date. We use valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs when determining fair value and then we rank the estimated values based on the reliability of the inputs used following the fair value hierarchy set forth by the FASB.

We determined the fair values of our long-term debt, including the current portion, based on quoted market prices where available or, if not available, based on inputs other than quoted market prices in active markets that are either directly or indirectly observable such as discounted future cash flows using current market interest rates.

The three input levels in the hierarchy of fair value measurements are defined by the FASB generally as follows:

Input Level	Description of Input
Level 1	Observable inputs such as quoted market prices in active markets.
Level 2	Inputs other than quoted prices in active markets that are either directly or indirectly observable.
Level 3	Unobservable inputs in which little or no market data exists.

The following table presents the carrying amounts and estimated fair values of our financial liabilities as of December 31, 2021:

		As of December 31, 2021		As of December 31, 2020	
	Input Level	Carrying Amount	Fair Value	Carrying Amount	Fair Value
		(Dollars in millions)			
Long-term debt, excluding finance lease and other obligations ⁽¹⁾	2	\$ 28,635	29,221	31,542	33,217
Interest rate swap contracts (see Note 15)	2	25	25	107	107

⁽¹⁾ As of December 31, 2021, these amounts exclude \$1.4 billion of carrying amount and \$1.6 billion of fair value of debt that has been reclassified as held for sale. See Note 2—Planned Divestiture of the Latin American and ILEC Businesses for more information.

Investment Held at Net Asset Value

We hold an investment in a limited partnership that functions as holding company for a portion of the colocation and data center business that we divested in 2017. The limited partnership solely holds investments in those entities and has sole discretion as to the amount and timing of distributions of the underlying assets. Our investment did not have a readily determinable fair value as of December 31, 2020. As such, our investment in the limited partnership was previously accounted for under the cost method of accounting. As of December 31, 2021, the underlying investments held by the limited partnership began trading in active markets and as such, we elected to account for our investment in the limited partnership using net asset value ("NAV") as a practical expedient. As of December 31, 2021 the limited partnership is subject to a lock-up agreement that restricts the sale of certain underlying assets. The restriction is set to terminate in 2022.

	As of December 31, 2021	As of December 31, 2020
	NAV	Cost
	(Dollars in millions)	
Investment in limited partnership ⁽¹⁾	\$ 299	161

⁽¹⁾ For the year ended December 31, 2021, we recognized \$138 million of gain on investment, reflected in other expense, net in our consolidated statement of operations for the year ended December 31, 2021.

(15) Derivative Financial Instruments

From time to time, we use derivative financial instruments, primarily interest rate swaps, to manage our exposure to fluctuations in interest rates. Our primary objective in managing interest rate risk is to decrease the volatility of our earnings and cash flows affected by changes in the underlying rates. We have floating rate long-term debt (see Note 7—Long-Term Debt and Credit Facilities). These obligations expose us to variability in interest payments due to changes in interest rates. If interest rates increase, our interest expense increases. Conversely, if interest rates decrease, our interest expense also decreases. We have designated our currently outstanding interest rate swap agreements as cash flow hedges. As described further below, under these hedges, we receive variable-rate amounts from a counterparty in exchange for us making fixed-rate payments over the lives of the agreements without exchange of the underlying notional amount. The change in the fair value of the interest rate swap agreements is reflected in accumulated other comprehensive income ("AOCI") and, as described below, is subsequently reclassified into earnings in the period that the hedged transaction affects earnings by virtue of qualifying as effective cash flow hedges. We do not use derivative financial instruments for speculative purposes.

In February 2019, we entered into five variable-to-fixed interest rate swap agreements to hedge the interest payments on \$2.5 billion notional amount of floating rate debt. The five interest rate swap agreements are with different counterparties; one for \$700 million and the other four for \$450 million each. The transactions were effective beginning March 31, 2019 and mature March 31, 2022. Under the terms of these interest rate swap transactions, we receive interest payments based on one month floating LIBOR terms and pay interest at the fixed rate of 2.48%.

In June 2019, we entered into six variable-to-fixed interest rate swap agreements to hedge the interest payments on \$1.5 billion notional amount of floating rate debt. The six interest rate swap agreements are with different counterparties for \$250 million each. The transactions were effective beginning June 30, 2019 and mature June 30, 2022. Under the terms of these interest rate swap transactions, we receive interest payments based on one month floating LIBOR terms and pay interest at the fixed rate of 1.58%.

As of December 31, 2021, 2020 and 2019, we evaluated the effectiveness of our hedges quantitatively and determined that hedges in effect on such dates qualified as effective hedge relationships.

We may be exposed to credit-related losses in the event of non-performance by counterparties. The counterparties to any of the financial derivatives we enter into are major institutions with investment grade credit ratings. We evaluate counterparty credit risk before entering into any hedge transaction and continue to closely monitor the financial market and the risk that our counterparties will default on their obligations as part of our quarterly qualitative effectiveness evaluation.

Amounts accumulated in AOCI related to derivatives are indirectly recognized in earnings as periodic settlement payments are made throughout the term of the swaps.

The table below presents the fair value of our derivative financial instruments as well as their classification on the consolidated balance sheets at December 31, 2021 and December 31, 2020 as follows (in millions):

Derivatives designated as	Balance Sheet Location	December 31, 2021	December 31, 2020
		Fair Value	
Cash flow hedging contracts	Other current and noncurrent liabilities	\$ 25	107

The amount of unrealized losses recognized in AOCI consists of the following (in millions):

Derivatives designated as hedging instruments	2021	2020	2019
Cash flow hedging contracts			
Years Ended December 31,	\$ 1	115	53

The amount of realized losses reclassified from AOCI to the statement of operations consists of the following (in millions):

Derivatives designated as hedging instruments	2021	2020	2019
Cash flow hedging contracts			
Years Ended December 31,	\$ 83	62	2

Amounts currently included in AOCI will be reclassified into earnings prior to the ongoing settlements of these cash flow hedging contracts on March 31, 2022 or June 30, 2022. We estimate that \$25 million of net losses on the interest rate swaps (based on the estimated LIBOR curve as of December 31, 2021) will be reflected in our consolidated statements of operations within the next 12 months.

(16) Income Taxes

The components of the income tax expense are as follows:

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
Income tax expense:			
Federal			
Current	\$ 5	5	7
Deferred	514	338	376
State			
Current	42	50	15
Deferred	72	55	81
Foreign			
Current	23	29	35
Deferred	12	(27)	(11)
Total income tax expense	\$ 668	450	503

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
Income tax expense was allocated as follows:			
Income tax expense in the consolidated statements of operations:			
Attributable to income	\$ 668	450	503
Stockholders' equity:			
Tax effect of the change in accumulated other comprehensive loss	\$ 222	17	(62)

The following is a reconciliation from the statutory federal income tax rate to our effective income tax rate:

	Years Ended December 31,		
	2021	2020	2019
	(Percentage of pre-tax income (loss))		
Statutory federal income tax rate	21.0 %	21.0 %	21.0 %
State income taxes, net of federal income tax benefit	3.3 %	(10.8)%	(1.6)%
Goodwill impairment	— %	(71.0)%	(28.6)%
Change in liability for unrecognized tax position	0.1 %	(0.6)%	(0.2)%
Legislative changes to GILTI	— %	1.8 %	— %
Nondeductible executive stock compensation	0.2 %	(1.6)%	(0.1)%
Change in valuation allowance	— %	2.6 %	— %
Net foreign income taxes	0.6 %	(0.6)%	(0.5)%
Research and development credits	(0.5)%	1.6 %	0.1 %
Other, net	— %	0.1 %	(0.7)%
Effective income tax rate	24.7 %	(57.5)%	(10.6)%

The effective tax rate for the year ended December 31, 2020 includes a \$555 million unfavorable impact of non-deductible goodwill impairments, a \$14 million favorable impact in tax regulations passed in 2020 allowing a high tax exception related to our tax exposure of Global Intangible Low-Taxed Income ("GILTI"), as well as a \$20 million benefit related to the release of previously established valuation allowances against capital losses. The effective tax rate for the year ended December 31, 2019 reflects a \$1.4 billion unfavorable impact of non-deductible goodwill impairments.

The tax effects of temporary differences that gave rise to significant portions of the deferred tax assets and deferred tax liabilities were as follows:

	As of December 31,	
	2021	2020
	(Dollars in millions)	
Deferred tax assets		
Post-retirement and pension benefit costs	\$ 978	1,164
Net operating loss carryforwards	2,463	3,138
Other employee benefits	96	119
Other	554	604
Gross deferred tax assets	4,091	5,025
Less valuation allowance	(1,566)	(1,538)
Net deferred tax assets	2,525	3,487
Deferred tax liabilities		
Property, plant and equipment, primarily due to depreciation differences	(3,941)	(3,882)
Goodwill and other intangible assets	(2,473)	(2,755)
Gross deferred tax liabilities	(6,414)	(6,637)
Net deferred tax liability	\$ (3,889)	(3,150)

Of the \$3.9 billion and \$3.2 billion net deferred tax liability at December 31, 2021 and 2020, respectively, \$4.0 billion and \$3.3 billion is reflected as a long-term liability and \$160 million and \$191 million is reflected as a net noncurrent deferred tax asset, in other, net on our consolidated balance sheets at December 31, 2021 and 2020, respectively.

At December 31, 2021, we had federal NOLs of \$2.9 billion, net of limitations of Section 382 of the Internal Revenue Code ("Section 382") and uncertain tax positions, for U.S. federal income tax purposes. If unused, the NOLs will expire between 2026 and 2037. The U.S. federal net operating loss carryforwards expire as follows:

	Expiring December 31,	Amount (Dollars in millions)
2026		\$
2027		
2028		
2029		
2030		
2031		
2032		
2033		
2037		2
NOLs per return		7
Uncertain tax positions		(4)
Financial NOLs		\$ 2

We expect to use substantially all of these tax attributes to reduce our future federal tax liabilities, although the timing of that use will depend upon our future earnings and future tax circumstances.

At December 31, 2021 we had state net operating loss carryforwards of \$16 billion (net of uncertain tax positions). We also had foreign NOL carryforwards of \$6 billion. Our acquisitions of Level 3, Qwest and SAVVIS, Inc. caused "ownership changes" within the meaning of Section 382 for the acquired companies. As a result, our ability to use these NOLs and tax credits are subject to annual limits imposed by Section 382.

We establish valuation allowances when necessary to reduce the deferred tax assets to amounts we expect to realize. As of December 31, 2021, a valuation allowance of \$1.6 billion was established as it is more likely than not that this amount of net operating loss, capital loss and tax credit carryforwards will not be utilized prior to expiration. Our valuation allowance at December 31, 2021 and 2020 is primarily related to foreign and state NOL carryforwards. This valuation allowance increased by \$28 million during 2021, primarily due to the impact of adjustments related to the planned divestiture of our Latin American business.

A reconciliation of the change in our gross unrecognized tax benefits (excluding both interest and any related federal benefit) from January 1 to December 31 for 2021 and 2020 is as follows:

	2021	2020
	(Dollars in millions)	
Unrecognized tax benefits at beginning of year	\$ 1,474	1,538
Increase in tax positions of the current year netted against deferred tax assets	1	18
Increase in tax positions of prior periods netted against deferred tax assets	—	5
Decrease in tax positions of the current year netted against deferred tax assets	(101)	(86)
Decrease in tax positions of prior periods netted against deferred tax assets	(1)	(5)
Increase in tax positions taken in the current year	4	4
Increase in tax positions taken in the prior year	2	1
Decrease due to payments/settlements	(3)	(1)
Decrease from the lapse of statute of limitations	(1)	—
Unrecognized tax benefits at end of year	<u>\$ 1,375</u>	<u>1,474</u>

The total amount (including both interest and any related federal benefit) of unrecognized tax benefits that, if recognized, would impact the effective income tax rate was \$273 million and \$267 million at December 31, 2021 and 2020, respectively.

Our policy is to reflect interest expense associated with unrecognized tax benefits in income tax expense. We had accrued interest (presented before related tax benefits) of approximately \$24 million and \$23 million at December 31, 2021 and 2020, respectively.

We, or at least one of our subsidiaries, file income tax returns in the U.S. federal jurisdiction and various states and foreign jurisdictions. With few exceptions, we are no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years before 2002. The Internal Revenue Service and state and local taxing authorities reserve the right to audit any period where net operating loss carryforwards are available.

Based on our current assessment of various factors, including (i) the potential outcomes of these ongoing examinations, (ii) the expiration of statute of limitations for specific jurisdictions, (iii) the negotiated settlement of certain disputed issues, and (iv) the administrative practices of applicable taxing jurisdictions, it is reasonably possible that the related unrecognized tax benefits for uncertain tax positions previously taken may decrease by up to \$3 million within the next 12 months. The actual amount of such decrease, if any, will depend on several future developments and events, many of which are outside our control.

(17) Segment Information

In early 2021, Jeff Storey, our chief executive officer, who serves as chief operating decision maker ("CODM"), made changes to our segment and customer-facing sales channel reporting categories to align with operational changes designed to better support our customers. Since these changes, we have reported two segments: Business and Mass Markets. The Business segment includes four sales channels: International and Global Accounts, Large Enterprise, Mid-Market Enterprise and Wholesale. These changes also include both the creation of new product categories and the realignment of products and services within previously reported product categories to better reflect product life cycles and our go-to-market approach. For Business segment revenue, we report the following product categories: Compute and Application Services, IP and Data Services, Fiber Infrastructure Services and Voice and Other, in each case through the sales channels outlined above. For Mass Markets segment revenue, we report the following product categories: Consumer Broadband, SBG Broadband, Voice and Other and CAF II. See detailed descriptions of these product and service categories in Note 4—Revenue Recognition.

As described in more detail below, our segments are managed based on the direct costs of providing services to their customers and directly associated selling, general and administrative costs (primarily salaries and commissions). Shared costs are managed separately and included in "Operations and Other" in the tables below. As referenced above, we reclassified certain prior period amounts to conform to the current period presentation. See Note 1—Background and Summary of Significant Accounting Policies for additional detail on these changes.

At December 31, 2021, we had the following two reportable segments:

- *Business Segment:* Under our Business segment, we provide our products and services under four distinct sales channels to meet the needs of our enterprise and commercial customers; and
- *Mass Markets Segment:* Under our Mass Markets segment, we provide products and services to consumer and small business customers.

The following tables summarize our segment results for 2021, 2020 and 2019 based on the segment categorization we were operating under at December 31, 2021.

Year Ended December 31, 2021					
	Business	Mass Markets	Total Segments	Operations and Other	Total
	(Dollars in millions)				
Revenue:	\$ 14,119	5,568	19,687	—	19,687
Expenses:					
Cost of services and products	3,484	152	3,636	4,852	8,488
Selling, general and administrative	1,189	530	1,719	1,176	2,895
Less: stock-based compensation	—	—	—	(120)	(120)
Total expense	4,673	682	5,355	5,908	11,263
Total adjusted EBITDA	\$ 9,446	4,886	14,332	(5,908)	8,424

Year Ended December 31, 2020					
	Business	Mass Markets	Total Segments	Operations and Other	Total
	(Dollars in millions)				
Revenue:	\$ 14,817	5,895	20,712	—	20,712
Expenses:					
Cost of services and products	3,649	203	3,852	5,082	8,934
Selling, general and administrative	1,269	574	1,843	1,621	3,464
Less: stock-based compensation	—	—	—	(175)	(175)
Total expense	4,918	777	5,695	6,528	12,223
Total adjusted EBITDA	\$ 9,899	5,118	15,017	(6,528)	8,489

	Year Ended December 31, 2019				
	Business	Mass Markets	Total Segments	Operations and Other	Total
	(Dollars in millions)				
Revenue:	\$ 15,239	6,219	21,458	—	21,458
Expenses:					
Cost of services and products	3,598	214	3,812	5,322	9,134
Selling, general and administrative	1,364	630	1,994	1,721	3,715
Less: stock-based compensation	—	—	—	(162)	(162)
Total expense	4,962	844	5,806	6,881	12,687
Total adjusted EBITDA	\$ 10,277	5,375	15,652	(6,881)	8,771

Revenue and Expenses

Our segment revenue includes all revenue from our two segments as described in more detail above. Our segment revenue is based upon each customer's classification. We report our segment revenue based upon all services provided to that segment's customers. Our segment expenses include specific cost of service expenses incurred as a direct result of providing services and products to segment customers, along with selling, general and administrative expenses that are directly associated with specific segment customers or activities. We have not allocated assets or debt to specific segments.

The following items are excluded from our segment results, because they are centrally managed and not monitored by or reported to our CODM by segment:

- network expenses not incurred as a direct result of providing services and products to segment customers;
- centrally managed expenses such as Finance, Human Resources, Legal, Marketing, Product Management and IT, which are reported as "Other operating expenses" in the table below;
- depreciation and amortization expense;
- goodwill or other impairments;
- interest expense;
- stock-based compensation; and
- other income and expense items are not monitored as a part of our segment operations.

The following table reconciles total segment adjusted EBITDA to net income (loss) for the years ended December 31, 2021, 2020 and 2019:

	Years Ended December 31,		
	2021	2020	2019
	(Dollars in millions)		
Total segment adjusted EBITDA	\$ 14,332	15,017	15,652
Depreciation and amortization	(4,019)	(4,710)	(4,829)
Goodwill impairment	—	(2,642)	(6,506)
Operations and other expenses	(5,908)	(6,528)	(6,881)
Stock-based compensation	(120)	(175)	(162)
Operating income (loss)	4,285	962	(2,726)
Total other expense, net	(1,584)	(1,744)	(2,040)
Income (loss) before income taxes	2,701	(782)	(4,766)
Income tax expense	668	450	503
Net income (loss)	\$ 2,033	(1,232)	(5,269)

We do not have any single customer that comprises more than 10% of our consolidated total operating revenue.

The assets we hold outside of the U.S. represent less than 10% of our total assets. Revenue from sources outside of the U.S. comprises less than 10% of our total operating revenue.

(18) Commitments, Contingencies and Other Items

We are subject to various claims, legal proceedings and other contingent liabilities, including the matters described below, which individually or in the aggregate could materially affect our financial condition, future results of operations or cash flows. As a matter of course, we are prepared to both litigate these matters to judgment as needed, as well as to evaluate and consider reasonable settlement opportunities.

Irrespective of its merits, litigation may be both lengthy and disruptive to our operations and could cause significant expenditure and diversion of management attention. We review our litigation accrual liabilities on a quarterly basis, but in accordance with applicable accounting guidelines only establish accrual liabilities when losses are deemed probable and reasonably estimable and only revise previously-established accrual liabilities when warranted by changes in circumstances, in each case based on then-available information. As such, as of any given date we could have exposure to losses under proceedings as to which no liability has been accrued or as to which the accrued liability is inadequate. Amounts accrued for our litigation and non-income tax contingencies at December 31, 2021 and December 31, 2020 aggregated to approximately \$103 million and \$141 million, respectively, and are included in other current liabilities, other liabilities, or liabilities held for sale in our consolidated balance sheets as of such dates. The establishment of an accrual does not mean that actual funds have been set aside to satisfy a given contingency. Thus, the resolution of a particular contingency for the amount accrued could have no effect on our results of operations but nonetheless could have an adverse effect on our cash flows.

In this Note, when we refer to a class action as "putative" it is because a class has been alleged, but not certified in that matter.

Principal Proceedings

Shareholder Class Action Suit

Lumen and certain Lumen Board of Directors members and officers were named as defendants in a putative shareholder class action lawsuit filed on June 12, 2018 in the Boulder County District Court of the state of Colorado, captioned Houser et al. v. CenturyLink, et al. The complaint asserts claims on behalf of a putative class of former Level 3 shareholders who became CenturyLink, Inc. shareholders as a result of our acquisition of Level 3. It alleges that the proxy statement provided to the Level 3 shareholders failed to disclose various material information of several kinds, including information about strategic revenue, customer loss rates, and customer account issues, among other items. The complaint seeks damages, costs and fees, rescission, rescissory damages, and other equitable relief. In May 2020, the court dismissed the complaint. Plaintiffs appealed that decision, and the appeal is pending.

State Tax Suits

Since 2012, a number of Missouri municipalities have asserted claims in the Circuit Court of St. Louis County, Missouri, alleging that we and several of our subsidiaries have underpaid taxes. These municipalities are seeking, among other things, declaratory relief regarding the application of business license and gross receipts taxes and back taxes from 2007 to the present, plus penalties and interest. In a February 2017 ruling in connection with one of these pending cases, the court entered an order awarding plaintiffs \$4 million and broadening the tax base on a going-forward basis. We appealed that decision to the Missouri Supreme Court. In December 2019, it affirmed the circuit court's order in some respects and reversed it in others, remanding the case to the circuit court for further proceedings. The Missouri Supreme Court's decision reduced our exposure in the case. In a June 2021 ruling in one of the pending cases, another trial court awarded the cities of Columbia and Joplin approximately \$55 million, plus statutory interest. We have appealed that decision to the Missouri Court of Appeals. That appeal is pending. If the trial court's decision is not overturned or modified in light of the Missouri Supreme Court's decision, it will result in a tax liability to us in excess of our reserved accruals established for these matters. We continue to vigorously defend against these claims.

Billing Practices Suits

In June 2017, a former employee filed an employment lawsuit against us claiming that she was wrongfully terminated for alleging that we charged some of our retail customers for products and services they did not authorize. Thereafter, based in part on the allegations made by the former employee, several legal proceedings were filed, including consumer class actions in federal and state courts, a series of securities investor class actions in federal courts and several shareholder derivative actions in federal and Louisiana state courts. The derivative cases were brought on behalf of CenturyLink, Inc. against certain current and former officers and directors of the Company and seek damages for alleged breaches of fiduciary duties.

The consumer class actions, the securities investor class actions, and the federal derivative actions were transferred to the U.S. District Court for the District of Minnesota for coordinated and consolidated pretrial proceedings as In Re: CenturyLink Sales Practices and Securities Litigation. We have settled the consumer and securities investor class actions. Those settlements are final. The derivative actions remain pending.

We have engaged in discussions regarding related claims with a number of state attorneys general, and have entered into agreements settling certain of the consumer practices claims asserted by state attorneys general. While we do not agree with allegations raised in these matters, we have been willing to consider reasonable settlements where appropriate.

December 2018 Outage Proceedings

We experienced an outage on one of our transport networks that impacted voice, IP, 911, and transport services for some of our customers between the 27th and 29th of December 2018. We believe that the outage was caused by a faulty network management card from a third-party equipment vendor.

The FCC and four states (both Washington Utilities and Transportation Commission ("WUTC") and the Washington Attorney General; the Montana Public Service Commission; the Nebraska Public Service Commission; and the Wyoming Public Service Commission) initiated formal investigations. In November 2020, following the FCC's release of a public report on the outage, we negotiated a settlement which was released by the FCC in December 2020. The amount of the settlement was not material to our financial statements.

In December 2020, the Staff of the WUTC filed a complaint against us based on the December 2018 outage, seeking penalties owed for alleged violations of Washington regulations and laws. We have denied the allegations and will defend the claims asserted.

Peruvian Tax Litigation

In 2005, the Peruvian tax authorities ("SUNAT") issued tax assessments against one of our Peruvian subsidiaries asserting \$26 million, of additional income tax withholding and value-added taxes ("VAT"), penalties and interest for calendar years 2001 and 2002 on the basis that the Peruvian subsidiary incorrectly documented its importations. In May 2021, the Company paid the remaining amount on the fractioning regimes entered into by the Company to pay the amount assessed while it was appealed.

We challenged the assessments via administrative and then judicial review processes. In October 2011, the highest administrative review tribunal (the Tribunal) decided the central issue underlying the 2002 assessments in SUNAT's favor. We appealed the Tribunal's decision to the first judicial level, which decided the central issue in favor of Level 3. SUNAT and we filed cross-appeals with the court of appeal. In May 2017, the court of appeal issued a decision reversing the first judicial level. In June 2017, we filed an appeal of the decision to the Supreme Court of Justice, the final judicial level. Oral argument was held before the Supreme Court of Justice in October 2018. A decision on this case is pending.

In October 2013, the Tribunal decided the central issue underlying the 2001 assessments in SUNAT's favor. We appealed that decision to the first judicial level in Peru, which decided the central issue in favor of SUNAT. In June 2017, we filed an appeal with the court of appeal. In November 2017, the court of appeals issued a decision affirming the first judicial level and we filed an appeal of the decision to the Supreme Court of Justice. Oral argument was held before the Supreme Court of Justice in June 2019. In May 2021, the Company was served with a favorable and final decision from the Supreme Court of Justice. The Company is working with SUNAT to provide additional information before SUNAT submits its plan for complying with the Supreme Court of Justice's decision.

Brazilian Tax Claims

The São Paulo and Rio de Janeiro state tax authorities have issued tax assessments against our Brazilian subsidiaries for the Tax on Distribution of Goods and Services ("ICMS"), mainly with respect to revenue from leasing certain assets and revenue from the provision of Internet access services by treating such activities as the provision of communications services, to which the ICMS tax applies. We filed objections to these assessments in both states, arguing among other things that neither the lease of assets nor the provision of Internet access qualifies as communication services subject to ICMS.

We have appealed to the respective state judicial courts the decisions by the respective state administrative courts that rejected our objections to these assessments. In cases in which state lower courts ruled partially in our favor finding that the lease assets are not subject to ICMS, and in connection, the State appealed those rulings. In other cases, the assessment was affirmed at the first administrative level and our appeal to the second administrative level is pending. Other assessments are still pending state judicial decisions.

We are vigorously contesting all such assessments in both states and view the assessment of ICMS on revenue from equipment leasing and Internet access to be without merit. These assessments, if upheld, could result in a loss of up to \$46 million as of December 31, 2021, in excess of the reserved accruals established for these matters.

Qui Tam Action

Level 3 was notified in late 2017 of a qui tam action pending against Level 3 Communications, Inc. and others in the U.S. District Court for the Eastern District of Virginia, captioned United States of America ex rel., Stephen Bishop v. Level 3 Communications, Inc. et al. The amended complaint alleged that Level 3, principally through two former employees, submitted false claims and made false statements to the government in connection with two government contracts. The relator sought damages in this lawsuit of approximately \$50 million. The case was settled in the second quarter of 2021 for an immaterial amount. This matter is now fully resolved.

Other Proceedings, Disputes and Contingencies

From time to time, we are involved in other proceedings incidental to our business, including patent infringement allegations, regulatory hearings relating primarily to our rates or services, actions relating to employee claims, various tax issues, environmental law issues, grievance hearings before labor regulatory agencies and miscellaneous third-party tort actions or commercial disputes.

We are currently defending several patent infringement lawsuits asserted against us by non-practicing entities, many of which are seeking substantial recoveries. These cases have progressed to various stages and one or more may go to trial within the next 12 months if they are not otherwise resolved. Where applicable, we are seeking full or partial indemnification from our vendors and suppliers. As with all litigation, we are vigorously defending these actions and, as a matter of course, are prepared to litigate these matters to judgment, as well as to evaluate and consider all reasonable settlement opportunities.

We are subject to various foreign, federal, state and local environmental protection and health and safety laws. From time to time, we are subject to judicial and administrative proceedings brought by various governmental authorities under these laws. Several such proceedings are currently pending, but none is reasonably expected to exceed \$300,000 in fines and penalties.

The outcome of these other proceedings described under this heading is not predictable. However, based on current circumstances, we do not believe that the ultimate resolution of these other proceedings, after considering available defenses and any insurance coverage or indemnification rights, will have a material adverse effect on us.

The matters listed in this Note do not reflect all of our contingencies. The ultimate outcome of the above-described matters may differ materially from the outcomes anticipated, estimated, projected or implied by us in certain of our statements appearing above in this Note, and proceedings currently viewed as immaterial by us may ultimately materially impact us.

Right-of-Way

At December 31, 2021, our future rental commitments and Right-of-Way agreements were as follows:

	Right-of-Way Agreements	
	(Dollars in millions)	
2022	\$	246
2023		99
2024		84
2025		74
2026		71
2027 and thereafter		962
Total future minimum payments	\$	1,536

Purchase Commitments

We have several commitments primarily for marketing activities and support services from a variety of vendors to be used in the ordinary course of business totaling \$1.1 billion at December 31, 2021. Of this amount, we expect to purchase \$414 million in 2022, \$386 million in 2023 through 2024, \$91 million in 2025 through 2026 and \$188 million in 2027 and thereafter. These amounts do not represent our entire anticipated purchases in the future, but represent only those items for which we were contractually committed as of December 31, 2021.

Amounts included in the Right-of-Way table and in the purchase commitments disclosed above are inclusive of contractual obligations related to our Latin American and ILEC businesses to be divested.

(19) Other Financial Information

Other Current Assets

The following table presents details of other current assets in our consolidated balance sheets:

	As of December 31,	
	2021	2020
	(Dollars in millions)	
Prepaid expenses	\$ 295	290
Income tax receivable	22	7
Materials, supplies and inventory	96	105
Contract assets	45	66
Contract acquisition costs	142	173
Contract fulfillment costs	106	114
Note receivable	56	—
Receivable for sale of land	56	—
Other	11	53
Total other current assets ⁽¹⁾	\$ 829	808

⁽¹⁾ As of December 31, 2021, other current assets exclude \$126 million that have been reclassified as held for sale.

Included in accounts payable at December 31, 2021 and 2020 were \$248 million and \$329 million, respectively, associated with capital expenditures.

(20) Repurchases of Lumen Common Stock

Effective August 3, 2021, our Board of Directors authorized a 24-month program to repurchase up to an aggregate of \$1.0 billion of our outstanding common stock. During the year ended December 31, 2021, we repurchased under this program 80.9 million shares of our outstanding common stock in the open market for an aggregate market price of \$1.0 billion, or an average purchase price of \$12.36 per share, thereby fully exhausting the program. All repurchased common stock has been retired. As a result, common stock and additional paid-in capital were reduced as of December 31, 2021 by \$81 million and \$919 million, respectively.

(21) Accumulated Other Comprehensive Loss

Information Relating to 2021

The table below summarizes changes in accumulated other comprehensive loss recorded on our consolidated balance sheet by component for the year ended December 31, 2021:

	Pension Plans	Post-Retirement Benefit Plans	Foreign Currency Translation Adjustment and Other	Interest Rate Swap	Total
	(Dollars in millions)				
Balance at December 31, 2020	\$ (2,197)	(272)	(265)	(79)	(2,813)
Other comprehensive income (loss) before reclassifications	197	94	(135)	(1)	155
Amounts reclassified from accumulated other comprehensive loss	423	14	—	63	500
Net current-period other comprehensive income (loss)	620	108	(135)	62	655
Balance at December 31, 2021	\$ (1,577)	(164)	(400)	(17)	(2,158)

The table below presents further information about our reclassifications out of accumulated other comprehensive loss by component for the year ended December 31, 2021:

Year Ended December 31, 2021	Decrease (Increase) in Net Income	Affected Line Item in Consolidated Statement of Operations
	(Dollars in millions)	
Interest rate swaps	\$ 83	Interest expense
Income tax benefit	(20)	Income tax expense
Net of tax	\$ 63	
Amortization of pension & post-retirement plans ⁽¹⁾		
Net actuarial loss	\$ 190	Other expense, net
Settlement charge	383	Other expense, net
Prior service cost	6	Other expense, net
Total before tax	579	
Income tax benefit	(142)	Income tax expense
Net of tax	\$ 437	

⁽¹⁾ See Note 11—Employee Benefits for additional information on our net periodic benefit (expense) income related to our pension and post-retirement plans.

Information Relating to 2020

The table below summarizes changes in accumulated other comprehensive loss recorded on our consolidated balance sheet by component for the year ended December 31, 2020:

	Pension Plans	Post-Retirement Benefit Plans	Foreign Currency Translation Adjustment and Other	Interest Rate Swap	Total
	(Dollars in millions)				
Balance at December 31, 2019	\$ (2,229)	(184)	(228)	(39)	(2,680)
Other comprehensive loss before reclassifications	(115)	(103)	(37)	(86)	(341)
Amounts reclassified from accumulated other comprehensive loss	147	15	—	46	208
Net current-period other comprehensive income (loss)	32	(88)	(37)	(40)	(133)
Balance at December 31, 2020	<u>\$ (2,197)</u>	<u>(272)</u>	<u>(265)</u>	<u>(79)</u>	<u>(2,813)</u>

The table below presents further information about our reclassifications out of accumulated other comprehensive loss by component for the year ended December 31, 2020:

Year Ended December 31, 2020	(Decrease) Increase in Net Loss	Affected Line Item in Consolidated Statement of Operations
	(Dollars in millions)	
Interest rate swap	\$ 62	Interest expense
Income tax benefit	(16)	Income tax expense
Net of tax	<u>\$ 46</u>	
Amortization of pension & post-retirement plans ⁽¹⁾		
Net actuarial loss	\$ 203	Other expense, net
Prior service cost	7	Other expense, net
Curtailment loss	4	Other expense, net
Total before tax	214	
Income tax benefit	(52)	Income tax expense
Net of tax	<u>\$ 162</u>	

⁽¹⁾ See Note 11—Employee Benefits for additional information on our net periodic benefit (expense) income related to our pension and post-retirement plans.

(22) Labor Union Contracts

As of December 31, 2021, approximately 21% of our employees were represented by the Communication Workers of America ("CWA") or the International Brotherhood of Electrical Workers ("IBEW"). Approximately 9% of our represented employees are subject to collective bargaining agreements that are scheduled to expire over the 12 month period ending December 31, 2022.

(23) Dividends

Our Board of Directors declared the following dividends payable in 2021 and 2020:

Date Declared	Record Date	Dividend Per Share	Total Amount (in millions)	Payment Date
November 18, 2021	11/29/2021	\$ 0.25	\$ 251	12/10/2021
August 19, 2021	8/30/2021	0.25	264	9/10/2021
May 20, 2021	6/1/2021	0.25	272	6/11/2021
February 25, 2021	3/8/2021	0.25	276	3/19/2021
November 19, 2020	11/30/2020	0.25	274	12/11/2020
August 20, 2020	8/31/2020	0.25	274	9/11/2020
May 20, 2020	6/1/2020	0.25	274	6/12/2020
February 27, 2020	3/9/2020	0.25	274	3/20/2020

The declaration of dividends is solely at the discretion of our Board of Directors, which may change or terminate our dividend practice at any time for any reason without prior notice. On February 24, 2022, our Board of Directors declared a quarterly cash dividend of \$0.25 per share.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as defined in Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934 (the "Exchange Act")) designed to provide reasonable assurance that the information required to be disclosed by us in the reports we file under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms. These include controls and procedures designed to ensure this information is accumulated and communicated to our senior management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. Management, with the participation of our Chief Executive Officer, Jeff K. Storey, and our Executive Vice President and Chief Financial Officer, Indraneel Dev, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2021. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded our disclosure controls and procedures were effective, as of December 31, 2021, in providing reasonable assurance the information required to be disclosed by us in this report was accumulated and communicated in the manner provided above.

Changes in Internal Control Over Financial Reporting

Other than the implementation of controls over reporting for the assets and liabilities to be sold through our two previously announced divestitures, there have been no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) of the Exchange Act) that occurred during the fourth quarter of 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations of Internal Controls

The effectiveness of our or any system of disclosure controls and procedures is subject to certain limitations, including the exercise of judgment in designing, implementing and evaluating the controls and procedures, the assumptions used in identifying the likelihood of future events and the inability to eliminate misconduct completely. As a result, there can be no assurance that our disclosure controls and procedures will detect all errors or fraud. By their nature, our or any system of disclosure controls and procedures can provide only reasonable assurance regarding management's control objectives.

Internal Control Over Financial Reporting

Management's Report on Internal Control over Financial Reporting

Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act), a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States. Under the supervision and with the participation of management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on our evaluation under the framework of COSO, management concluded that our internal control over financial reporting was effective at December 31, 2021. The effectiveness of our internal control over financial reporting at December 31, 2021 has been audited by KPMG LLP, as stated in their report entitled "Opinion on Internal Control Over Financial Reporting" appearing in Item 8, which is incorporated into this item by reference.

Management's Report on the Consolidated Financial Statements

Management has prepared and is responsible for the integrity and objectivity of our consolidated financial statements for the year ended December 31, 2021. The consolidated financial statements included in this report have been prepared in accordance with accounting principles generally accepted in the United States and necessarily include amounts determined using our best judgments and estimates.

Our consolidated financial statements have been audited by KPMG LLP, an independent registered public accounting firm, who have expressed an unqualified opinion on the consolidated financial statements. Their audit was conducted in accordance with standards of the Public Company Accounting Oversight Board (United States).

ITEM 9B. OTHER INFORMATION

The following disclosure is being made under Section 13(r) of the Exchange Act out of an abundance of caution:

We are required to engage on a regular basis with the Russian Federal Security Service ("FSB") in the FSB's official capacity of regulating our use of technology in Russia in connection with providing commercial services therein through our local subsidiary. On March 2, 2021, the U.S. Secretary of State designated the FSB as a party subject to the provisions of U.S. Executive Order No. 13382 issued in 2005. We do not derive any gross revenues or net profits directly associated with any such dealings by us with the FSB and all such dealings are explicitly authorized by General License 1B issued by the U.S. Department of the Treasury's Office of Foreign Assets Control. We currently plan to continue these activities as required to continue to provide commercial services in Russia.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 is incorporated by reference to the Proxy Statement.

ITEM 11. EXECUTIVE COMPENSATION

The information required by Item 11 is incorporated by reference to the Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**Equity Compensation Plan Information**

The following table provides information as of December 31, 2021 about our equity compensation plans under which Common Shares are authorized for issuance:

	Number of securities to be issued upon exercise of outstanding options and rights (a)	Weighted-average exercise price of outstanding options and rights (b)	Number of securities remaining available for future issuance under plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by shareholders	13,562,209 ⁽¹⁾	\$ — ⁽²⁾	35,706,306
Equity compensation plans not approved by shareholders	—	—	—
Totals	13,562,209 ⁽¹⁾	\$ — ⁽²⁾	35,706,306

⁽¹⁾ These amounts represent restricted stock units, some of which represent the difference between the number of shares of restricted stock subject to market conditions granted at target and the maximum possible payout for these awards. Depending on performance, the actual share payout of these awards may range between 0-200% of target.

⁽²⁾ The amounts in column (a) represent restricted stock units, which do not have an exercise price.

The balance of the information required by Item 12 is incorporated by reference to the Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information required by Item 13 is incorporated by reference to the Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 14 is incorporated by reference to the Proxy Statement.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

Exhibits identified in parentheses below are on file with the SEC and are incorporated herein by reference. All other exhibits are provided as part of this electronic submission.

Exhibit Number	Description
2.1	Purchase Agreement, dated as of August 3, 2021, by and among Lumen Technologies, Inc., certain of its subsidiaries and Connect Holding LLC (incorporated by reference to Exhibit 2.1 to Lumen Technologies, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on August 4, 2021).
3.1	Composite Articles of Incorporation of Lumen Technologies, Inc., as amended through January 22, 2021 (incorporated by reference to Exhibit 3.1 to Lumen Technologies, Inc.'s Annual Report on Form 10-K (File No. 001-07784) for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 25, 2021).
3.2	Bylaws of Lumen Technologies, Inc., as amended and restated through January 22, 2021 (incorporated by reference to Exhibit 3.2 to Lumen Technologies, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on January 26, 2021).
4.1*	Description of Lumen Technologies, Inc.'s securities registered under Section 12 of the Securities Exchange Act of 1934, as amended.
4.2	Form of common stock certificate (incorporated by reference to Exhibit 4.1 to Lumen Technologies, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on January 26, 2021).
4.3	Amended and Restated Section 382 Rights Agreement by and between CenturyLink, Inc. and Computershare Trust Company, N.A., dated as of May 9, 2019 (incorporated by reference to Appendix C set forth in CenturyLink's Schedule 14A (File No. 001-07784) filed with the Securities and Exchange Commission on May 10, 2019).
	a. First Amendment to the Section 382 Rights Agreement by and between CenturyLink, Inc. and Computershare Trust Company, N.A., entered into on November 20, 2020, effective as of December 1, 2020 (incorporated by reference to Exhibit 4.1 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on November 25, 2020).
4.4	Instruments relating to CenturyLink, Inc.'s Senior Secured Credit Facilities.
	a. Restatement Agreement, dated as of January 31, 2020, by and among CenturyLink, Inc., as Borrower, Bank of America, N.A., as Administrative Agent and Collateral Agent, and the other lenders named therein (incorporated by reference to Exhibit 10.1 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on January 31, 2020).
	b. Amended and Restated Credit Agreement, dated as of January 31, 2020, by and among CenturyLink, Inc., as Borrower, Bank of America, N.A. as Administrative Agent and Collateral Agent, and the other lenders, agents, arrangers and bookrunners named therein (incorporated by reference to Exhibit 10.1 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on January 31, 2020).
4.5	Instruments relating to CenturyLink, Inc.'s public senior debt. ⁽¹⁾
	a. Indenture, dated as of March 31, 1994, by and between Century Telephone Enterprises, Inc. (currently named CenturyLink, Inc.) and Regions Bank (successor-in-interest to First American Bank & Trust of Louisiana), as Trustee (incorporated by reference to Exhibit 4.4(a) to CenturyLink's Annual Report on Form 10-K (File No. 001-07784) for the year ended December 31, 2014 filed with the Securities and Exchange Commission on February 24, 2015).
	(i). Form of 7.2% Senior Notes, Series D, due 2025 (incorporated by reference to Exhibit 4.27 to CenturyLink, Inc.'s Annual Report on Form 10-K for the year ended December 31, 1995 (File No. 001-07784) filed with the Securities and Exchange Commission on March 18, 1996).

Exhibit Number	Description
	<ul style="list-style-type: none"> (ii). Form of 6.875% Debentures, Series G, due 2028, (incorporated by reference to Exhibit 4.9 to CenturyLink, Inc.'s Annual Report on Form 10-K for the year ended December 31, 1997 (File No. 001-07784) filed with the Securities and Exchange Commission on March 16, 1998). (iii). <u>Fifth Supplemental Indenture, dated as of September 21, 2009, by and between CenturyTel, Inc. (currently named CenturyLink, Inc.) and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 7.60% Senior Notes, Series P, due 2039 (incorporated by reference to Exhibit 4.1 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on September 22, 2009).</u> (iv). <u>Seventh Supplemental Indenture, dated as of March 12, 2012, by and between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 5.80% Senior Notes, Series T, due 2022 and 7.65% Senior Notes, Series U, due 2042 (incorporated by reference to Exhibit 4.1 to CenturyLink's Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on March 12, 2012).</u> (v). <u>Ninth Supplemental Indenture, dated as of November 27, 2013, by and between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 6.75% Senior Notes, Series W, due 2023 (incorporated by reference to Exhibit 4.1 to CenturyLink's Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on November 27, 2013).</u> (vi). <u>Tenth Supplemental Indenture, dated as of March 19, 2015, by and between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 5.625% Senior Notes, Series X, due 2025 (incorporated by reference to Exhibit 4.2 to CenturyLink's Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on March 19, 2015).</u> (vii). <u>Eleventh Supplemental Indenture, dated as of April 6, 2016, by and between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 7.5% Senior Notes, Series Y, due 2024 (incorporated by reference to Exhibit 4.2 to CenturyLink's Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on April 6, 2016).</u>
b.	<u>Indenture, dated December 16, 2019, between CenturyLink, Inc. and Regions Bank, as Trustee (incorporated by reference to Exhibit 4.1 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on December 16, 2019).</u>
	<ul style="list-style-type: none"> (i). <u>First Supplemental Indenture, dated December 16, 2019, between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 5.125% Senior Notes due 2026 (incorporated by reference to Exhibit 4.2 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on December 16, 2019).</u>
c.	<u>Indenture, dated January 24, 2020, between CenturyLink, Inc. and Wells Fargo Bank, National Association, as Trustee and Notes Collateral Agent, designating and outlining the terms and conditions of CenturyLink's 4.000% Senior Secured Notes due 2027 (incorporated by reference to Exhibit 4.1 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on January 24, 2020).</u>
d.	<u>Indenture, dated November 27, 2020, among Lumen Technologies, Inc.'s, as Issuer, and Regions Bank, as Trustee, designating and outlining the terms and conditions of Lumen Technologies, Inc. 4.500% Senior Notes due 2029 (incorporated by reference to Exhibit 4.1 to Lumen Technologies, Inc.'s Current Report on Form 8-K (File No. 001-07784) dated November 27, 2020).</u>
e.	<u>Indenture, dated June 15, 2021, among Lumen Technologies, Inc., as issuer, and Regions Bank, as trustee, relating to the issuance of Lumen Technologies, Inc.'s 5.375% Senior Notes due 2029 (incorporated by reference to Exhibit 4.1 to Lumen Technologies, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on June 15, 2021).</u>
4.6	Instruments relating to indebtedness of Qwest Communications International, Inc. and its subsidiaries. ⁽¹⁾

Exhibit Number	Description
	<p>a. <u>Indenture, dated as of April 15, 1990, by and between The Mountain States Telephone and Telegraph Company (currently named Qwest Corporation) and The First National Bank of Chicago (incorporated by reference to Exhibit 4.2 to Qwest Corporation's Annual Report on Form 10-K for the year ended December 31, 2002 (File No. 001-03040) filed with the Securities and Exchange Commission on January 13, 2004).</u></p> <p>(i). <u>First Supplemental Indenture, dated as of April 16, 1991, by and between U S WEST Communications, Inc. (currently named Qwest Corporation) and The First National Bank of Chicago (incorporated by reference to Exhibit 4.3 to Qwest Corporation's Annual Report on Form 10-K for the year ended December 31, 2002 (File No. 001-03040) filed with the Securities and Exchange Commission on January 13, 2004).</u></p> <p>b. <u>Indenture, dated as of April 15, 1990, by and between Northwestern Bell Telephone Company (predecessor to Qwest Corporation) and The First National Bank of Chicago (incorporated by reference to Exhibit 4.5(b) to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended March 31, 2012 (File No. 001-07784) filed with the Securities and Exchange Commission on May 10, 2012).</u></p> <p>(i). <u>First Supplemental Indenture, dated as of April 16, 1991, by and between U S WEST Communications, Inc. (currently named Qwest Corporation) and The First National Bank of Chicago (incorporated by reference to Exhibit 4.3 to Qwest Corporation's Annual Report on Form 10-K for the year ended December 31, 2002 (File No. 001-03040) filed with the Securities and Exchange Commission on January 13, 2004).</u></p> <p>c. Indenture, dated as of June 29, 1998, by and among U S WEST Capital Funding, Inc. (currently named Qwest Capital Funding, Inc.), U S WEST, Inc. (predecessor to Qwest Communications International Inc.) and The First National Bank of Chicago, as trustee (incorporated by reference to Exhibit 4(a) to U S WEST, Inc.'s Current Report on Form 8-K (File No. 001-14087) filed with the Securities and Exchange Commission on November 18, 1998).</p> <p>(i). <u>First Supplemental Indenture, dated as of June 30, 2000, by and among U S WEST Capital Funding, Inc. (currently named Qwest Capital Funding, Inc.), U S WEST, Inc. (predecessor to Qwest Communications International Inc.) and Bank One Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.10 to Qwest Communications International Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2000 (File No. 001-15577) filed with the Securities and Exchange Commission on August 11, 2000).</u></p> <p>d. <u>Indenture, dated as of October 15, 1999, by and between US West Communications, Inc. (currently named Qwest Corporation) and Bank One Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4(b) to Qwest Corporation's Annual Report on Form 10-K for the year ended December 31, 1999 (File No. 001-03040) filed with the Securities and Exchange Commission on March 3, 2000).</u></p> <p>(i). <u>Sixteenth Supplemental Indenture, dated as of August 22, 2016, by and between Qwest Corporation and U.S. Bank National Association, designating and outlining the terms and conditions of Qwest 6.500% Notes due 2056 (incorporated by reference to Exhibit 4.17 to Qwest Corporation's Form 8-A (File No. 001-03040) filed with Securities and Exchange Commission on August 22, 2016).</u></p> <p>(ii). <u>Seventeenth Supplemental Indenture dated as of April 27, 2017, by and between Qwest Corporation and U.S. Bank National Association, designating and outlining the terms and conditions of Qwest Corporation's 6.750% Notes due 2057 (incorporated by reference to Exhibit 4.18 to Qwest Corporation's Form 8-A (File No. 03040) filed with the Securities and Exchange Commission on April 27, 2017).</u></p> <p>e. <u>Amended and Restated Credit Agreement, dated as of October 23, 2020, by and among Qwest Corporation, the several lenders from time to time parties thereto, and CoBank, ACB, as administrative agent (incorporated by reference to Exhibit 4.6(e) to Lumen Technologies, Inc.'s Annual Report on Form 10-K (File No. 001-07784) for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 25, 2021).</u></p>
4.7	Instruments relating to indebtedness of Embarq Corporation. ⁽¹⁾

Exhibit Number	Description
	<ul style="list-style-type: none"> a. <u>Indenture, dated as of May 17, 2006, by and between Embarq Corporation and J.P. Morgan Trust Company, National Association, a national banking association, as trustee (incorporated by reference to Exhibit 4.1 to Embarq Corporation's Current Report on Form 8-K (File No. 001-32732) filed with the Securities and Exchange Commission on May 18, 2006).</u> b. <u>7.995% Global Note due 2036 of Embarq Corporation (incorporated by reference to Exhibit 4.4 to Embarq Corporation's Annual Report on Form 10-K for the year ended December 31, 2006 (File No. 001-32372) filed with the Securities and Exchange Commission on March 9, 2007).</u>
4.8	<p>Instruments relating to indebtedness of Level 3 Communications, Inc. and its subsidiaries.⁽¹⁾</p> <ul style="list-style-type: none"> a. <u>Indenture, dated as of April 28, 2015, by and between Level 3 Communications, Inc., as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, designating and outlining the terms and conditions of Level 3 Financing, Inc.'s 5.375% Senior Notes due 2025 (incorporated by reference to Exhibit 4.2 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on April 30, 2015).</u> <ul style="list-style-type: none"> (i). <u>Supplemental Indenture, dated as of September 1, 2015, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, designating and outlining the terms and conditions of Level 3 Communications, LLC's unsecured guarantee of the 5.375% Senior Notes due 2025 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.2 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 2, 2015).</u> (ii). <u>Supplemental Indenture, dated as of September 1, 2015, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 5.375% Senior Notes due 2025 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.4 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 2, 2015).</u> (iii). <u>Supplemental Indenture, dated as of November 22, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of April 28, 2015, designating and outlining the terms and conditions of Level 3 Financing, Inc.'s 5.375% Senior Notes due 2025 (incorporated by reference to Exhibit 4.4 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 28, 2016).</u> (iv). <u>Supplemental Indenture, dated as of November 1, 2017, among Level 3 Communications, Inc. as guarantor, Level 3 Financing, Inc., as issuer, Level 3 Parent, LLC (f/k/a WWG Merger Sub LLC) and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of April 28, 2015, designating and outlining the terms and conditions of Level 3 Financing, Inc.'s 5.125% Senior Notes due 2023 (incorporated by reference to Exhibit 4.3 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 1, 2017).</u> b. <u>Indenture, dated as of March 22, 2016, by and between Level 3 Communications, Inc., as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, designating and outlining the terms and conditions of Level 3 Financing, Inc.'s 5.25% Senior Notes due 2026 (incorporated by reference to Exhibit 4.1 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on March 22, 2016).</u>

Exhibit Number	Description
	<ul style="list-style-type: none"> (i). <u>Supplemental Indenture, dated as of September 16, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, designating and outlining the terms and conditions of Level 3 Communications, LLC's unsecured guarantee of the 5.25% Senior Notes due 2026 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 16, 2016).</u> (ii). <u>Supplemental Indenture, dated as of September 16, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 5.25% Senior Notes due 2026 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.2 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 16, 2016).</u> (iii). <u>Supplemental Indenture, dated as of November 22, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of March 22, 2016, designating and outlining the terms and conditions of Level 3 Financing, Inc.'s 5.25% Senior Notes due 2026 (incorporated by reference to Exhibit 4.1 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 28, 2016).</u> (iv). <u>Supplemental Indenture, dated as of November 1, 2017, among Level 3 Communications, Inc. as guarantor, Level 3 Financing, Inc., as issuer, Level 3 Parent, LLC (f/k/a WWG Merger Sub LLC) and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of March 22, 2016, designating and outlining the terms and conditions of Level 3 Financing, Inc.'s 5.25% Senior Notes due 2026 (incorporated by reference to Exhibit 4.1 to Level 3 Communications, Inc.'s Current Report on Form 8-K (file no. 001-35134) filed with the Securities and Exchange Commission on November 1, 2017).</u>
c.	<p><u>Indenture, dated as of September 25, 2019, among Level 3 Parent, LLC, as Guarantor, Level 3 Financing, Inc., as Issuer, and the Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the 4.625% Senior Notes due 2027 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 99.1 to Level 3 Parent, LLC's Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 26, 2019).</u></p> <ul style="list-style-type: none"> (i). <u>First Supplemental Indenture, dated as of March 2, 2020, among Level 3 Parent LLC, as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, designating and outlining the terms and conditions of Level 3 Communications, LLC's unsecured guarantee of the 4.625% Senior Notes due 2027 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.8(d)(i) to Lumen Technologies, Inc.'s Annual Report on Form 10-K (File No. 001-07784) for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 25, 2021).</u> (ii). <u>Second Supplemental Indenture, dated as of March 2, 2020, among Level 3 Parent LLC, as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 4.625% Senior Notes due 2027 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.8(d)(ii) to Lumen Technologies, Inc.'s Annual Report on Form 10-K (File No. 001-07784) for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 25, 2021).</u>

**Exhibit
Number**

Description

- d. [Indenture, dated as of November 29, 2019, among Level 3 Parent, LLC and the other guarantors party thereto, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee and Notes Collateral Agent, designating and outlining the terms and conditions of Level 3 Financing, Inc.'s 3.400% Senior Secured Notes due 2027 \(incorporated by reference to Exhibit 10.2 to Level 3 Parent, LLC's Current Report on Form 8-K \(File No. 001-35134\) filed with the Securities and Exchange Commission on December 4, 2019\).](#)
 - (i). [Supplemental Indenture, dated as of April 15, 2020, among Level 3 Financing, Inc., as issuer, The Bank of New York Mellon Trust Company, N.A., as trustee, and Level 3 Parent, LLC and several of its subsidiaries, as guarantors, designating and outlining the terms and conditions of the secured guarantees of the 3.400% Senior Secured Notes due 2027 of Level 3 Financing, Inc. \(incorporated by reference to Exhibit 4.8\(e\)\(i\) to Lumen Technologies, Inc.'s Annual Report on Form 10-K \(File No. 001-07784\) for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 25, 2021\).](#)
- e. [Indenture, dated as of November 29, 2019, among Level 3 Parent, LLC and the other guarantors party thereto, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee and Notes Collateral Agent, designating and outlining the terms and conditions of Level 3 Financing, Inc.'s 3.875% Senior Secured Notes due 2029 \(incorporated by reference to Exhibit 10.3 to Level 3 Parent, LLC's Current Report on Form 8-K \(File No. 001-35134\) filed with the Securities and Exchange Commission on December 4, 2019\).](#)
 - (i). [Supplemental Indenture, dated as of April 15, 2020, among Level 3 Financing, Inc., as issuer, The Bank of New York Mellon Trust Company, N.A., as trustee, and Level 3 Parent, LLC and several of its subsidiaries, as guarantors, designating and outlining the terms and conditions of the secured guarantees of the 3.875% Senior Secured Notes due 2029 of Level 3 Financing, Inc. \(incorporated by reference to Exhibit 4.8\(f\)\(i\) to Lumen Technologies, Inc.'s Annual Report on Form 10-K \(File No. 001-07784\) for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 25, 2021\).](#)
- f. [Indenture, dated as of June 15, 2020, among Level 3 Parent, LLC, as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the 4.250% Senior Notes due 2028 of Level 3 Financing, Inc. \(incorporated by reference to Exhibit 4.1 to Lumen Technologies, Inc.'s Current Report on Form 8-K \(File No. 001-07784\) filed with the Securities and Exchange Commission on June 15, 2020\).](#)
 - (i). [First Supplemental Indenture, dated as of December 21, 2020, among Level 3 Parent LLC, as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, designating and outlining the terms and conditions of Level 3 Communications, LLC's unsecured guarantee of the 4.250% Senior Notes due 2028 of Level 3 Financing, Inc. \(incorporated by reference to Exhibit 4.8\(g\)\(i\) to Lumen Technologies, Inc.'s Annual Report on Form 10-K \(File No. 001-07784\) for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 25, 2021\).](#)
 - (ii). [Second Supplemental Indenture, dated as of December 21, 2020, among Level 3 Parent LLC, as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 4.250% Senior Notes due 2028 of Level 3 Financing, Inc. \(incorporated by reference to Exhibit 4.8\(g\)\(ii\) to Lumen Technologies, Inc.'s Annual Report on Form 10-K \(File No. 001-07784\) for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 25, 2021\).](#)
- g. [Indenture, dated August 12, 2020, among Level 3 Parent, LLC, as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the 3.625% Senior Notes due 2029 of Level 3 Financing, Inc. \(incorporated by reference to Exhibit 4.1 to Lumen Technologies, Inc.'s Current Report on Form 8-K \(File No. 001-07784\) filed with the Securities and Exchange Commission on August 12, 2020\).](#)

Exhibit Number	Description
	<ul style="list-style-type: none"> (i). <u>First Supplemental Indenture, dated as of December 21, 2020, among Level 3 Parent LLC, as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, designating and outlining the terms and conditions of Level 3 Communications, LLC's unsecured guarantee of the 3.625% Senior Notes due 2029 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.8(h)(i) to Lumen Technologies, Inc.'s Annual Report on Form 10-K (File No. 001-07784) for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 25, 2021).</u> (ii). <u>Second Supplemental Indenture, dated as of December 21, 2020, among Level 3 Parent LLC, as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 3.625% Senior Notes due 2029 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.8(h)(ii) to Lumen Technologies, Inc.'s Annual Report on Form 10-K (File No. 001-07784) for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 25, 2021).</u>
	<ul style="list-style-type: none"> h. <u>Indenture, dated January 13, 2021, among Level 3 Parent, LLC, as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the 3.750% Sustainability-Linked Senior Notes due 2029 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 to Lumen Technologies, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on January 13, 2021).</u> <ul style="list-style-type: none"> (i).* <u>First Supplemental Indenture, dated as of May 7, 2021, among Level 3 Parent, LLC, as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, designating and outlining the terms and conditions of Level 3 Communications, LLC's unsecured guarantee of the 3.750% Sustainability-Linked Senior Notes due 2029 of Level 3 Financing, Inc.</u> (ii).* <u>Second Supplemental Indenture, dated as of May 7, 2021, among Level 3 Parent, LLC, as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 3.750% Sustainability-Linked Senior Notes due 2029 of Level 3 Financing, Inc.</u> i. <u>Thirteenth Amendment Agreement to the Amended and Restated Credit Agreement, dated as of November 29, 2019, by and between Level 3 Parent, LLC, Level 3 Financing, Inc., the Lenders party thereto and Merrill Lynch Capital Corporation (incorporated by reference to Exhibit 10.1 to Level 3 Parent, LLC's Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on December 4, 2019).</u>
10.1+	<u>CenturyLink 2011 Equity Incentive Plan, as amended through May 18, 2016 (incorporated by reference to Appendix A of CenturyLink, Inc.'s Proxy Statement dated April 1, 2016 as filed with the Securities and Exchange Commission on Schedule 14A (File No. 001-07784).</u> <ul style="list-style-type: none"> (i). <u>Form of Restricted Stock Agreement for annual time-based equity grants to certain executive officers in 2018 (not including Jeffrey K. Storey) (incorporated by reference to Exhibit 10.1(v) to CenturyLink, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-07784) filed with the SEC on March 11, 2019).</u>
10.2+	<u>Amended and Restated Lumen Technologies, Inc. 2018 Equity Incentive Plan (incorporated by reference to Exhibit 10.1 to Lumen Technologies, Inc.'s Quarterly Report on Form 10-Q (File No. 001-07784) filed with the Securities and Exchange Commission on November 5, 2020).</u> <ul style="list-style-type: none"> (i). <u>Form of Restricted Stock Agreement for annual equity grants to non-management directors in 2018 (incorporated by reference to Exhibit 10.1A to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).</u>

Exhibit Number	Description
	(ii). Form of RSU Agreement for annual time-based equity grant to Jeffrey K. Storey on May 23, 2018 (incorporated by reference to Exhibit 10.1B to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).
	(iii). Form of RSU Agreement for annual performance-based equity grant to Jeffrey K. Storey on May 23, 2018 (incorporated by reference to Exhibit 10.1C to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).
	(iv). Restricted Stock Agreement for time-based portion of 2018 promotion equity grant to Jeffrey K. Storey on May 23, 2018 (incorporated by reference to Exhibit 10.1D to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).
	(v). Restricted Stock Agreement for performance-based portion of 2018 promotion equity grant to Jeffrey K. Storey on May 23, 2018 (incorporated by reference to Exhibit 10.1E to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).
	(vi)* Form of RSU Agreement for annual time-based equity grants to Jeffrey K. Storey.
	(vii)* Form of RSU Agreement for annual performance-based equity grants to Jeffery K. Storey.
	(viii)* Form of Restricted Stock Agreement for annual time-based equity grants to certain executive officers (other than Jeffrey K. Storey).
	(ix)* Form of Restricted Stock Agreement for annual performance-based equity grants to certain executive officers (other than Jeffrey K. Storey).
10.3+	Supplemental Dollars & Sense Plan, 2014 Restatement, effective January 1, 2014 (incorporated by reference to Exhibit 10.3 to CenturyLink, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-07784) filed with the Securities and Exchange Commission on March 11, 2019).
10.4+	Supplemental Defined Benefit Pension Plan, effective as of January 1, 2012 (incorporated by reference to Exhibit 10.5 to CenturyLink, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2011 (File No. 001-07784) filed with the Securities and Exchange Commission on February 28, 2012).
10.5+	2015 Executive Officer Short-Term Incentive Program (incorporated by reference to Appendix A to CenturyLink's Proxy Statement dated April 3, 2015, as filed with the Securities and Exchange Commission on Form 14A (File No. 001-07784)).
10.6+	Key Employee Incentive Compensation Plan, dated as of January 1, 1984, as amended and restated as of November 16, 1995 (incorporated by reference to Exhibit 10.1(f) to CenturyLink, Inc.'s Annual Report on Form 10-K for the year ended December 31, 1995 (File No. 001-07784) filed with the Securities and Exchange Commission on March 18, 1996) and amendment thereto dated as of November 21, 1996 (incorporated by reference to Exhibit 10.1(f) to CenturyLink, Inc.'s Annual Report on Form 10-K for the year ended December 31, 1996 (File No. 001-07784) filed with the Securities and Exchange Commission on March 17, 1997), amendment thereto dated as of February 25, 1997 (incorporated by reference to Exhibit 10.2 to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended March 31, 1997 (File No. 001-07784) filed with the Securities and Exchange Commission on May 8, 1997), amendment thereto dated as of April 25, 2001 (incorporated by reference to Exhibit 10.2 to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended March 31, 2001 (File No. 001-07784) filed with the Securities and Exchange Commission on May 15, 2001), amendment thereto dated as of April 17, 2000 (incorporated by reference to Exhibit 10.3(a) to CenturyLink, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2001 (File No. 001-07784) filed with the Securities and Exchange Commission on March 15, 2002) and amendment thereto dated as of February 27, 2007 (incorporated by reference to Exhibit 10.1 to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2007 (File No. 001-07784) filed with the Securities and Exchange Commission on August 8, 2007).

Exhibit Number	Description
10.7+	<u>Form of Indemnification Agreement entered into between CenturyLink, Inc. and each of its directors as of February 24, 2016 (incorporated by reference to Exhibit 10.1 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on February 29, 2016).</u>
10.8+	<u>Form of Indemnification Agreement entered into between CenturyLink, Inc. and each of its officers as of February 24, 2016 (incorporated by reference to Exhibit 10.2 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on February 29, 2016).</u>
10.9+	<u>Change of Control Agreement, by and between Jeffrey K. Storey and CenturyLink, Inc. (incorporated by reference to Exhibit 10.9 to CenturyLink, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-07784) filed with the SEC on March 11, 2019).</u>
10.10+	<u>Form of Change of Control Agreement, effective January 1, 2011 between CenturyLink, Inc. and each of its other executive officers (incorporated by reference to Exhibit 10.12 to CenturyLink, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2010 (File No. 001-07784) filed with the Securities and Exchange Commission on March 1, 2011).</u>
10.11+*	<u>Amended and Restated Lumen Executive Severance Plan, effective October 10, 2017 (with updated exhibits and branding as of October 2020).</u>
10.12+	<u>Amended and Restated CenturyLink, Inc. Bonus Life Insurance Plan for Executive Officers, dated as of April 3, 2008 (incorporated by reference to Exhibit 10.4 to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended March 31, 2008 (File No. 001-07784) filed with the Securities and Exchange Commission on May 7, 2008) and First Amendment thereto (incorporated by reference to Exhibit 10.13 to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended September 30, 2010 (File No. 001-07784) filed with the Securities and Exchange Commission on November 5, 2010).</u>
10.13+	<u>Offer letter between CenturyLink, Inc. and Jeffrey K. Storey, effective May 23, 2018 (incorporated by reference to Exhibit 10.1 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784), filed with the SEC on May 25, 2018, which amended, restated and superseded the offer letter between CenturyLink, Inc. and Jeffrey K. Storey, effective April 27, 2017 (incorporated by reference to Exhibit 10.1 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on November 1, 2017).</u>
10.14+	<u>Offer letter between CenturyLink, Inc. and Indraneel Dev, effective November 6, 2018 (incorporated by reference to Exhibit 10.1 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the SEC on November 7, 2018).</u>
10.15+*	<u>Lumen Non-Employee Director Deferred Compensation Plan, effective April 18, 2019 (updated for branding as of October 2020).</u>
10.16+	<u>Legacy Qwest Deferred Compensation Plan for Nonemployee Directors, as amended and restated, Amendment to Deferred Compensation Plan for Nonemployee Directors (incorporated by reference to Exhibit 10.2 to Qwest Communications International Inc.'s Current Report on Form 8-K (File No. 001-15577) filed with the Securities and Exchange Commission on December 16, 2005 and Exhibit 10.8 to Qwest Communication International Inc.'s Quarterly Report on Form 10-Q for the period ended September 30, 2008 (File No. 001-15577) filed with the Securities and Exchange Commission on October 29, 2008) and Amendment No. 2011-1 to Deferred Compensation Plan for Nonemployee Directors (incorporated by reference to Exhibit 10.15(c) to CenturyLink, Inc.'s Annual Report for the year ended December 31, 2011 (File No. 001-07784) filed with the Securities and Exchange Commission on February 28, 2012).</u>
10.17+	<u>Level 3 Communications, Inc. Stock Incentive Plan, as amended and restated through October 31, 2017 (incorporated by reference to Exhibit 10.3 to CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on November 1, 2017).</u>
21*	<u>Subsidiaries of Lumen Technologies, Inc.</u>
23*	<u>Independent Registered Public Accounting Firm Consent.</u>
31.1*	<u>Certification of the Chief Executive Officer of Lumen Technologies, Inc. furnished pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
31.2*	<u>Certification of the Chief Financial Officer of Lumen Technologies, Inc. furnished pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>

Exhibit Number	Description
32.1*	Certification of the Chief Executive Officer of Lumen Technologies, Inc. pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of the Chief Financial Officer of Lumen Technologies, Inc. pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101*	Financial statements from the annual report on Form 10-K of Lumen Technologies, Inc. for the period ended December 31, 2021, formatted in Inline XBRL: (i) the Consolidated Statements of Operations, (ii) the Consolidated Statements of Comprehensive Income (Loss), (iii) the Consolidated Balance Sheets, (iv) the Consolidated Statements of Cash Flows, (v) the Consolidated Statements of Stockholders' Equity and (vi) the Notes to Consolidated Financial Statements.
104*	Cover page formatted as Inline XBRL and contained in Exhibit 101.

* Exhibit filed herewith.

+ Indicates a management contract or compensatory plan or arrangement.

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- (1) Certain of the items in Sections 4.5, 4.6, 4.7 and 4.8 (i) omit supplemental indentures or other instruments governing debt that has been retired, or (ii) refer to trustees who may have been replaced, acquired or affected by similar changes. In accordance with applicable rules of the SEC, copies of certain instruments defining the rights of holders of certain of our long-term debt are not filed herewith.

ITEM 16. SUMMARY OF BUSINESS AND FINANCIAL INFORMATION

Not applicable.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this annual report to be signed on its behalf by the undersigned thereunto duly authorized.

Date: February 24, 2022

By: Lumen Technologies, Inc.
/s/ Andrea Genschaw
 Andrea Genschaw
 Senior Vice President, Controller (Principal Accounting Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this annual report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Jeff K. Storey</u> Jeff K. Storey	Chief Executive Officer, President and Director	February 24, 2022
<u>/s/ T. Michael Glenn</u> T. Michael Glenn	Non-Executive Chairman of the Board	February 24, 2022
<u>/s/ W. Bruce Hanks</u> W. Bruce Hanks	Non-Executive Vice Chairman of the Board	February 24, 2022
<u>/s/ Indraneel Dev</u> Indraneel Dev	Executive Vice President and Chief Financial Officer	February 24, 2022
<u>/s/ Andrea Genschaw</u> Andrea Genschaw	Senior Vice President, Controller (Principal Accounting Officer)	February 24, 2022
<u>/s/ Quincy L. Allen</u> Quincy L. Allen	Director	February 24, 2022
<u>/s/ Martha Helena Bejar</u> Martha Helena Bejar	Director	February 24, 2022
<u>/s/ Peter C. Brown</u> Peter C. Brown	Director	February 24, 2022
<u>/s/ Kevin P. Chilton</u> Kevin P. Chilton	Director	February 24, 2022
<u>/s/ Steven T. "Terry" Clontz</u> Steven T. "Terry" Clontz	Director	February 24, 2022
<u>/s/ Hal Stanley Jones</u> Hal Stanley Jones	Director	February 24, 2022
<u>/s/ Michael Roberts</u> Michael Roberts	Director	February 24, 2022
<u>/s/ Laurie Siegel</u> Laurie Siegel	Director	February 24, 2022

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

December 31, 2021

Lumen Technologies, Inc. ("Lumen", the "Company", "we" or "us") has two classes of securities registered under Section 12 of the Securities Exchange Act of 1934 (as amended, the "Exchange Act"): (i) Common Stock, par value \$1.00 per share ("Common Stock"), and (ii) Series CC Junior Participating Preferred Stock Purchase Rights ("Purchase Rights"), both of which are listed on The New York Stock Exchange.

DESCRIPTION OF COMMON STOCK

The following is a summary description of the rights of the holders of the Common Stock and related provisions of the Company's Articles of Incorporation, as amended and restated (the "Articles"), and bylaws, as amended and restated (the "Bylaws"), and applicable Louisiana law. This summary is intended to provide a general description only, does not purport to be complete and is qualified in its entirety by reference to, and should be read in conjunction with, the Articles, Bylaws and applicable Louisiana law.

General

Lumen is currently authorized under its Articles to issue an aggregate 2.202 billion shares of capital stock, consisting of 2.200 billion shares of Common Stock, \$1.00 par value per share, and 2 million shares of preferred stock, \$25.00 par value per share. All of the outstanding capital stock of the Company is fully paid and non-assessable.

Dividends

Holders of our Common Stock are entitled to receive dividends when, as and if declared by our board of directors, out of funds legally available therefor, subject to the preferences applicable to any outstanding preferred stock.

No Preemptive, Redemption or Conversion Rights

The Common Stock is not redeemable, is not subject to sinking fund provisions, does not have any conversion rights and is not subject to call. Holders of shares of Common Stock have no preemptive rights to maintain their percentage of ownership in future offerings or sales of stock of Lumen.

Voting Rights

Under the Articles, each share of Common Stock entitles the holder thereof to one vote per share in all elections of directors and on all other matters duly submitted to shareholders for their vote or consent. Holders of our Common Stock do not have cumulative voting rights.

Liquidation, Dissolution or Similar Rights

In the event we liquidate, dissolve or wind up our affairs, holders of our Common Stock would be entitled to receive ratably all of our assets remaining after satisfying the preferences of our creditors and the holders of any outstanding preferred stock.

Certain Provisions Affecting Takeovers

Provisions of the Articles and Bylaws may delay or discourage transactions involving an actual or potential change of control in the Company or its management, including transactions in which shareholders might otherwise receive a premium for their shares, or transactions that the Company's shareholders might otherwise deem to be in their best interests. Among other things:

- Our Articles provide that shareholder action may only be taken at an annual or special meeting of shareholders and may not be taken by written consent of the shareholders.
- Under our Articles, the shareholders may remove any director or the entire board of directors, only for cause, at any meeting of the shareholders called for such purpose, by the affirmative vote of (i) a majority of the total voting power of all shareholders and (ii) at any time there is a related person (as defined in the Articles), a majority of the total voting power of all shareholders other than the related person, voting as a separate group.
- Pursuant to our Articles, vacancies on our board may be filled only by the board of directors by a vote of both a majority of the directors then in office and a majority of the continuing directors (as defined in the Articles) voting as a separate group.
- Under our Articles, the number of authorized directors may not be increased or decreased without, among other things, the approval of both 80% of the directors then in office and a majority of the continuing directors voting as a separate group.
- Our Articles contain "fair price" provisions designed to provide supermajority vote and other safeguards for our shareholders when related persons attempt to effect a business combination with us, unless the business combination is approved in advance by the directors or satisfies various minimum price, consideration and procedural requirements, in each case as set forth in the Articles.
- Our board of directors is required by our Articles to consider particular factors enumerated therein when evaluating a business combination, tender or exchange offer or a proposal by another person to make a tender or exchange offer.
- Our Bylaws establish an advance notice procedure with regard to the nomination, other than by or at the direction of our board of directors, of candidates for election as directors and with regard to other matters to be brought before a meeting of our shareholders.
- Our Articles and applicable Louisiana law restrict the ability of the shareholders to call special shareholder's meetings.

- Various provisions of our Articles may not be amended except upon the affirmative vote of both 80% of the total voting power of all shareholders and two-thirds of the total voting power of shareholders, other than a related person, present or represented at a shareholders' meeting, voting as a separate group.
- Our Bylaws may be adopted, amended or repealed and new bylaws may be adopted by either a majority of our directors and a majority of our continuing directors, voting as a separate group; or the holders of at least 80% of the total voting power of all shareholders and two-thirds of the total voting power of shareholders, other than a related person, present or duly represented at a shareholders' meeting, voting as a separate group.
- Our board of directors is authorized, without action of the shareholders, to issue (i) additional shares of Common Stock, subject to certain limitations under the New York Stock Exchange listing standards and the Louisiana Business Corporation Act, and (ii) additional shares of preferred stock with rights and preferences designated by the board of directors, which could include terms adversely affecting the rights of holders of the Common Stock.

In addition, certain federal foreign ownership limitations and provisions in our debt instruments could potentially discourage certain change of control transactions.

Additional Information

As of December 31, 2021, Lumen had outstanding 7,018 shares of 5% Cumulative Convertible Series L Preferred Stock that entitles the holders to certain preferential liquidation and other rights and to cast one vote per share, together with holders of the Common Stock, on all matters duly submitted to a vote of shareholders. For additional information on the matters summarized above, see our Registration Statement on Form 8-A/A filed with the U.S. Securities and Exchange Commission (the "SEC") on March 2, 2015. Our Articles and Bylaws are filed as exhibits to our accompanying Annual Report on Form 10-K.

DESCRIPTION OF SERIES CC JUNIOR PARTICIPATING PREFERRED STOCK PURCHASE RIGHTS

General

On February 13, 2019, we entered into a Section 382 Rights Agreement by and between the Company and Computershare, Inc., as rights agent (the "Rights Agent"). On May 9, 2019, the Company and the Rights Agent amended and restated the Section 382 Rights Agreement (as so amended and restated, the "NOL Rights Plan"). On November 20, 2020, the Company and the Rights Agent entered into that certain First Amendment effective as of December 1, 2020 (the "First Amendment") to the Company's NOL Rights Plan.

We adopted the NOL Rights Plan to diminish the risk that we could experience an "ownership change" as defined under Section 382 of the Internal Revenue Code of 1986 (as amended, the "Code"), which could substantially limit our ability to use our net operating loss carryover (collectively, the "NOLs") to reduce anticipated future tax liabilities. The First Amendment, among other things, extended the NOL Rights Plan's expiration date through December 1, 2023 to protect the Company's NOLs.

Pursuant to the NOL Rights Plan, the Company's board of directors declared a dividend of one preferred share purchase right (each, a "Right") for each outstanding share of Common Stock. The dividend was distributed to shareholders of record as of the close of business on February 25, 2019.

On May 22, 2019, Lumen's shareholders ratified the NOL Rights Plan, and on May 19 2021, Lumen's shareholders ratified the first amendment.

The following is a summary description of the Rights and the other material terms and conditions of the NOL Rights Plan, as amended by the First Amendment. This summary is intended to provide a general description only, does not purport to be complete and is qualified in its entirety by reference to, and should be read in conjunction with, the complete text of the NOL Rights Plan and the First Amendment. All capitalized terms used herein but not defined herein shall have the meanings ascribed to such terms in the NOL Rights Plan, as amended by the First Amendment.

Applicability of NOL Rights Plan

Under the NOL Rights Plan, since February 25, 2019, each share of our Common Stock has carried with it one Right until the Distribution Date (as defined below) or the earlier expiration of the Rights, as described below. Shareholders who owned 4.9% or more of the outstanding Common Stock as of the close of business on February 13, 2019, will not trigger the Rights so long as they do not (i) acquire additional shares of Common Stock representing one-half of one percent (0.5%) or more of the shares of Common Stock outstanding at the time of such acquisition or (ii) fall under 4.9% ownership of Common Stock and then re-acquire shares that in the aggregate equal 4.9% or more of the Common Stock. A person will not trigger the Rights solely as a result of any transaction that the board of directors determines, in its sole discretion, is an exempt transaction for purposes of triggering the Rights. To the Company's knowledge, STT Crossing Ltd. was the only holder of 5.0% or more of the Company's outstanding shares of Common Stock on February 13, 2019, for purposes of Section 382 of the Code. The NOL Rights Plan permits STT Crossing Ltd. and its affiliates to acquire additional shares of Common Stock subject to certain conditions and restrictions, and to transfer such shares among themselves.

The Company's board of directors may, in its sole discretion prior to the Distribution Date, exempt any person or group for purposes of the NOL Rights Plan if it determines the acquisition by such person or group will not jeopardize tax benefits or is otherwise in the Company's best interests. Any person that acquires shares of Common Stock in violation of these limitations is known as an "Acquiring Person." Notwithstanding the foregoing, a Person shall not be an "Acquiring Person" if the Independent Directors (as defined in the NOL Rights Plan) determines at any time that a Person who would otherwise be an "Acquiring Person" has become such without intending to become an "Acquiring Person," and such Person divests as promptly as practicable (or within such period of time as the Independent Directors determine is reasonable) a sufficient number of shares of Common Stock of the Company so that such Person would no longer be an "Acquiring Person," as defined pursuant to the NOL Rights Plan.

The Rights

From the record date of February 25, 2019 until the Distribution Date or earlier expiration of the Rights, the Rights will trade with, and be inseparable from, the Common Stock. New Rights will also accompany any new shares of Common Stock that are issued after February 13, 2019, until the Distribution Date or earlier expiration of the Rights.

Exercise Price

Each Right will allow its holder to purchase from the Company one ten-thousandth of a share of Series CC Junior Participating Preferred Stock ("Preferred Share") for \$28, subject to adjustment (the "Exercise Price"), once the Rights become exercisable. This fraction of a Preferred Share will give the shareholder approximately the same dividend, voting and liquidation rights as would one share of Common Stock. Prior to exercise, each Right does not give its holder any dividend, voting or liquidation rights.

Exercisability

The Rights will not be exercisable until 10 business days (as may be extended in the discretion of the Independent Directors) after the public announcement that a person or group has become an Acquiring Person unless the NOL rights Plan is theretofore terminated or the Rights are theretofore redeemed (as described below).

We refer to the date when the Rights become exercisable as the "Distribution Date." Until that date or earlier expiration of the Rights, the Common Stock certificates will also evidence the Rights, and any transfer of shares of Common Stock will constitute a transfer of Rights. After that date, the Rights will separate from the Common Stock and be evidenced by book-entry credits or by Rights certificates that we will mail to all eligible holders of Common Stock. Any Rights held by an Acquiring Person, or any Affiliates or Associates of the Acquiring Person, are void and may not be exercised.

Consequences of a Person or Group Becoming an Acquiring Person

If a person or group becomes an Acquiring Person, all holders of Rights except the Acquiring Person, or any Affiliates or Associates of the Acquiring Person, may, upon payment of the Exercise Price, purchase shares of our Common Stock with a market value of twice the Exercise Price, based on the "current per share market price" of the Common Stock (as defined in the NOL Rights Plan) on the date of the acquisition that resulted in such person or group becoming an Acquiring Person.

Exchange

After a person or group becomes an Acquiring Person, our Independent Directors in their sole discretion may extinguish the Rights by exchanging one share of Common Stock or an equivalent security for each Right, other than Rights held by the Acquiring Person or any Affiliates or Associates of the Acquiring Person.

Preferred Share Provisions

Each one ten-thousandth of a Preferred Share, if issued:

- will not be redeemable;
- will entitle holders to dividends equal to the dividends, if any, paid on one share of Common Stock;
- will entitle holders upon liquidation either to receive \$1.00 per share or an amount equal to the payment made on one share of Common Stock, whichever is greater;

- will vote together with the Common Stock as one class on all matters submitted to a vote of shareholders of the Company and will have the same voting power as one share of Common Stock, except as otherwise provided by law; and
- will entitle holders to a per share payment equal to the payment made on one share of Common Stock, if shares of our Common Stock are exchanged via merger, consolidation, or a similar transaction.

The value of each one ten-thousandth interest in a Preferred Share, upon issuance, is expected to approximate the value of one share of Common Stock.

Expiration

The Rights will expire on the earliest of (i) December 1, 2023, (ii) the time at which the Rights are redeemed, (iii) the time at which the Rights are exchanged, or (iv) the time at which the Company's board of directors makes certain specified determinations that the NOLs are no longer necessary or in the best interests of the Company and its shareholders.

Redemption

Our board of directors may redeem the Rights for \$0.0001 per Right at any time before the Distribution Date. If our board of directors redeems any Rights, it must redeem all of the Rights. Once the Rights are redeemed, the only right of the holders of Rights will be to receive the redemption price of \$0.0001 per Right. The redemption price will be adjusted if we have a stock split or stock dividends of our Common Stock.

Anti-Dilution Provisions

Our board of directors may adjust the Exercise Price, the number of Preferred Shares issuable per Right and the number of outstanding Rights to prevent dilution that may occur from a stock dividend, a stock split or a reclassification of the Preferred Shares or Common Stock.

Amendments

The terms of the NOL Rights Plan may be amended by our board of directors without the consent of the holders of the Rights, including to effect additional extensions of the expiration date of the Rights in the future. After any Distribution Date, our board of directors may not amend the agreement in a way that adversely affects holders of the Rights (other than an Acquiring Person, or an Affiliate or Associate of an Acquiring Person).

Additional Information

For additional information on the NOL Rights Plan, see our Registration Statement on Form 8-A filed with the SEC on March 11, 2019, as amended by the Form 8-A/A filed with the SEC on November 27, 2020. The NOL Rights Plan and the First Amendment are filed as exhibits to our accompanying Annual Report on Form 10-K.

FIRST SUPPLEMENTAL INDENTURE (this “First Supplemental Indenture”) dated as of May 7, 2021, among Level 3 Communications, LLC, a Delaware limited liability company (the “New Guarantor”), a direct or indirect subsidiary of Level 3 Parent, LLC (or its successor), a Delaware limited liability company (“Level 3 Parent”), LEVEL 3 PARENT, LEVEL 3 FINANCING, INC., a Delaware corporation (the “Issuer”) on behalf of itself and the Guarantors (the “Existing Guarantors”), if any, under the Indenture referred to below, and THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., a national banking association, as trustee under the Indenture referred to below (the “Trustee”).

W I T N E S S E T H :

WHEREAS, the Issuer and Level 3 Parent have heretofore executed and delivered to the Trustee an Indenture dated as of January 13, 2021 (the “Indenture”; capitalized terms used but not defined herein having the meanings assigned thereto in the Indenture), providing for the issuance of its 3.750% Sustainability-Linked Senior Notes due 2029;

WHEREAS, the Indenture permits the New Guarantor to execute and deliver to the Trustee a supplemental indenture pursuant to which the New Guarantor shall unconditionally guarantee all the Issuer’s obligations under the Securities pursuant to a Guarantee on the terms and conditions set forth herein;

WHEREAS, the Guarantee contained in this First Supplemental Indenture shall constitute a “Restricted Subsidiary Guarantee”, and the New Guarantor shall constitute a “Guarantor”, for all purposes of the Indenture;

WHEREAS, pursuant to Section 801 and Section 1207 of the Indenture, the Trustee and the Issuer are authorized to execute and deliver this First Supplemental Indenture; and

WHEREAS, all acts and requirements necessary to make this First Supplemental Indenture the legal, valid and binding obligation of Level 3 Parent, the Issuer and the New Guarantor have been done.

NOW THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt of which is hereby acknowledged, the New Guarantor, the Issuer, the Existing Guarantors and the Trustee mutually covenant and agree for the equal and ratable benefit of the Holders of the Securities as follows:

1. Agreement to Guaranty. The New Guarantor hereby agrees, jointly and severally with all the existing Guarantors, to unconditionally guarantee the Issuer’s obligations under the Securities and the Indenture on the terms and subject to the conditions set forth in Article Twelve of the Indenture and to be bound by all other applicable provisions of the Indenture and the Securities.

2. Successors and Assigns. This First Supplemental Indenture shall be binding upon the New Guarantor and its successors and assigns and shall inure to the benefit of the successors and assigns of the Trustee and the Holders and, in the event of any transfer or assignment of rights by any Holder or the Trustee, the rights and privileges conferred upon that party in the Indenture and in the Securities shall automatically extend to and be vested in such transferee or assignee, all subject to the terms and conditions of the Indenture.

3. No Waiver. Neither a failure nor a delay on the part of either the Trustee or the Holders in exercising any right, power or privilege under this First Supplemental Indenture, the Indenture or the Securities shall operate as a waiver thereof, nor shall a single or partial exercise thereof preclude any other or further exercise of any right, power or privilege. The rights, remedies and benefits of the Trustee and the Holders herein and therein expressly specified are cumulative and not exclusive of any other rights, remedies or benefits which either may have under this First Supplemental Indenture, the Indenture or the Securities at law, in equity, by statute or otherwise.

4. Modification. No modification, amendment or waiver of any provision of this First Supplemental Indenture, nor the consent to any departure by the New Guarantor therefrom, shall in any event be effective unless the same shall be in writing and signed by the Trustee, and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given. No notice to or demand on the New Guarantor in any case shall entitle the New Guarantor to any other or further notice or demand in the same, similar or other circumstances.

5. Opinion of Counsel. Concurrently with the execution and delivery of this First Supplemental Indenture, the Issuer shall deliver to the Trustee an Opinion of Counsel to the effect that this First Supplemental Indenture has been duly authorized, executed and delivered by each of the New Guarantor and the Issuer and that, subject to the application of bankruptcy, insolvency, moratorium, fraudulent conveyance or transfer and other similar laws relating to creditors' rights generally and to the principles of equity, whether considered in a proceeding at law or in equity, the Guarantee of the New Guarantor is a legal, valid and binding obligation of the New Guarantor, enforceable against the New Guarantor in accordance with its terms.

6. Ratification of Indenture; Supplemental Indentures Part of Indenture. Except as expressly amended hereby, the Indenture is in all respects ratified and confirmed and all the terms, conditions and provisions thereof shall remain in full force and effect. This First Supplemental Indenture shall form a part of the Indenture for all purposes, and every Holder of Securities heretofore or hereafter authenticated and delivered shall be bound hereby.

7. Governing Law. **THIS FIRST SUPPLEMENTAL INDENTURE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK BUT WITHOUT GIVING EFFECT TO APPLICABLE PRINCIPLES OF CONFLICTS OF LAW TO THE EXTENT THAT THE APPLICATION OF THE LAWS OF ANOTHER JURISDICTION WOULD BE REQUIRED THEREBY.**

8. Counterparts. The parties may sign any number of copies of this First Supplemental Indenture. Each signed copy shall be an original, but all of them together represent the same agreement.

9. Effect of Headings. The Section headings herein are for convenience only and shall not affect the construction thereof.

10. Trustee. The Trustee makes no representations as to the validity or sufficiency of this First Supplemental Indenture. The recitals and statements herein are deemed to be those of the Issuer, Level 3 Parent, the Existing Guarantors and the New Guarantor, and not of the Trustee.

11. Electronic Signatures. For the avoidance of doubt, for all purposes of this First Supplemental Indenture and any document to be signed or delivered in connection with or pursuant to this First Supplemental Indenture (except where a manual signature is expressly required by the terms of this First Supplemental Indenture), the words “execution,” “signed,” “signature,” “delivery,” and words of like import shall be deemed to include electronic signatures, deliveries or the keeping of records in electronic form, as the case may be, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery or the use of a paper-based recordkeeping system, as the case may be, and the parties hereto consent to conduct the transactions contemplated hereunder by electronic means.

[Remainder of this page intentionally left blank]

IN WITNESS WHEREOF, the parties hereto have caused this First Supplemental Indenture to be duly executed as of the date first above written.

LEVEL 3 COMMUNICATIONS LLC,

By

/s/ Stacey W. Goff

Name: Stacey W. Goff

Title: Executive Vice President and General Counsel

LEVEL 3 PARENT, LLC,

By

/s/ Rafael Martinez-Chapman

Name: Rafael Martinez-Chapman

Title: Senior Vice President and Treasurer

LEVEL 3 FINANCING, INC., on behalf of itself as the Issuer and the Existing Guarantors, if any,

By

/s/ Rafael Martinez-Chapman

Name: Rafael Martinez-Chapman

Title: Senior Vice President and Treasurer

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., as Trustee,

By

/s/ Bank of New York Mellon Trust Company, N.A.

Name:

Title:

SECOND SUPPLEMENTAL INDENTURE (this “Supplemental Indenture”) dated as of May 7, 2021 among LEVEL 3 FINANCING, INC., a Delaware corporation (the “Issuer”), LEVEL 3 PARENT, LLC, a Delaware limited liability company (“Level 3 Parent”), LEVEL 3 COMMUNICATIONS, LLC, a limited liability company (“Level 3 LLC”), and THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., a national banking association, as trustee under the Indenture referred to below (the “Trustee”).

W I T N E S S E T H :

WHEREAS the Issuer, Level 3 Parent and the Trustee have heretofore executed and delivered (a) an Indenture dated as of January 13, 2021 (as amended, supplemented or otherwise modified from time to time, the “Indenture”; capitalized terms used but not defined herein have the meanings assigned thereto in the Indenture), providing for the issuance by the Issuer of its 3.750% Sustainability-Linked Senior Notes due 2029 (the “Securities”), and (b) a First Supplemental Indenture dated May 7, 2021 pursuant to which Level 3 LLC has guaranteed the Issuer’s obligations under the Indenture (the “Subordinated Guarantee”);

WHEREAS the Issuer, Level 3 Parent, certain lenders (together with their successors and assigns and any future Lenders under and as defined in the Credit Agreement (as hereafter defined) (the “Lenders”) and Merrill Lynch Capital Corporation, as administrative agent and collateral agent (the “Administrative Agent”), have entered into a Credit Agreement dated as of March 13, 2007 (as amended and restated as of November 29, 2019, and as may be further amended or modified from time to time, the “Credit Agreement”), under which the Issuer has borrowed term loans in an aggregate principal amount of \$3,610,500,000 from the Lenders (the “Term Loans”);

WHEREAS the obligations of the Issuer under the Credit Agreement and the other Loan Documents (as defined therein) have been guaranteed by Level 3 LLC (subject to certain regulatory limitations that may be in effect from time to time);

WHEREAS the proceeds of the Term Loans have been advanced to Level 3 LLC under an intercompany demand note dated March 13, 2007, as amended and restated on November 29, 2019, in an initial principal amount of \$1,400,000,000 and subsequently increased to \$4,610,500,000, issued by Level 3 LLC to the Issuer (together with any additional loan proceeds note issued pursuant to Section 9.02 of the Credit Agreement, and as such note or any such additional note may be further amended or modified from time to time, the “Loan Proceeds Note”);

WHEREAS the Loan Proceeds Note has been pledged by the Issuer to the Collateral Agent (as defined in the Credit Agreement) in order to assure the Lenders against loss in respect of the obligations of the Issuer under the Credit Agreement;

WHEREAS pursuant to Section 1208 of the Indenture, the Trustee is authorized to enter into a supplemental indenture which subordinates in any bankruptcy, liquidation or winding up proceeding a guarantee of an Issuer Restricted Subsidiary as guarantor or borrower pursuant to the Indenture to the obligations of such Subsidiary under a Qualified Credit Facility;

WHEREAS upon the guarantee of the Securities by an Issuer Restricted Subsidiary (other than Level 3 LLC), the Issuer, Level 3 Parent, the Trustee and such Issuer Restricted Subsidiary shall enter into a supplemental indenture in substantially the form of this Second Supplemental Indenture pursuant to which such guarantee will be subordinated in any bankruptcy, liquidation or winding up proceeding to the obligations of such Issuer Restricted Subsidiary under the Loan Documents (as defined in the Credit Agreement);

WHEREAS the Credit Agreement constitutes a Qualified Credit Facility and the guarantee of the obligations under the Credit Agreement by Level 3 LLC and the issuance and pledge of the Loan Proceeds Note constitute Guarantees of a Qualified Credit Facility; and

WHEREAS pursuant to Section 801 and Section 1207 of the Indenture, the Trustee, Level 3 Parent, the Issuer and Level 3 LLC are authorized to execute and deliver this Second Supplemental Indenture;

NOW THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt of which is hereby acknowledged, Level 3 Parent, the Issuer, Level 3 LLC and the Trustee mutually covenant and agree for the equal and ratable benefit of the holders of the Securities as follows:

ARTICLE I

Subordination

SECTION 1.1. Subordination. The Trustee hereby agrees that all obligations in respect of any amounts payable by Level 3 LLC pursuant to the Subordinated Guarantee, including the guarantee of the payment of principal, premium (if any), interest or all other amounts payable in respect of the Securities (the “Subordinated Obligations”), shall be subordinate and junior in right of payment, to the extent and in the manner provided in the Indenture (as supplemented by this Second Supplemental Indenture), to the prior payment in full in cash of all obligations (including without limitation the Obligations (as defined in the Credit Agreement)) of Level 3 LLC under or in respect of the Loan Documents (as defined in the Credit Agreement) as in effect from time to time and the Loan Proceeds Note, including the payment of principal, premium (if any), interest (including interest arising after the commencement of a bankruptcy or other proceeding, whether or not such a claim is permitted in such proceeding), the guarantees thereof or all other amounts payable thereunder (the “Senior Obligations”).

SECTION 1.2. Subordination in the Event of Dissolution or Insolvency of Level 3 LLC. Upon any distribution of assets of Level 3 LLC in connection with its dissolution or insolvency or upon any dissolution, winding up, liquidation or reorganization of Level 3 LLC, whether in bankruptcy, insolvency, reorganization, arrangement or receivership or similar proceedings, or upon any assignment for the benefit of creditors or any other marshaling of the assets and liabilities of Level 3 LLC:

(a) the holders of the Senior Obligations (the “Senior Creditors”) shall first be entitled to receive payment in full in cash of the Senior Obligations in accordance with the terms of such Senior Obligations before the Securityholders shall be entitled to receive any payment on account of the Subordinated Obligations owed by Level 3 LLC in respect of the Securities, whether of principal, premium (if any), interest, pursuant to the Subordinated Guarantee or otherwise; and

(b) any payment by, or distribution of the assets of, Level 3 LLC of any kind or character, whether in cash, property or securities, to which the Securityholders would be entitled except for the provisions of Section 1208 of the Indenture and this Second Supplemental Indenture shall be paid or delivered by the Person making such payment or distribution (whether a trustee in bankruptcy, a receiver, custodian or liquidating trustee or otherwise) directly to the Administrative Agent or the Senior Creditors to the extent necessary to make payment in full in cash of all Senior Obligations remaining unpaid, after giving effect to any concurrent payment or distribution to the Administrative Agent or the Senior Creditors in respect of the Senior Obligations.

SECTION 1.3. Certain Payments Held in Trust. In the event that any payment by, or distribution of the assets of, Level 3 LLC of any kind or character, whether in cash, property or securities, and whether directly or otherwise, shall be received by or on behalf of the Trustee or the Securityholders at a time when such payment is prohibited by or contrary to the agreements set forth in this Second Supplemental Indenture, such payment or distribution shall be held in trust for the benefit of, and shall be paid over to, the Administrative Agent or the Senior Creditors to the extent necessary to make payment in full in cash of all Senior Obligations remaining unpaid, after giving effect to any concurrent payment or distribution to the Administrative Agent or the Senior Creditors in respect of such Senior Obligations.

SECTION 1.4 Trustee Not Fiduciary. The Trustee shall not be deemed to owe any fiduciary duty to the Senior Creditors and shall not be liable to any such Senior Creditor if the Trustee shall in good faith mistakenly pay over or distribute to the Securityholders or to the Issuer or to any other person cash, property or securities to which any holders of Senior Obligations shall be entitled by virtue of this Article or otherwise. With respect to the holders of Senior Obligations, the Trustee undertakes to perform or to observe only such of its covenants or obligations as are specifically set forth in this Article and no implied covenants or obligations with respect to holders of Senior Obligations shall be read into this Second Supplemental Indenture against the Trustee.

SECTION 1.5. Legend. Any and all instruments or records now or hereafter creating or evidencing the Subordinated Obligations, whether upon refunding, extension, renewal, refinancing, replacement or otherwise, shall contain the following legend:

“Notwithstanding anything contained herein to the contrary, neither the principal of nor the interest on, nor any other amounts payable in respect of, the indebtedness created or evidenced by this instrument or record shall be paid or payable with or by the funds provided by Level 3 Communications, LLC, except to the extent permitted under the First Supplemental Indenture dated May 7, 2021, among Level 3 Parent, LLC, Level 3 Communications, LLC, Level 3 Financing, Inc. and the Trustee, which First Supplemental Indenture is incorporated herein with the same effect as if fully set forth herein.”

SECTION 1.6. Obligations Hereunder Not Affected. So long as the Credit Agreement shall constitute a Qualified Credit Facility, this Second Supplemental Indenture shall continue to be effective or be reinstated, as the case may be, if at any time any payment of the Senior Obligations or any part thereof shall be rescinded or must otherwise be returned by the Administrative Agent and the Senior Creditors upon the insolvency, bankruptcy or reorganization of Level 3 LLC or otherwise, all as though such payment had not been made.

SECTION 1.7. Rights of Trustee Not Subordinated. Notwithstanding anything to the contrary contained herein, in no event shall anything contained herein apply to claims of or payments to the Trustee under or pursuant to Section 607 of the Indenture; it being understood that no such claims shall be subject to the subordination set forth in this Second Supplemental Indenture.

ARTICLE II

Miscellaneous

SECTION 2.1. Governing Law. **THIS SECOND SUPPLEMENTAL INDENTURE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK BUT WITHOUT GIVING EFFECT TO APPLICABLE PRINCIPLES OF CONFLICTS OF LAW TO THE EXTENT THAT THE APPLICATION OF THE LAWS OF ANOTHER JURISDICTION WOULD BE REQUIRED THEREBY.**

SECTION 2.2. Modification. No modification, amendment or waiver of any provision of this Second Supplemental Indenture shall in any event be effective unless the same shall be in writing and signed by the Trustee, and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given.

SECTION 2.3. Opinion of Counsel. Concurrently with the execution and delivery of this Second Supplemental Indenture, the Issuer shall deliver to the Trustee an Opinion of Counsel to the effect that this Second Supplemental Indenture has been duly authorized, executed and delivered by each of Level 3 Parent, the Issuer and Level 3 LLC and that, subject to the application of bankruptcy, insolvency, moratorium, fraudulent conveyance or transfer and other similar laws relating to creditors' rights generally and to the principles of equity, whether considered in a proceeding at law or in equity, this Second Supplemental Indenture is a legal, valid and binding obligation of Level 3 Parent, the Issuer and Level 3 LLC, enforceable against each of them in accordance with its terms.

SECTION 2.4. Ratification of Indenture; Supplemental Indentures Part of Indenture. Except as expressly amended hereby, the Indenture is in all respects ratified and confirmed and all the terms, conditions and provisions thereof shall remain in full force and effect. This Second Supplemental Indenture shall form a part of the Indenture for all purposes, and every Holder of Securities heretofore or hereafter authenticated and delivered shall be bound hereby.

SECTION 2.5. Counterparts. The parties may sign any number of copies of this Second Supplemental Indenture. Each signed copy shall be an original, but all of them together represent the same agreement.

SECTION 2.6. Headings. Article and Section headings used herein are for convenience of reference only, are not part of this Second Supplemental Indenture and are not to affect the construction of, or to be taken into consideration in interpreting, this Second Supplemental Indenture.

SECTION 2.7. Trustee. The Trustee makes no representation as to the validity or sufficiency of this Second Supplemental Indenture. The recitals and statements herein are deemed to be those of the Issuer, the Level 3 Parent, Level 3 LLC and not of the Trustee.

SECTION 2.8. Electronic Signatures. For the avoidance of doubt, for all purposes of this Second Supplemental Indenture and any document to be signed or delivered in connection with or pursuant to this Second Supplemental Indenture (except where a manual signature is expressly required by the terms of this Second Supplemental Indenture), the words "execution," "signed," "signature," "delivery," and words of like import shall be deemed to include electronic signatures, deliveries or the keeping of records in electronic form, as the case may be, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery or the use of a paper-based recordkeeping system, as the case may be, and the parties hereto consent to conduct the transactions contemplated hereunder by electronic means.

[Remainder of this page intentionally left blank]

IN WITNESS WHEREOF, the parties hereto have caused this Second Supplemental Indenture to be duly executed as of the date first above written.

LEVEL 3 PARENT, LLC,

By

/s/ Rafael Martinez-Chapman

Name: Rafael Martinez-Chapman

Title: Senior Vice President and Treasurer

LEVEL 3 FINANCING, INC.,

By

/s/ Stacey W. Goff

Name: Stacey W. Goff

Title: Executive Vice President and General Counsel

LEVEL 3 COMMUNICATIONS, LLC,

By

/s/ Stacey W. Goff

Name: Stacey W. Goff

Title: Executive Vice President and General Counsel

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., as Trustee,

By

/s/ Bank of New York Mellon Trust Company, N.A.

Name:

Title:

**FORM OF
RESTRICTED STOCK AGREEMENT UNDER THE
LUMEN 2018 EQUITY INCENTIVE PLAN
(Annual Performance-Based Restricted Stock Grants to Executive Officers)**

This RESTRICTED STOCK AGREEMENT (this “Agreement”) is entered into as of [GRANT DATE] by and between Lumen Technologies, Inc. (“Lumen”) and [NAME] (“Award Recipient”).

WHEREAS, Lumen maintains the Lumen 2018 Equity Incentive Plan (as amended and in effect from time to time, the “Plan”), under which the Human Resources and Compensation Committee, or a duly-authorized subcommittee thereof, (the “Committee”) of the Board of Directors of Lumen (the “Board”) may, among other things, directly or indirectly grant restricted shares of Lumen’s common stock, \$1.00 par value per share (the “Common Stock”), to key employees, directors and other service providers of Lumen or its subsidiaries (collectively, the “Company”), subject to such terms, conditions, or restrictions as it may deem appropriate; and

WHEREAS, pursuant to the Plan, the Committee has awarded to the Award Recipient performance-based restricted shares of Common Stock on the terms and conditions specified below.

NOW, THEREFORE, the parties agree as follows:

1.
AWARD OF SHARES

1.1 Upon the terms and conditions of the Plan and this Agreement, Lumen as of the date of this Agreement (the “Grant Date”) hereby awards to the Award Recipient a total of [NUMBER] restricted shares of Common Stock (the “Restricted Stock”) that vest, subject to Sections 2, 3 and 4 hereof, as described in this Section 1. The number of shares granted as Restricted Stock represents the target award. The Restricted Stock and the conditional right to earn Additional Shares as provided in this Section 1 are referred to together in this Agreement as the “Award.”

1.2 The Award shall vest on March 1, [YEAR] (the “Vest Date”), assuming continuous employment through such date, with the actual number of shares of Common Stock earned pursuant to the Award based on [DESCRIPTION OF METRIC] over the period from January 1, [YEAR] through December 31, [YEAR] (as it may be shortened by Section 1.3, the “Performance Period”) as follows:

- (a) The percentage payout that may be earned shall range between 0-200%, determined as follows:

[PERFORMANCE AND PAYOUT CHART]

(b) Payout shall be linearly interpolated if the Company's performance ranks between threshold and target or between target and maximum. At performance below threshold, all shares of Restricted Stock will be forfeited[, regardless of Lumen's Relative TSR. If Lumen's TSR is negative for the performance period, the payout may not exceed the target level regardless of Lumen's Relative TSR]¹.

(c) Prior to any vesting under this Section 1.2, the Committee shall (i) ascertain Lumen's performance in the manner described in this Section 1.2 and (ii) certify in writing, by resolution or otherwise, the number of shares that shall vest, including any shares of Common Stock in excess of the number of shares of Restricted Stock initially granted (the "Additional Shares").

(d) [CALCULATION OMITTED]

(e) [CALCULATION OMITTED]

1.3 Without limiting the Committee's authority under Section 11(b) of the Plan, in the event that a Change of Control of Lumen (as defined in the Plan) occurs prior to the end of the Performance Period, then (a) the Performance Period shall end on the [last day of the most recently completed fiscal quarter that ended on or immediately prior to]²[date of]³ the consummation of the Change of Control; (b) the number of shares that may be earned under this Award, if any, shall be calculated, adjusted, and fixed on the basis of actual performance through such date, with such adjustment effective upon the consummation of the Change of Control; and (c) this Award, as adjusted for performance, shall continue to be subject to all other terms and conditions of this Agreement, including that vesting remains contingent upon the Award Recipient's continued employment through the Vest Date except as otherwise provided in Section 2.

2.

AWARD RESTRICTIONS ON RESTRICTED STOCK

2.1 In addition to the conditions and restrictions provided in the Plan, neither the shares of Restricted Stock nor the right to vote the Restricted Stock, to receive accrued dividends thereon or to enjoy any other rights or interests thereunder or hereunder may be sold, assigned, donated, transferred, exchanged, pledged, hypothecated, or otherwise encumbered prior to vesting, whether voluntarily or involuntarily. All dividends and other distributions relating to the Restricted Stock and all dividend equivalents on the Additional Shares will accrue when declared and be paid to the Award Recipient only upon the vesting of the related Restricted Stock or Additional Shares. Except as otherwise provided in this Section 2.1, the Award Recipient shall be entitled to all rights of a shareholder of Lumen with respect to the Restricted Stock, including the right to vote the shares.

¹ Applicable if performance metric is Relative TSR.

² Applicable if performance metric is EBITDA.

³ Applicable if performance metric is Relative TSR.

2.2 Termination of Employment due to Death or Disability. If the shares of Restricted Stock have not already vested or been forfeited under the terms of this Agreement or the Plan, all of the shares of Restricted Stock shall vest and all restrictions set forth in Section 2.1 shall lapse on the date on which the employment of the Award Recipient terminates as a result of (a) death or (b) disability within the meaning of Section 22(e)(3) of the Internal Revenue Code, with performance deemed achieved at target.

2.3 Termination of Employment Following a Change of Control of Lumen:

(a) If the shares of Restricted Stock have not already vested or been forfeited under the terms of this Agreement or the Plan, and within 18 months following a Change of Control of Lumen (as defined in the Plan), the Award Recipient's employment is terminated either (i) by the Company or its Affiliates without Cause (as defined below) or (ii) by the Award Recipient for Good Reason (as defined below), then the Award, as adjusted pursuant to Section 1.3, shall vest and the payout of all vested shares shall be made as soon as reasonably practicable following such termination of the Award Recipient, provided the Release Condition (as defined in Section 2.5) has been satisfied. If the Release Condition is not satisfied, then the Award, as adjusted pursuant to Section 1.3, shall automatically terminate and be forfeited as of the 60th day following termination of employment.

(b) "Cause" following a Change of Control

(i) For purposes of this Section 2.3, "Cause" shall mean the Award Recipient's (A) willful breach of any nondisclosure, noncompetition, nonsolicitation or nondisparagement covenants contained in any agreement between the Company and the Award Recipient; (B) conviction of, or plea of guilty or *nolo contendere* to, a felony or other crime involving dishonesty or moral turpitude; (C) workplace conduct resulting in either the payment of civil monetary penalties or the incurrance of civil non-monetary penalties that will materially restrict or prevent the Award Recipient from discharging his obligations to the Company; (D) habitual intoxication during working hours or habitual abuse of or addiction to a controlled substance; (E) material breach of the Company's insider trading, corporate ethics and compliance policies and programs or any other Board-adopted policies applicable to management conduct; (F) participation in the public reporting of any information contained in any report filed by the Company with the Securities and Exchange Commission that was impacted by the Award Recipient's knowing or intentional fraudulent or illegal conduct; or (G) substantial, willful and repeated failure to perform duties as instructed by or on behalf of the Board in writing.

(ii) The Award Recipient's employment shall not be deemed terminated for Cause following a Change of Control unless the Company shall have delivered to the Award Recipient a termination notice with a copy of a resolution adopted by the affirmative vote of not less than three-quarters of the entire Board at a meeting called partly or wholly for such purpose (after

reasonable notice is provided to the Award Recipient and the Award Recipient has had an opportunity, with counsel, to be heard by the Board) finding that the Award Recipient should be terminated for Cause and specifying in reasonable detail the grounds therefor.

(iii) No action or inaction shall be deemed the basis for Cause unless the Award Recipient is terminated therefor prior to the first anniversary of the date on which such action or omission is first reported to the Human Resources office of the Company with authority over the Award Recipient.

(c) For purpose of this Section 2.3, “Good Reason” shall mean a termination of the Award Recipient’s employment under the following circumstances: (1) the Award Recipient has delivered a written notice to the Company, objecting to a “Good Reason Event” (as defined below) within 90 days following the initial existence or occurrence of such event, (2) the Company fails to cure such event or condition within 30 days following receipt of the Award Recipient’s written notice (the “30-day Cure Period”), and (3) as a result, the Award Recipient terminates his or her employment no later than 18 months following the expiration of the 30-day Cure Period. A “Good Reason Event” shall mean:

(i) Any failure of the Company or its Affiliates (as defined below) to provide the Award Recipient with a position, authority, duties and responsibilities at least commensurate in all material respects with the most significant of those held, exercised and assigned at any time during the 180-day period immediately preceding the Change of Control. The Award Recipient’s position, authority, duties and responsibilities after a Change of Control shall not be considered commensurate in all material respects with the Award Recipient’s position, authority, duties and responsibilities prior to a Change of Control unless after the Change of Control the Award Recipient holds an equivalent position with, and exercises substantially equivalent authority, duties and responsibilities on behalf of, either the Company or the Post-Transaction Company;

(ii) The assignment to the Award Recipient of any duties inconsistent in any material respect with the Award Recipient’s position (including status, offices, titles and reporting requirements), authority, duties or responsibilities at the time of the Change of Control, or any other action that results in a diminution in any material respect in such position, authority, duties or responsibilities;

(iii) A reduction of the Award Recipient’s base salary in effect as of the date of the Change of Control without the Award Recipient’s consent, except for across-the-board salary reductions similarly affecting all or substantially all similarly-situated officers of the Company and the Post-Transaction Company;

(iv) The Award Recipient is advised of, manifests an awareness of, or becomes aware of facts that would cause a reasonable person to inquire into any

failure in any material respect by the Company or its Affiliates to comply with any of the provisions of this Agreement; or

(v) Any directive requiring the Award Recipient to be based at any office or location more than 50 miles from the location the Award Recipient was based prior to the Change of Control, or requiring the Award Recipient to travel on business to a substantially greater extent than required immediately prior to the Change of Control.

(d) For purposes of this Section 2.3, “Affiliate” (or variants thereof) shall mean a person that controls, or is controlled by or is under common control with, another specified person, either directly or indirectly.

2.4 Termination of Employment due to Retirement. If the shares of Restricted Stock have not already vested or been forfeited under the terms of this Agreement or the Plan, and the Award Recipient’s employment terminates because of retirement on or after attaining the age of 55 with at least ten years of prior service with the Company, then, provided the Committee has specifically approved such action and the Release Condition (as defined in Section 2.5) has been satisfied, the Award Recipient may retain the rights to the Restricted Stock, either in full or in part (as determined by the Committee in its sole discretion), provided that the issuance of such shares shall nonetheless remain subject to the terms and conditions of Section 1, including the eligibility to vest in Additional Shares.

2.5 For purposes of Sections 2.3 and 2.4, “Release Condition” shall mean the Award Recipient’s execution, delivery to the Company and non-revocation of a mutual liability release agreement in the form and substance determined by the Company (and the expiration of any revocation period contained in such release agreement) within 60 days following the Award Recipient’s termination of employment.

3.

TERMINATION OF EMPLOYMENT

Notwithstanding anything in this Agreement to the contrary, the Award including all unvested Restricted Stock shall automatically terminate and be forfeited if the employment of the Award Recipient terminates for any reason, unless and to the extent otherwise specifically provided in Section 2.

4.

FORFEITURE OF AWARD

4.1 If, at any time during the Award Recipient’s employment by the Company or within 18 months after termination of employment, the Award Recipient engages in any activity in competition with any activity of the Company, or inimical, contrary or harmful to the interests of the Company, including but not limited to: (a) conduct relating to the Award Recipient’s employment for which either criminal or civil penalties against the Award Recipient may be sought; (b) conduct or activity that results in termination of the Award Recipient’s employment

for cause; (c) violation of the Company's policies, including, without limitation, the Company's insider trading, ethics and corporate compliance policies and programs; (d) participating in the public reporting of any financial or operating result that was impacted by the participant's knowing or intentional fraudulent or illegal conduct; (e) accepting employment with, acquiring a 5% or more equity or participation interest in, serving as a consultant, advisor, director or agent of, directly or indirectly soliciting or recruiting any employee of the Company who was employed at any time during the Award Recipient's tenure with the Company, or otherwise assisting in any other capacity or manner any company or enterprise that is directly or indirectly in competition with or acting against the interests of the Company or any of its lines of business (a "competitor"), except for (i) any isolated, sporadic accommodation or assistance provided to a competitor, at its request, by the Award Recipient during the Award Recipient's tenure with the Company, but only if provided in the good faith and reasonable belief that such action would benefit the Company by promoting good business relations with the competitor and would not harm the Company's interests in any substantial manner or (ii) any other service or assistance that is provided at the request or with the written permission of the Company; (f) disclosing or misusing any confidential information or material concerning the Company, except for any disclosures provided in good faith to regulators in response to inquiries or investigations or otherwise made in good faith to any regulator or law enforcement authority; (g) engaging in, promoting, assisting or otherwise participating in a hostile takeover attempt of the Company or any other transaction or proxy contest that could reasonably be expected to result in a Change of Control not approved by the Board; or (h) making any statement or disclosing any information to any customers, suppliers, lessors, lessees, licensors, licensees, employees, or others with whom the Company engages in business that is defamatory or derogatory with respect to the business, operations, technology, management, or other employees of the Company, or taking any other action that could reasonably be expected to injure the Company in its business relationships with any of the foregoing parties or result in any other detrimental effect on the Company, except for any statements or disclosures provided in good faith to regulators in response to inquiries or investigations or otherwise made in good faith to any regulator or law enforcement authority, then the award of Restricted Stock granted hereunder shall automatically terminate and be forfeited effective on the date on which the Award Recipient engages in such activity and (1) all shares of Common Stock acquired by the Award Recipient pursuant to this Agreement (or other securities into which such shares have been converted or exchanged) shall be returned to the Company or, if no longer held by the Award Recipient, the Award Recipient shall pay to the Company, without interest, all cash, securities or other assets received by the Award Recipient upon the sale or transfer of such stock or securities, and (2) all unvested shares of Restricted Stock and contingent rights to receive Additional Shares shall be forfeited.

4.2 If the Award Recipient owes any amount to the Company under Section 4.1 above, the Award Recipient acknowledges that the Company may, to the fullest extent permitted by applicable law, deduct such amount from any amounts the Company owes the Award Recipient from time to time for any reason (including without limitation amounts owed to the Award Recipient as salary, wages, reimbursements or other compensation, fringe benefits, retirement benefits or vacation pay). Whether or not the Company elects to make any such set-off in whole or in part, if the Company does not recover by means of set-off the full amount the

Award Recipient owes it, the Award Recipient hereby agrees to pay immediately the unpaid balance to the Company.

4.3 The Award Recipient may be released from the Award Recipient's obligations under Sections 4.1 and 4.2 above only if the Committee or its delegee determines in its sole discretion that such action is in the best interests of the Company.

5.
STOCK CERTIFICATES

No stock certificates evidencing the Restricted Stock shall be issued by Lumen until the lapse of restrictions under the terms of this Agreement. Instead, ownership of the Restricted Stock shall be evidenced by a book entry with the applicable restrictions reflected. Upon the lapse of restrictions on shares of Restricted Stock, Lumen shall issue the vested shares of Restricted Stock (either through book entry issuances or delivery of a stock certificate) in the name of the Award Recipient or his or her nominee, subject to the other terms and conditions of this Agreement, including those governing any withholdings of shares under Section 6 below. Upon receipt of any such vested shares, the Award Recipient is free to hold or dispose of such shares, subject to (i) applicable securities laws, (ii) Lumen's policy statement on insider trading, and (iii) any of Lumen's stock ownership guidelines then in effect that are applicable to the Award Recipient.

6.
WITHHOLDING TAXES

Notwithstanding any Plan provision to the contrary, at the time that all or any portion of the Restricted Stock vests, Lumen will withhold from the shares the Award Recipient otherwise would receive hereunder the number of whole shares of Common Stock, rounding up if necessary, having a value equal to the minimum statutory amount required to be withheld under federal, state and local law (or, if permitted by the Committee and elected by the Award Recipient, such other rate as will not cause adverse accounting consequences and is permitted under applicable IRS withholding rules).

7.
ADDITIONAL CONDITIONS

Anything in this Agreement to the contrary notwithstanding, if, at any time prior to the vesting of the Restricted Stock in accordance with Section 1 or 2 hereof, Lumen further determines, in its sole discretion, that the listing, registration or qualification (or any updating of any such document) of the shares of Common Stock issuable pursuant hereto is necessary on any securities exchange or under any federal or state securities or blue sky law, or that the consent or approval of any governmental regulatory body is necessary or desirable as a condition of, or in connection with the issuance of shares of Common Stock pursuant thereto, or the removal of any restrictions imposed on such shares, such shares of Common Stock shall not be issued, in whole or in part, or the restrictions thereon removed, unless such listing, registration, qualification, consent or approval shall have been effected or obtained free of any conditions not acceptable to

Lumen. Lumen agrees to use commercially reasonable efforts to issue all shares of Common Stock issuable hereunder on the terms provided herein.

8.

NO CONTRACT OF EMPLOYMENT INTENDED

Nothing in this Agreement shall confer upon the Award Recipient any right to continue in the employment of the Company, or to interfere in any way with the right of the Company to terminate the Award Recipient's employment relationship with the Company at any time.

9.

BINDING EFFECT

Upon being duly executed and delivered by Lumen and the Award Recipient, this Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, executors, administrators, legal representatives and successors. Without limiting the generality of the foregoing, whenever the term "Award Recipient" is used in any provision of this Agreement under circumstances where the provision appropriately applies to the heirs, executors, administrators or legal representatives to whom this award may be transferred by will or by the laws of descent and distribution, the term "Award Recipient" shall be deemed to include such person or persons.

10.

EFFECT OF PLAN TERMS AND COMMITTEE ACTIONS

10.1 Capitalized terms used but not defined in this Agreement shall have the respective meanings ascribed to them in the Plan.

10.2 This Agreement, the rights of the Award Recipient hereunder and the shares of Restricted Stock granted hereby are subject to (i) all of the terms, conditions, restrictions and other provisions of the Plan, as it may be amended from time to time, as fully as if all such provisions were set forth in their entirety in this Agreement and (ii) such rules and regulations as the Committee may adopt for administration of the Plan. It is expressly understood that the Committee is authorized to administer, construe, and make all determinations necessary or appropriate for the administration of the Plan and this Agreement, all of which shall be binding upon the Award Recipient. If any provision of this Agreement conflicts with a provision of the Plan, the Plan provision shall control.

10.3 The Plan is discretionary and may be amended, cancelled or terminated by the Company at any time, in its discretion. The grant of Restricted Stock in this Agreement does not create any contractual rights other than as set forth in this Agreement, and does not create a right to receive Restricted Stock or any other Incentives in the future. Future Incentives, if any, will be at the sole discretion of the Company.

10.4 The Award Recipient acknowledges receipt from Lumen of a copy of the Plan and a prospectus summarizing the Plan and further acknowledges that the Award Recipient was

advised to review such materials prior to entering into this Agreement. The Award Recipient waives the right to claim that the provisions of the Plan are not binding upon the Award Recipient and the Award Recipient's heirs, executors, administrators, legal representatives and successors.

11.

ATTORNEYS' FEES AND EXPENSES

Should any party hereto retain counsel for the purpose of enforcing, or preventing the breach of, any provision of this Agreement, including, but not limited to, the institution of any action or proceeding in court to enforce any provision of this Agreement, to enjoin a breach of any provision of this Agreement, to obtain specific performance of any provision of this Agreement, to obtain monetary or liquidated damages for failure to perform any provision of this Agreement, or for a declaration of such parties' rights or obligations under this Agreement, or for any other judicial remedy, then the prevailing party shall be entitled to be reimbursed by the losing party for all costs and expenses incurred thereby, including, but not limited to, attorneys' fees (including costs of appeal).

12.

GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of the State of Colorado. The Award Recipient and Lumen shall submit to the exclusive jurisdiction of, and venue in, the courts in Colorado in any dispute relating to this Agreement.

13.

SEVERABILITY

If any term or provision of this Agreement, or the application thereof to any person or circumstance, shall at any time or to any extent be invalid, illegal or unenforceable in any respect as written, the Award Recipient and Lumen intend for any court construing this Agreement to modify or limit such provision so as to render it valid and enforceable to the fullest extent allowed by law. Any such provision that is not susceptible of such reformation shall be ignored so as to not affect any other term or provision of this Agreement, and the remainder of this Agreement, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid, illegal or unenforceable, shall not be affected thereby and each term and provision of this Agreement shall be valid and enforced to the fullest extent permitted by law.

14.

OTHER PROVISIONS

14.1 It is intended that the payments and benefits provided under this Agreement will comply with the requirements of Section 409A of the Code and the regulations promulgated thereunder ("Section 409A") or an exemption therefrom. The Agreement shall be interpreted,

construed, administered, and governed in a manner that effects such intent. No acceleration of the vesting of any Additional Shares shall be permitted unless permitted under Section 409A.

14.2 The Plan and this Agreement contain the entire agreement between the parties with respect to the subject matter contained herein. This Agreement may not, without the Award Recipient's consent, be amended or modified so as to materially adversely affect the Award Recipient's rights under this Agreement, except (i) as provided in the Plan, as it may be amended from time to time in the manner provided therein, or (ii) by a written document signed by each of the parties hereto. Any oral or written agreements, representations, warranties, written inducements, or other communications with respect to the subject matter contained herein made prior to the execution of the Agreement shall be void and ineffective for all purposes.

14.3 Nothing expressed or implied in this Agreement is intended or shall be construed to confer upon or give any person, other than the parties hereto and their successors, assigns, heirs, executors, administrators, or legal representatives, any rights or remedies under, or by reason of, this Agreement.

15.

ELECTRONIC DELIVERY AND EXECUTION OF DOCUMENTS

15.1 The Company may, in its sole discretion, deliver any documents related to the Award Recipient's current or future participation in the Plan or any other equity compensation plan of the Company by electronic means or request Award Recipient's consent to the terms of an award by electronic means. The plan documents may, but do not necessarily, include: the Plan, any grant notice, this Agreement, the Plan prospectus, and any reports of Lumen provided generally to Lumen's shareholders. In addition, the Award Recipient may deliver by electronic means any grant notice or award agreement to the Company or to such third party involved in administering the applicable plan as the Company may designate from time to time. Such means of electronic delivery may include the delivery of a link to a Company intranet or the Internet site of a third party involved in administering the applicable plan, the delivery of the document via e-mail or such other means of electronic delivery specified by the Company. By accepting the terms of this Agreement, the Award Recipient also hereby consents to participate in such plans and to execute agreements setting the terms of participation through an on-line or electronic system as described herein.

15.2 The Award Recipient acknowledges that the Award Recipient has read Section 15.1 of this Agreement and consents to the electronic delivery and electronic execution of plan documents as described in Section 15.1. The Award Recipient acknowledges that he or she may receive from the Company a paper copy of any documents delivered electronically at no cost to the Award Recipient by contacting the Company by telephone or in writing. The Award Recipient further acknowledges that the Award Recipient will be provided with a paper copy of any documents if the attempted electronic delivery of such documents to the Award Recipient fails. Similarly, the Award Recipient understands that the Award Recipient must provide the Company or any designated third-party administrator with a paper copy of any documents if the attempted electronic delivery of such documents by the Award Recipient fails. The Award Recipient may revoke his or her consent to the electronic delivery and execution of documents

described in Section 15.1 or may change the electronic mail address to which such documents are to be delivered (if Award Recipient has provided an electronic mail address) at any time by notifying the Company of such revoked consent or revised e-mail address by telephone, postal service or electronic mail. Finally, the Award Recipient understands that he or she is not required to consent to electronic delivery or execution of documents described in Section 15.1.

16.
DATA PRIVACY

As a condition to his or her participation in the Plan, the Award Recipient consents to the collection, use, and transfer of personal data as described in this paragraph. The Award Recipient understands that the Company holds certain personal information about the Award Recipient, including his or her name, home address and telephone number, date of birth, social security number or identification number, salary, nationality, job title, any shares of stock or directorships held in the Company, details of all options or any other entitlement to shares of stock awarded, canceled, exercised, vested, unvested, or outstanding in the Award Recipient’s favor, for the purpose of managing and administering the Plan (“Data”). The Award Recipient further understands that Lumen or its subsidiaries will transfer Data amongst themselves as necessary for the purpose of implementation, administration, and management of the Award Recipient’s participation in the Plan, and that Lumen and any of its subsidiaries may each further transfer Data to any third parties assisting the Company in the implementation, administration, and management of the Plan. The Award Recipient understands that these recipients may be located in the United States or elsewhere, and that the recipients’ country may have different data privacy laws and protections than the Award Recipient’s country. The Award Recipient authorizes them to receive, possess, use, retain, and transfer the Data, in electronic or other form, for the purposes of implementing, administering, and managing the Award Recipient’s participation in the Plan, including any requisite transfer to a broker or other third party with whom the Award Recipient may elect to deposit any amounts received pursuant to the Plan and this Agreement, such Data as may be required for the administration of the Plan. The Award Recipient understands that he or she may, at any time, view Data, require any necessary amendments to it or withdraw the consents herein in writing by contacting his or her human resources representative. The Award Recipient further understands that this consent is purely voluntary, and will not affect the Award Recipient’s employment or career with the Company, although it may affect the Award Recipient’s ability to participate in the Plan.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered on the day and year first above written.

Lumen Technologies, Inc.

By:_____

[AUTHORIZED SIGNATORY]
[TITLE]

[NAME]
Award Recipient

**FORM OF
RESTRICTED STOCK UNIT AGREEMENT UNDER THE
LUMEN 2018 EQUITY INCENTIVE PLAN
(Annual Time-Based RSU Grant to CEO)**

This RESTRICTED STOCK UNIT AGREEMENT (this “Agreement”) is entered into as of [GRANT DATE] by and between Lumen Technologies, Inc. (“Lumen”) and Jeffery K. Storey (“Award Recipient”).

WHEREAS, Lumen maintains the Lumen 2018 Equity Incentive Plan (as amended and in effect from time to time, the “Plan”), under which the Human Resources and Compensation Committee, or a duly-authorized subcommittee thereof, (the “Committee”) of the Board of Directors of Lumen (the “Board”) may, among other things, directly or indirectly grant restricted stock units representing the right to receive shares of Lumen’s common stock, \$1.00 par value per share (the “Common Stock”), to key employees, directors and other service providers of Lumen or its subsidiaries (collectively, the “Company”), subject to such terms, conditions, or restrictions as it may deem appropriate; and

WHEREAS, pursuant to the Plan, the Committee has awarded to the Award Recipient time-based restricted stock units on the terms and conditions specified below.

NOW, THEREFORE, the parties agree as follows:

1.
AWARD OF SHARES

Upon the terms and conditions of the Plan and this Agreement, Lumen as of the date of this Agreement (the “Grant Date”) hereby awards to the Award Recipient a total of [NUMBER] restricted stock units (the “RSUs”) that vest, subject to Sections 2, 3, and 4 hereof, in installments as follows:

<u>Scheduled Vesting Date¹</u>	<u>Number of RSUs</u>
[DATE]	[ONE-THIRD]
[DATE]	[ONE-THIRD]
[DATE]	[ONE-THIRD]

2.
TERMS AND CONDITIONS

2.1 Each RSU represents the right to receive from Lumen, upon vesting, one share of Common Stock, free of any restrictions, and all Related Credits credited to the Award Recipient’s Account (as such terms are defined in Section 3) with respect to such RSU.

¹ First tranche scheduled to vest no earlier than first anniversary, second tranche scheduled to vest no earlier than second anniversary, and third tranche scheduled to vest no earlier than third anniversary (in each case, measured from grant date).

2.2 Neither the RSUs nor the right to receive Related Credits may be sold, assigned, donated, transferred, exchanged, pledged, hypothecated or otherwise unencumbered. The Award Recipient shall have no rights, including but not limited to, voting and dividend rights, in the shares of Common Stock underlying the RSUs unless and until such shares are issued to the Award Recipient, or as otherwise provided in this Agreement.

2.3 Termination of Employment due to Death or Disability. If the RSUs have not already vested or been forfeited under the terms of this Agreement or the Plan, all of the RSUs shall vest on the date on which the employment of the Award Recipient terminates as a result of death.

2.4 Termination of Employment due to Qualifying Separation. If the RSUs have not already vested or been forfeited under the terms of this Agreement or the Plan, and the Award Recipient's employment terminates because of a "Qualifying Separation" (as defined in the amended and restated offer letter entered into between CenturyLink, NKA Lumen, and the Award Recipient on May 23, 2018, the "Offer Letter") other than death, the RSUs shall not terminate but shall remain outstanding and shall vest in full on the 60th day following the Award Recipient's termination of employment, provided the Release Condition (as defined in Section 2.6) has been satisfied. If the Release Condition is not satisfied, then all unvested RSUs shall automatically terminate and be forfeited as of the 60th day following termination of employment.

2.5 Termination of Employment Following a Change of Control of Lumen.

(a) If the RSUs have not already vested or been forfeited under the terms of this Agreement or the Plan, and within 24 months following a Change of Control of Lumen (as defined in the Plan), the Award Recipient's employment is terminated either (i) by the Company or its Affiliates without Cause (as defined in the Offer Letter) or (ii) by the Award Recipient for Good Reason (as defined in the Offer Letter), then all RSUs shall vest on the 60th day following the Award Recipient's termination of employment, provided the Release Condition (as defined in Section 2.6) has been satisfied. If the Release Condition is not satisfied, then all unvested RSUs shall automatically terminate and be forfeited as of the 60th day following termination of employment. For purposes of this Section 2.5, "Affiliate" (or variants thereof) shall mean a person that controls, or is controlled by or is under common control with, another specified person, either directly or indirectly.

2.6 For purposes of Sections 2.4 and 2.5, "Release Condition" shall mean the Award Recipient's execution, delivery to the Company and non-revocation of a mutual liability release agreement in the form and substance determined by the Company (and the expiration of any revocation period contained in such release agreement) within 60 days following the Award Recipient's termination of employment.

2.7 Notwithstanding anything in this Agreement to the contrary, all unvested RSUs shall automatically terminate and be forfeited if the employment of the Award Recipient terminates for any reason, unless and to the extent otherwise specifically provided in Section 2.

3.
DIVIDEND EQUIVALENTS

From and after the Grant Date of an RSU until the issuance of the share of Common Stock payable in respect of such RSU, the Award Recipient shall be credited, as of the payment date therefor, with (a) the amount of any cash dividends and (b) any shares of Common Stock, securities, or other property distributed or distributable in respect of one share of Common Stock to which the Award Recipient would have been entitled had the Award Recipient been a record holder of one share of Common Stock for each RSU at all times from the Grant Date of such RSU to such issuance date (collectively, the “Related Credits”). All such Related Credits shall be made notionally to a dividend equivalent account (an “Account”) established for the Award Recipient with respect to all RSUs granted on the same date. All such Related Credits shall vest or be forfeited at the same time and on the same terms as the RSUs to which they relate.

4.
FORFEITURE OF AWARD

4.1 If, at any time during the Award Recipient’s employment by the Company or within 18 months after termination of employment, the Award Recipient engages in any activity in competition with any activity of the Company, or inimical, contrary or harmful to the interests of the Company, including but not limited to: (a) conduct relating to the Award Recipient’s employment for which either criminal or civil penalties against the Award Recipient may be sought; (b) conduct or activity that results in termination of the Award Recipient’s employment for cause; (c) violation of the Company’s policies, including, without limitation, the Company’s insider trading, ethics and corporate compliance policies and programs; (d) participating in the public reporting of any financial or operating result that was impacted by the participant’s knowing or intentional fraudulent or illegal conduct; (e) accepting employment with, acquiring a 5% or more equity or participation interest in, serving as a consultant, advisor, director or agent of, directly or indirectly soliciting or recruiting any employee of the Company who was employed at any time during the Award Recipient’s tenure with the Company, or otherwise assisting in any other capacity or manner any company or enterprise that is directly or indirectly in competition with or acting against the interests of the Company or any of its lines of business (a “competitor”), except for (i) any isolated, sporadic accommodation or assistance provided to a competitor, at its request, by the Award Recipient during the Award Recipient’s tenure with the Company, but only if provided in the good faith and reasonable belief that such action would benefit the Company by promoting good business relations with the competitor and would not harm the Company’s interests in any substantial manner or (ii) any other service or assistance that is provided at the request or with the written permission of the Company; (f) disclosing or misusing any confidential information or material concerning the Company, except for any disclosures provided in good faith to regulators in response to inquiries or investigations or otherwise made in good faith to any regulator or law enforcement authority; (g) engaging in, promoting, assisting or otherwise participating in a hostile takeover attempt of the Company or any other transaction or proxy contest that could reasonably be expected to result in a Change of Control not approved by the Board; or (h) making any statement or disclosing any information to any customers, suppliers, lessors,

lessees, licensors, licensees, employees, or others with whom the Company engages in business that is defamatory or derogatory with respect to the business, operations, technology, management, or other employees of the Company, or taking any other action that could reasonably be expected to injure the Company in its business relationships with any of the foregoing parties or result in any other detrimental effect on the Company, except for any statements or disclosures provided in good faith to regulators in response to inquiries or investigations or otherwise made in good faith to any regulator or law enforcement authority, then the RSUs granted hereunder shall automatically terminate and be forfeited effective on the date on which the Award Recipient engages in such activity and (1) all shares of Common Stock acquired by the Award Recipient pursuant to this Agreement (or other securities into which such shares have been converted or exchanged) shall be returned to the Company or, if no longer held by the Award Recipient, the Award Recipient shall pay to the Company, without interest, all cash, securities or other assets received by the Award Recipient upon the sale or transfer of such stock or securities, and (2) all unvested RSUs shall be forfeited. Notwithstanding the foregoing, and in accordance with 18 U.S.C. § 1833, neither this Agreement nor any Lumen policy prohibits the Award Recipient (x) from disclosing confidential information (1) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney, and (2) solely for the purpose of reporting or investigating a suspected violation of law; or (y) from disclosing confidential information in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. Disclosures to attorneys, made under seal, or pursuant to court order are also protected in certain circumstances under 18 U.S.C. § 1833.

4.2 If the Award Recipient owes any amount to the Company under Section 4.1 above, the Award Recipient acknowledges that the Company may, to the fullest extent permitted by applicable law, deduct such amount from any amounts the Company owes the Award Recipient from time to time for any reason (including without limitation amounts owed to the Award Recipient as salary, wages, reimbursements or other compensation, fringe benefits, retirement benefits or vacation pay). Whether or not the Company elects to make any such set-off in whole or in part, if the Company does not recover by means of set-off the full amount the Award Recipient owes it, the Award Recipient hereby agrees to pay immediately the unpaid balance to the Company.

4.3 The Award Recipient may be released from the Award Recipient's obligations under Sections 4.1 and 4.2 above only if the Committee or its delegate determines in its sole discretion that such action is in the best interests of the Company.

5. ISSUANCE OF SHARES

As soon as practicable after the vesting of the RSUs, but no later than 30 days from such date, Lumen will issue in the name of the Award Recipient or his or her nominee (a) the shares of Common Stock underlying the vested RSUs, and (b) additional shares of Common Stock, property or cash comprising the Related Credits applicable to such RSUs, subject to the other terms and conditions of this Agreement, including those governing any withholdings of shares

under Section 6 below. Shares of Common Stock shall be issued either through book entry issuance or delivery of a stock certificate, and upon receipt of any such shares, the Award Recipient is free to hold or dispose of such shares, subject to (x) applicable securities laws, (y) Lumen's policy statement on insider trading, and (z) any of Lumen's stock ownership guidelines then in effect that are applicable to the Award Recipient.

6.

WITHHOLDING TAXES

Notwithstanding any Plan provision to the contrary, unless the Award Recipient has previously provided the Company with payment of all applicable withholding taxes, at the time that all or any portion of the RSUs vest, Lumen will withhold from the shares the Award Recipient otherwise would receive under this Agreement the number of whole shares of Common Stock, rounding up if necessary, having a value equal to the minimum statutory amount required to be withheld under federal, state and local law (or, if permitted by the Committee and elected by the Award Recipient, such other rate as will not cause adverse accounting consequences and is permitted under applicable IRS withholding rules).

7.

ADDITIONAL CONDITIONS

Anything in this Agreement to the contrary notwithstanding, if, at any time prior to the vesting of the RSUs in accordance with Section 1 or 2 hereof, Lumen further determines, in its sole discretion, that the listing, registration or qualification (or any updating of any such document) of the shares of Common Stock issuable pursuant to such RSUs is necessary on any securities exchange or under any federal or state securities or blue sky law, or that the consent or approval of any governmental regulatory body is necessary or desirable as a condition of, or in connection with the issuance of shares of Common Stock pursuant to such RSUs, or the removal of any restrictions imposed on such shares, such shares of Common Stock shall not be issued, in whole or in part, or the restrictions thereon removed, unless such listing, registration, qualification, consent or approval shall have been effected or obtained free of any conditions not acceptable to Lumen. Lumen agrees to use commercially reasonable efforts to issue all shares of Common Stock issuable hereunder on the terms provided herein.

8.

NO CONTRACT OF EMPLOYMENT INTENDED

Nothing in this Agreement shall confer upon the Award Recipient any right to continue in the employment of the Company, or to interfere in any way with the right of the Company to terminate the Award Recipient's employment relationship with the Company at any time.

9.

BINDING EFFECT

Upon being duly executed and delivered by Lumen and the Award Recipient, this Agreement shall inure to the benefit of and be binding upon the parties hereto and their

respective heirs, executors, administrators, legal representatives and successors. Without limiting the generality of the foregoing, whenever the term “Award Recipient” is used in any provision of this Agreement under circumstances where the provision appropriately applies to the heirs, executors, administrators or legal representatives to whom this award may be transferred by will or by the laws of descent and distribution, the term “Award Recipient” shall be deemed to include such person or persons.

10.

EFFECT OF PLAN TERMS AND COMMITTEE ACTIONS

10.1 Capitalized terms used but not defined in this Agreement shall have the respective meanings ascribed to them in the Plan.

10.2 This Agreement, the rights of the Award Recipient hereunder and the RSUs granted hereby are subject to (i) all of the terms, conditions, restrictions and other provisions of the Plan, as it may be amended from time to time, as fully as if all such provisions were set forth in their entirety in this Agreement and (ii) such rules and regulations as the Committee may adopt for administration of the Plan. It is expressly understood that the Committee is authorized to administer, construe, and make all determinations necessary or appropriate for the administration of the Plan and this Agreement, all of which shall be binding upon the Award Recipient. If any provision of this Agreement conflicts with a provision of the Plan, the Plan provision shall control.

10.3 The Plan is discretionary and may be amended, cancelled or terminated by the Company at any time, in its discretion. The grant of RSUs in this Agreement does not create any contractual rights other than as set forth in this Agreement, and does not create a right to receive RSUs or any other Incentives in the future. Future Incentives, if any, will be at the sole discretion of the Company.

10.4 The Award Recipient acknowledges receipt from Lumen of a copy of the Plan and a prospectus summarizing the Plan and further acknowledges that the Award Recipient was advised to review such materials prior to entering into this Agreement. The Award Recipient waives the right to claim that the provisions of the Plan are not binding upon the Award Recipient and the Award Recipient's heirs, executors, administrators, legal representatives and successors.

11.

ATTORNEYS' FEES AND EXPENSES

Should any party hereto retain counsel for the purpose of enforcing, or preventing the breach of, any provision of this Agreement, including, but not limited to, the institution of any action or proceeding in court to enforce any provision of this Agreement, to enjoin a breach of any provision of this Agreement, to obtain specific performance of any provision of this Agreement, to obtain monetary or liquidated damages for failure to perform any provision of this Agreement, or for a declaration of such parties' rights or obligations under this Agreement, or for any other judicial remedy, then the prevailing party shall be entitled to be reimbursed by the

losing party for all costs and expenses incurred thereby, including, but not limited to, attorneys' fees (including costs of appeal).

12.
GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of the State of Colorado. The Award Recipient and Lumen shall submit to the exclusive jurisdiction of, and venue in, the courts in Colorado in any dispute relating to this Agreement.

13.
SEVERABILITY

If any term or provision of this Agreement, or the application thereof to any person or circumstance, shall at any time or to any extent be invalid, illegal or unenforceable in any respect as written, the Award Recipient and Lumen intend for any court construing this Agreement to modify or limit such provision so as to render it valid and enforceable to the fullest extent allowed by law. Any such provision that is not susceptible of such reformation shall be ignored so as to not affect any other term or provision of this Agreement, and the remainder of this Agreement, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid, illegal or unenforceable, shall not be affected thereby and each term and provision of this Agreement shall be valid and enforced to the fullest extent permitted by law.

14.
OTHER PROVISIONS

14.1 It is intended that the payments and benefits provided under this Agreement will comply with the requirements of Section 409A of the Code and the regulations promulgated thereunder ("Section 409A") or an exemption therefrom. The Agreement shall be interpreted, construed, administered, and governed in a manner consistent with such intent. Notwithstanding anything herein to the contrary, (i) if the Award Recipient is a "specified employee" (as defined in Section 409A), shares of Common Stock deliverable or amounts otherwise payable hereunder as a result of the Award Recipient's termination of employment or service shall be delayed for such period of time as may be necessary to meet the requirements of Section 409A(a)(2)(B)(i) of the Code and (ii) each delivery of shares of Common Stock or payment in a series of deliveries or payments hereunder shall be deemed to be a separate payment for purposes of Section 409A. While each Incentive is intended to be structured in a manner to avoid the implication of any penalty taxes under Section 409A, in no event whatsoever shall the Company be liable for any additional tax, interest, or penalties that may be imposed on the Award Recipient as a result of Section 409A or any damages for failing to comply with Section 409A (other than for withholding obligations or other obligations applicable to employers, if any, under Section 409A). To the extent that any Incentive constitutes "nonqualified deferred compensation" for purposes of Section 409A, any settlement of the Incentive otherwise scheduled to occur prior to the sixtieth (60th) day following the

Award Recipient's termination of employment hereunder, but for the Release Condition, shall not be made until the sixtieth (60th) day.

14.2 The Plan and this Agreement contain the entire agreement between the parties with respect to the subject matter contained herein. This Agreement may not, without the Award Recipient's consent, be amended or modified so as to materially adversely affect the Award Recipient's rights under this Agreement, except (i) as provided in the Plan, as it may be amended from time to time in the manner provided therein, or (ii) by a written document signed by each of the parties hereto. Any oral or written agreements, representations, warranties, written inducements, or other communications with respect to the subject matter contained herein made prior to the execution of the Agreement shall be void and ineffective for all purposes.

14.3 Nothing expressed or implied in this Agreement is intended or shall be construed to confer upon or give any person, other than the parties hereto and their successors, assigns, heirs, executors, administrators, or legal representatives, any rights or remedies under, or by reason of, this Agreement.

15.

ELECTRONIC DELIVERY AND EXECUTION OF DOCUMENTS

15.1 The Company may, in its sole discretion, deliver any documents related to the Award Recipient's current or future participation in the Plan or any other equity compensation plan of the Company by electronic means or request Award Recipient's consent to the terms of an award by electronic means. The plan documents may, but do not necessarily, include: the Plan, any grant notice, this Agreement, the Plan prospectus, and any reports of Lumen provided generally to Lumen's shareholders. In addition, the Award Recipient may deliver by electronic means any grant notice or award agreement to the Company or to such third party involved in administering the applicable plan as the Company may designate from time to time. Such means of electronic delivery may include the delivery of a link to a Company intranet or the Internet site of a third party involved in administering the applicable plan, the delivery of the document via e-mail or such other means of electronic delivery specified by the Company. By accepting the terms of this Agreement, the Award Recipient also hereby consents to participate in such plans and to execute agreements setting the terms of participation through an on-line or electronic system as described herein.

15.2 The Award Recipient acknowledges that the Award Recipient has read Section 15.1 of this Agreement and consents to the electronic delivery and electronic execution of plan documents as described in Section 15.1. The Award Recipient acknowledges that he or she may receive from the Company a paper copy of any documents delivered electronically at no cost to the Award Recipient by contacting the Company by telephone or in writing. The Award Recipient further acknowledges that the Award Recipient will be provided with a paper copy of any documents if the attempted electronic delivery of such documents to the Award Recipient fails. Similarly, the Award Recipient understands that the Award Recipient must provide the Company or any designated third-party administrator with a paper copy of any documents if the attempted electronic delivery of such documents by the Award Recipient

fails. The Award Recipient may revoke his or her consent to the electronic delivery and execution of documents described in Section 15.1 or may change the electronic mail address to which such documents are to be delivered (if Award Recipient has provided an electronic mail address) at any time by notifying the Company of such revoked consent or revised e-mail address by telephone, postal service or electronic mail. Finally, the Award Recipient understands that he or she is not required to consent to electronic delivery or execution of documents described in Section 15.1.

16. DATA PRIVACY

As a condition to his or her participation in the Plan, the Award Recipient consents to the collection, use, and transfer of personal data as described in this paragraph. The Award Recipient understands that the Company holds certain personal information about the Award Recipient, including his or her name, home address and telephone number, date of birth, social security number or identification number, salary, nationality, job title, any shares of stock or directorships held in the Company, details of all options or any other entitlement to shares of stock awarded, canceled, exercised, vested, unvested, or outstanding in the Award Recipient's favor, for the purpose of managing and administering the Plan ("Data"). The Award Recipient further understands that Lumen or its subsidiaries will transfer Data amongst themselves as necessary for the purpose of implementation, administration, and management of the Award Recipient's participation in the Plan, and that Lumen and any of its subsidiaries may each further transfer Data to any third parties assisting the Company in the implementation, administration, and management of the Plan. The Award Recipient understands that these recipients may be located in the United States or elsewhere, and that the recipients' country may have different data privacy laws and protections than the Award Recipient's country. The Award Recipient authorizes them to receive, possess, use, retain, and transfer the Data, in electronic or other form, for the purposes of implementing, administering, and managing the Award Recipient's participation in the Plan, including any requisite transfer to a broker or other third party with whom the Award Recipient may elect to deposit any amounts received pursuant to the Plan and this Agreement, such Data as may be required for the administration of the Plan. The Award Recipient understands that he or she may, at any time, view Data, require any necessary amendments to it or withdraw the consents herein in writing by contacting his or her human resources representative. The Award Recipient further understands that this consent is purely voluntary, and will not affect the Award Recipient's employment or career with the Company, although it may affect the Award Recipient's ability to participate in the Plan.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered on the day and year first above written.

LUMEN TECHNOLOGIES, INC.

By:_____

[AUTHORIZED SIGNATORY]

[TITLE]

Jeffrey K. Storey
Award Recipient

**FORM OF
RESTRICTED STOCK UNIT AGREEMENT UNDER THE
LUMEN 2018 EQUITY INCENTIVE PLAN
(Annual Performance-Based RSU Grant to CEO)**

This RESTRICTED STOCK UNIT AGREEMENT (this “Agreement”) is entered into as of [GRANT DATE] by and between Lumen Technologies, Inc. (“Lumen”) and Jeffery K. Storey (“Award Recipient”).

WHEREAS, Lumen maintains the Lumen 2018 Equity Incentive Plan (as amended and in effect from time to time, the “Plan”), under which the Human Resources and Compensation Committee, or a duly-authorized subcommittee thereof, (the “Committee”) of the Board of Directors of Lumen (the “Board”) may, among other things, directly or indirectly grant restricted stock units representing the right to receive shares of Lumen’s common stock, \$1.00 par value per share (the “Common Stock”), to key employees, directors and other service providers of Lumen or its subsidiaries (collectively, the “Company”), subject to such terms, conditions, or restrictions as it may deem appropriate; and

WHEREAS, pursuant to the Plan, the Committee has awarded to the Award Recipient performance-based restricted stock units on the terms and conditions specified below.

NOW, THEREFORE, the parties agree as follows:

1.
AWARD OF SHARES

1.1 Upon the terms and conditions of the Plan and this Agreement, Lumen as of the date of this Agreement (the “Grant Date”) hereby awards to the Award Recipient a total of [NUMBER] restricted stock units (the “RSUs” or the “Award”) that vest, subject to Sections 2, 3 and 4 hereof, as described in this Section 1. Each RSU represents the right to receive from Lumen, upon vesting as provided in this Agreement, a maximum of two shares of Common Stock, free of any restrictions, and all Related Credits credited to the Award Recipient’s Account (as such terms are defined in Section 3) with respect to such RSU. Neither the RSUs nor the right to receive Related Credits may be sold, assigned, donated, transferred, exchanged, pledged, hypothecated or otherwise unencumbered. The Award Recipient shall have no rights, including but not limited to, voting and dividend rights, in the shares of Common Stock underlying the RSUs unless and until such shares are issued to the Award Recipient, or as otherwise provided in this Agreement.

1.2 The Award shall vest on March 1, [YEAR] (the “Vest Date”), assuming continuous employment through such date, with the actual number of shares of Common Stock earned pursuant to the Award determined based on [DESCRIPTION OF METRIC] over the period from January 1, [YEAR] through December 31, [YEAR] (as it may be shortened by Section 1.3, the “Performance Period”) as follows:

(a) The number of RSUs granted represents the target award. The percentage payout that may be earned shall range between 0-200%, determined as follows:

[PERFORMANCE AND PAYOUT CHART]

(b) Payout shall be linearly interpolated if the Company's performance ranks between threshold and target or between target and maximum. At performance below threshold, the entire Award shall be forfeited and the Award Recipient shall not be entitled to receive any shares of Common Stock. [If Lumen's TSR is negative for the Performance Period, the payout may not exceed the target level regardless of Lumen's Relative TSR.]¹

(c) Prior to any vesting under this Section 1.2, the Committee shall (i) ascertain Lumen's performance in the manner described in this Section 1.2 and (ii) certify in writing, by resolution or otherwise, the number of shares that shall vest, including any shares of Common Stock in excess of the number of RSUs initially granted (the "Additional Shares").

(d) **[CALCULATION OMITTED]**

(e) **[CALCULATION OMITTED]**

1.3 Without limiting the Committee's authority under Section 11(b) of the Plan, in the event that a Change of Control of Lumen (as defined in the Plan) occurs prior to the end of the Performance Period, then (a) the Performance Period shall end on the [last day of the most recently completed fiscal quarter that ended on or immediately prior to]²[date of]³ the consummation of the Change of Control; (b) the number of shares that may be earned under this Award, if any, shall be calculated, adjusted, and fixed on the basis of actual performance through such date, with such adjustment effective upon the consummation of the Change of Control; and (c) this Award, as adjusted for performance, shall continue to be subject to all other terms and conditions of this Agreement, including that vesting remains contingent upon the Award Recipient's continued employment through the Vest Date except as otherwise provided in Section 2.

2.

TERMS AND CONDITIONS

2.1 Termination of Employment due to Death. If the RSUs have not already vested or been forfeited under the terms of this Agreement or the Plan, all of the RSUs shall vest on the date on which the employment of the Award Recipient terminates as a result of death, with performance on each Performance Metric deemed to have been achieved at target performance levels.

¹ Applicable if performance metric is Relative TSR.

² Applicable if performance metric is EBITDA.

³ Applicable if performance metric is Relative TSR.

2.2 Termination of Employment due to Qualifying Separation. If the RSUs have not already vested or been forfeited under the terms of this Agreement or the Plan, and the Award Recipient's employment terminates because of a "Qualifying Separation" (as defined in the amended and restated offer letter entered into between CenturyLink, NKA Lumen, and the Award Recipient on May 23, 2018, the "Offer Letter") other than death, then, provided the Release Condition (as defined in Section 2.4) has been satisfied, the Award Recipient shall retain all of the RSUs, provided that the RSUs shall nonetheless remain subject to the terms and conditions of Section 1, including the Performance Metrics, payout timing, and the eligibility to earn Additional Shares. If the Release Condition is not satisfied, then all unvested RSUs shall automatically terminate and be forfeited as of the 60th day following termination of employment.

2.3 Termination of Employment Following a Change of Control of Lumen. Notwithstanding Section 2.2, if the RSUs have not already vested or been forfeited under the terms of this Agreement or the Plan, and if, within 24 months following a Change of Control of Lumen (as defined in the Plan), the Award Recipient's employment is terminated (i) by the Company or its Affiliates without Cause (as defined in the Offer Letter) or (ii) by the Award Recipient for Good Reason (as defined in the Offer Letter), then the Award Recipient shall retain all of the RSUs, provided the RSUs shall nonetheless remain subject to the terms and conditions of Section 1, including the Performance Metrics and the eligibility to earn Additional Shares, except that, unless otherwise provided by the Committee, then the Award, as adjusted pursuant to Section 1.3, shall vest and the payout of all vested RSUs (including any Additional Shares) shall be made as soon as reasonably practicable following such termination of the Award Recipient but not later than the 60th day following the Award Recipient's termination of employment, provided the Release Condition (as defined in Section 2.4) has been satisfied. If the Release Condition is not satisfied, then the Award, as adjusted by Section 1.3, shall automatically terminate and be forfeited as of the 60th day following termination of employment. For purposes of this Section 2.3, "Affiliate" (or variants thereof) shall mean a person that controls, or is controlled by or is under common control with, another specified person, either directly or indirectly.

2.4 For purposes of Sections 2.2 and 2.3, "Release Condition" shall mean the Award Recipient's execution, delivery to the Company and non-revocation of a mutual liability release agreement in the form and substance determined by the Company (and the expiration of any revocation period contained in such release agreement) within 60 days following the Award Recipient's termination of employment.

2.5 Notwithstanding anything in this Agreement to the contrary, all unvested RSUs shall automatically terminate and be forfeited if the employment of the Award Recipient terminates for any reason, unless and to the extent otherwise specifically provided in Section 2.

3. DIVIDEND EQUIVALENTS

3.1 From and after the Grant Date of an RSU until the issuance of the share of Common Stock payable in respect of such RSU, the Award Recipient shall be credited, as of the payment date therefor, with (i) the amount of any cash dividends and (ii) any shares of Common

Stock, securities, or other property distributed or distributable in respect of one share of Common Stock to which the Award Recipient would have been entitled had the Award Recipient been a record holder of one share of Common Stock for each RSU at all times from the Grant Date of such RSU to such issuance date (collectively, the “Related Credits”). All such Related Credits shall be made notionally to a dividend equivalent account (an “Account”) established for the Award Recipient with respect to all RSUs granted on the same date. All such Related Credits shall vest or be forfeited at the same time and on the same terms as the RSUs to which they relate.

3.2 In addition, if, pursuant to Section 1, the Award Recipient is entitled to receive Additional Shares, the Award Recipient will be entitled to receive, simultaneous with the issuance of the Additional Shares, all dividends and distributions, whether payable in cash, shares of Common Stock, or other securities or property that were payable to shareholders between the Grant Date and the date the RSUs vest and pay out under this Agreement and that would have been received as a dividend or distribution if the Additional Shares had been shares of Common Stock as of the record date for such dividend or distribution.

4. FORFEITURE OF AWARD

4.1 If, at any time during the Award Recipient’s employment by the Company or within 18 months after termination of employment, the Award Recipient engages in any activity in competition with any activity of the Company, or inimical, contrary or harmful to the interests of the Company, including but not limited to: (a) conduct relating to the Award Recipient’s employment for which either criminal or civil penalties against the Award Recipient may be sought; (b) conduct or activity that results in termination of the Award Recipient’s employment for cause; (c) violation of the Company’s policies, including, without limitation, the Company’s insider trading, ethics and corporate compliance policies and programs; (d) participating in the public reporting of any financial or operating result that was impacted by the participant’s knowing or intentional fraudulent or illegal conduct; (e) accepting employment with, acquiring a 5% or more equity or participation interest in, serving as a consultant, advisor, director or agent of, directly or indirectly soliciting or recruiting any employee of the Company who was employed at any time during the Award Recipient’s tenure with the Company, or otherwise assisting in any other capacity or manner any company or enterprise that is directly or indirectly in competition with or acting against the interests of the Company or any of its lines of business (a “competitor”), except for (i) any isolated, sporadic accommodation or assistance provided to a competitor, at its request, by the Award Recipient during the Award Recipient’s tenure with the Company, but only if provided in the good faith and reasonable belief that such action would benefit the Company by promoting good business relations with the competitor and would not harm the Company’s interests in any substantial manner or (ii) any other service or assistance that is provided at the request or with the written permission of the Company; (f) disclosing or misusing any confidential information or material concerning the Company, except for any disclosures provided in good faith to regulators in response to inquiries or investigations or otherwise made in good faith to any regulator or law enforcement authority; (g) engaging in, promoting, assisting or otherwise participating in a hostile takeover attempt of the Company or

any other transaction or proxy contest that could reasonably be expected to result in a Change of Control not approved by the Board; or (h) making any statement or disclosing any information to any customers, suppliers, lessors, lessees, licensors, licensees, employees, or others with whom the Company engages in business that is defamatory or derogatory with respect to the business, operations, technology, management, or other employees of the Company, or taking any other action that could reasonably be expected to injure the Company in its business relationships with any of the foregoing parties or result in any other detrimental effect on the Company, except for any statements or disclosures provided in good faith to regulators in response to inquiries or investigations or otherwise made in good faith to any regulator or law enforcement authority, then the RSUs granted hereunder shall automatically terminate and be forfeited effective on the date on which the Award Recipient engages in such activity and (1) all shares of Common Stock acquired by the Award Recipient pursuant to this Agreement (or other securities into which such shares have been converted or exchanged) shall be returned to the Company or, if no longer held by the Award Recipient, the Award Recipient shall pay to the Company, without interest, all cash, securities or other assets received by the Award Recipient upon the sale or transfer of such stock or securities, and (2) all unvested RSUs and contingent rights to receive Additional Shares shall be forfeited. Notwithstanding the foregoing, and in accordance with 18 U.S.C. § 1833, neither this Agreement nor any Lumen policy prohibits the Award Recipient (x) from disclosing confidential information (1) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney, and (2) solely for the purpose of reporting or investigating a suspected violation of law; or (y) from disclosing confidential information in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. Disclosures to attorneys, made under seal, or pursuant to court order are also protected in certain circumstances under 18 U.S.C. § 1833.

4.2 If the Award Recipient owes any amount to the Company under Section 4.1 above, the Award Recipient acknowledges that the Company may, to the fullest extent permitted by applicable law, deduct such amount from any amounts the Company owes the Award Recipient from time to time for any reason (including without limitation amounts owed to the Award Recipient as salary, wages, reimbursements or other compensation, fringe benefits, retirement benefits or vacation pay). Whether or not the Company elects to make any such set-off in whole or in part, if the Company does not recover by means of set-off the full amount the Award Recipient owes it, the Award Recipient hereby agrees to pay immediately the unpaid balance to the Company.

4.3 The Award Recipient may be released from the Award Recipient's obligations under Sections 4.1 and 4.2 above only if the Committee or its delegee determines in its sole discretion that such action is in the best interests of the Company.

5. ISSUANCE OF SHARES

As soon as practicable after the vesting of the Award, but no later than 30 days from such date, Lumen will issue in the name of the Award Recipient or his or her nominee (a) the shares of Common Stock underlying the vested RSUs (including any Additional Shares), and (b)

additional shares of Common Stock, property or cash comprising the Related Credits applicable to such RSUs (and Additional Shares, if applicable), subject to the other terms and conditions of this Agreement, including those governing any withholdings of shares under Section 6 below. Shares of Common Stock shall be issued either through book entry issuance or delivery of a stock certificate, and upon receipt of any such shares, the Award Recipient is free to hold or dispose of such shares, subject to (x) applicable securities laws, (y) Lumen's policy statement on insider trading, and (z) any of Lumen's stock ownership guidelines then in effect that are applicable to the Award Recipient.

6.

WITHHOLDING TAXES

Notwithstanding any Plan provision to the contrary, unless the Award Recipient has previously provided the Company with payment of all applicable withholding taxes, at the time that all or any portion of the RSUs vest, Lumen will withhold from the shares the Award Recipient otherwise would receive under this Agreement the number of whole shares of Common Stock, rounding up if necessary, having a value equal to the minimum statutory amount required to be withheld under federal, state and local law (or, if permitted by the Committee and elected by the Award Recipient, such other rate as will not cause adverse accounting consequences and is permitted under applicable IRS withholding rules).

7.

ADDITIONAL CONDITIONS

Anything in this Agreement to the contrary notwithstanding, if, at any time prior to the vesting of the RSUs in accordance with Section 1 or 2 hereof, Lumen further determines, in its sole discretion, that the listing, registration or qualification (or any updating of any such document) of the shares of Common Stock issuable pursuant to such RSUs is necessary on any securities exchange or under any federal or state securities or blue sky law, or that the consent or approval of any governmental regulatory body is necessary or desirable as a condition of, or in connection with the issuance of shares of Common Stock pursuant to such RSUs, or the removal of any restrictions imposed on such shares, such shares of Common Stock shall not be issued, in whole or in part, or the restrictions thereon removed, unless such listing, registration, qualification, consent or approval shall have been effected or obtained free of any conditions not acceptable to Lumen. Lumen agrees to use commercially reasonable efforts to issue all shares of Common Stock issuable hereunder on the terms provided herein.

8.

NO CONTRACT OF EMPLOYMENT INTENDED

Nothing in this Agreement shall confer upon the Award Recipient any right to continue in the employment of the Company, or to interfere in any way with the right of the Company to terminate the Award Recipient's employment relationship with the Company at any time.

9.
BINDING EFFECT

Upon being duly executed and delivered by Lumen and the Award Recipient, this Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, executors, administrators, legal representatives and successors. Without limiting the generality of the foregoing, whenever the term "Award Recipient" is used in any provision of this Agreement under circumstances where the provision appropriately applies to the heirs, executors, administrators or legal representatives to whom this award may be transferred by will or by the laws of descent and distribution, the term "Award Recipient" shall be deemed to include such person or persons.

10.
EFFECT OF PLAN TERMS AND COMMITTEE ACTIONS

10.1 Capitalized terms used but not defined in this Agreement shall have the respective meanings ascribed to them in the Plan.

10.2 This Agreement, the rights of the Award Recipient hereunder and the RSUs granted hereby are subject to (i) all of the terms, conditions, restrictions and other provisions of the Plan, as it may be amended from time to time, as fully as if all such provisions were set forth in their entirety in this Agreement and (ii) such rules and regulations as the Committee may adopt for administration of the Plan. It is expressly understood that the Committee is authorized to administer, construe, and make all determinations necessary or appropriate for the administration of the Plan and this Agreement, all of which shall be binding upon the Award Recipient. If any provision of this Agreement conflicts with a provision of the Plan, the Plan provision shall control.

10.3 The Plan is discretionary and may be amended, cancelled or terminated by the Company at any time, in its discretion. The grant of RSUs in this Agreement does not create any contractual rights other than as set forth in this Agreement, and does not create a right to receive RSUs or any other Incentives in the future. Future Incentives, if any, will be at the sole discretion of the Company.

10.4 The Award Recipient acknowledges receipt from Lumen of a copy of the Plan and a prospectus summarizing the Plan and further acknowledges that the Award Recipient was advised to review such materials prior to entering into this Agreement. The Award Recipient waives the right to claim that the provisions of the Plan are not binding upon the Award Recipient and the Award Recipient's heirs, executors, administrators, legal representatives and successors.

11.
ATTORNEYS' FEES AND EXPENSES

Should any party hereto retain counsel for the purpose of enforcing, or preventing the breach of, any provision of this Agreement, including, but not limited to, the institution of any

action or proceeding in court to enforce any provision of this Agreement, to enjoin a breach of any provision of this Agreement, to obtain specific performance of any provision of this Agreement, to obtain monetary or liquidated damages for failure to perform any provision of this Agreement, or for a declaration of such parties' rights or obligations under this Agreement, or for any other judicial remedy, then the prevailing party shall be entitled to be reimbursed by the losing party for all costs and expenses incurred thereby, including, but not limited to, attorneys' fees (including costs of appeal).

12.
GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of the State of Colorado. The Award Recipient and Lumen shall submit to the exclusive jurisdiction of, and venue in, the courts in Colorado in any dispute relating to this Agreement.

13.
SEVERABILITY

If any term or provision of this Agreement, or the application thereof to any person or circumstance, shall at any time or to any extent be invalid, illegal or unenforceable in any respect as written, the Award Recipient and Lumen intend for any court construing this Agreement to modify or limit such provision so as to render it valid and enforceable to the fullest extent allowed by law. Any such provision that is not susceptible of such reformation shall be ignored so as to not affect any other term or provision of this Agreement, and the remainder of this Agreement, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid, illegal or unenforceable, shall not be affected thereby and each term and provision of this Agreement shall be valid and enforced to the fullest extent permitted by law.

14.
OTHER PROVISIONS

14.1 It is intended that the payments and benefits provided under this Agreement will comply with the requirements of Section 409A of the Code and the regulations promulgated thereunder ("Section 409A") or an exemption therefrom. The Agreement shall be interpreted, construed, administered, and governed in a manner consistent with such intent. Notwithstanding anything herein to the contrary, (i) if the Award Recipient is a "specified employee" (as defined in Section 409A), shares of Common Stock deliverable or amounts otherwise payable hereunder as a result of the Award Recipient's termination of employment or service shall be delayed for such period of time as may be necessary to meet the requirements of Section 409A(a)(2)(B)(i) of the Code and (ii) each delivery of shares of Common Stock or payment in a series of deliveries or payments hereunder shall be deemed to be a separate payment for purposes of Section 409A. While each Incentive is intended to be structured in a manner to avoid the implication of any penalty taxes under Section 409A, in no event whatsoever shall the Company be liable for any additional tax, interest, or penalties that may be imposed on the Award Recipient as a result of Section 409A or any damages for failing to comply with Section 409A (other than for

withholding obligations or other obligations applicable to employers, if any, under Section 409A). To the extent that any Incentive constitutes “nonqualified deferred compensation” for purposes of Section 409A, any settlement of the Incentive otherwise scheduled to occur prior to the sixtieth (60th) day following the Award Recipient’s termination of employment hereunder, but for the Release Condition, shall not be made until the sixtieth (60th) day.

14.2 The Plan and this Agreement contain the entire agreement between the parties with respect to the subject matter contained herein. This Agreement may not, without the Award Recipient’s consent, be amended or modified so as to materially adversely affect the Award Recipient’s rights under this Agreement, except (i) as provided in the Plan, as it may be amended from time to time in the manner provided therein, or (ii) by a written document signed by each of the parties hereto. Any oral or written agreements, representations, warranties, written inducements, or other communications with respect to the subject matter contained herein made prior to the execution of the Agreement shall be void and ineffective for all purposes.

14.3 Nothing expressed or implied in this Agreement is intended or shall be construed to confer upon or give any person, other than the parties hereto and their successors, assigns, heirs, executors, administrators, or legal representatives, any rights or remedies under, or by reason of, this Agreement.

15.

ELECTRONIC DELIVERY AND EXECUTION OF DOCUMENTS

15.1 The Company may, in its sole discretion, deliver any documents related to the Award Recipient’s current or future participation in the Plan or any other equity compensation plan of the Company by electronic means or request Award Recipient’s consent to the terms of an award by electronic means. The plan documents may, but do not necessarily, include: the Plan, any grant notice, this Agreement, the Plan prospectus, and any reports of Lumen provided generally to Lumen’s shareholders. In addition, the Award Recipient may deliver by electronic means any grant notice or award agreement to the Company or to such third party involved in administering the applicable plan as the Company may designate from time to time. Such means of electronic delivery may include the delivery of a link to a Company intranet or the Internet site of a third party involved in administering the applicable plan, the delivery of the document via e-mail or such other means of electronic delivery specified by the Company. By accepting the terms of this Agreement, the Award Recipient also hereby consents to participate in such plans and to execute agreements setting the terms of participation through an on-line or electronic system as described herein.

15.2 The Award Recipient acknowledges that the Award Recipient has read Section 15.1 of this Agreement and consents to the electronic delivery and electronic execution of plan documents as described in Section 15.1. The Award Recipient acknowledges that he or she may receive from the Company a paper copy of any documents delivered electronically at no cost to the Award Recipient by contacting the Company by telephone or in writing. The Award Recipient further acknowledges that the Award Recipient will be provided with a paper copy of any documents if the attempted electronic delivery of such documents to the Award Recipient fails. Similarly, the Award Recipient understands that the Award Recipient must provide the

Company or any designated third-party administrator with a paper copy of any documents if the attempted electronic delivery of such documents by the Award Recipient fails. The Award Recipient may revoke his or her consent to the electronic delivery and execution of documents described in Section 15.1 or may change the electronic mail address to which such documents are to be delivered (if Award Recipient has provided an electronic mail address) at any time by notifying the Company of such revoked consent or revised e-mail address by telephone, postal service or electronic mail. Finally, the Award Recipient understands that he or she is not required to consent to electronic delivery or execution of documents described in Section 15.1.

16. DATA PRIVACY

As a condition to his or her participation in the Plan, the Award Recipient consents to the collection, use, and transfer of personal data as described in this paragraph. The Award Recipient understands that the Company holds certain personal information about the Award Recipient, including his or her name, home address and telephone number, date of birth, social security number or identification number, salary, nationality, job title, any shares of stock or directorships held in the Company, details of all options or any other entitlement to shares of stock awarded, canceled, exercised, vested, unvested, or outstanding in the Award Recipient's favor, for the purpose of managing and administering the Plan ("Data"). The Award Recipient further understands that Lumen or its subsidiaries will transfer Data amongst themselves as necessary for the purpose of implementation, administration, and management of the Award Recipient's participation in the Plan, and that Lumen and any of its subsidiaries may each further transfer Data to any third parties assisting the Company in the implementation, administration, and management of the Plan. The Award Recipient understands that these recipients may be located in the United States or elsewhere, and that the recipients' country may have different data privacy laws and protections than the Award Recipient's country. The Award Recipient authorizes them to receive, possess, use, retain, and transfer the Data, in electronic or other form, for the purposes of implementing, administering, and managing the Award Recipient's participation in the Plan, including any requisite transfer to a broker or other third party with whom the Award Recipient may elect to deposit any amounts received pursuant to the Plan and this Agreement, such Data as may be required for the administration of the Plan. The Award Recipient understands that he or she may, at any time, view Data, require any necessary amendments to it or withdraw the consents herein in writing by contacting his or her human resources representative. The Award Recipient further understands that this consent is purely voluntary, and will not affect the Award Recipient's employment or career with the Company, although it may affect the Award Recipient's ability to participate in the Plan.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered on the day and year first above written.

LUMEN TECHNOLOGIES, INC.

By:_____

[AUTHORIZED SIGNATORY]
[TITLE]

Jeffrey K. Storey
Award Recipient

**FORM OF
RESTRICTED STOCK AGREEMENT UNDER THE
LUMEN 2018 EQUITY INCENTIVE PLAN
(Annual Time-Based Restricted Stock Grants to Executive Officers)**

This RESTRICTED STOCK AGREEMENT (this “Agreement”) is entered into as of [GRANT DATE] by and between Lumen Technologies, Inc. (“Lumen”) and [NAME] (“Award Recipient”).

WHEREAS, Lumen maintains the Lumen 2018 Equity Incentive Plan (the “Plan”), under which the Human Resources and Compensation Committee, or a duly-authorized subcommittee thereof, (the “Committee”) of the Board of Directors of Lumen (the “Board”) may, among other things, directly or indirectly grant restricted shares of Lumen’s common stock, \$1.00 par value per share (the “Common Stock”), to key employees, directors and other service providers of Lumen or its subsidiaries (collectively, the “Company”), subject to such terms, conditions, or restrictions as it may deem appropriate; and

WHEREAS, pursuant to the Plan, the Committee has awarded to the Award Recipient restricted shares of Common Stock on the terms and conditions specified below.

NOW, THEREFORE, the parties agree as follows:

1.
AWARD OF SHARES

Upon the terms and conditions of the Plan and this Agreement, Lumen as of the date of this Agreement (the “Grant Date”) hereby awards to the Award Recipient a total of [NUMBER] restricted shares of Common Stock (the “Restricted Stock”) that vest, subject to Sections 2, 3, and 4 hereof, in installments as follows:

<u>Scheduled Vesting Date</u> ¹	<u>Number of Shares of Restricted Stock</u>
[DATE]	[ONE-THIRD]
[DATE]	[ONE-THIRD]
[DATE]	[ONE-THIRD]

2.
AWARD RESTRICTIONS ON
RESTRICTED STOCK

2.1 In addition to the conditions and restrictions provided in the Plan, neither the shares of Restricted Stock nor the right to vote the Restricted Stock, to receive accrued dividends

¹ First tranche scheduled to vest no earlier than first anniversary, second tranche scheduled to vest no earlier than second anniversary, and third tranche scheduled to vest no earlier than third anniversary (in each case, measured from grant date).

thereon or to enjoy any other rights or interests thereunder or hereunder may be sold, assigned, donated, transferred, exchanged, pledged, hypothecated, or otherwise encumbered prior to vesting, whether voluntarily or involuntarily. All dividends and other distributions relating to the Restricted Stock will accrue when declared and be paid to the Award Recipient only upon the vesting of the related Restricted Stock. Except as otherwise provided in this Section 2.1, the Award Recipient shall be entitled to all rights of a shareholder of Lumen with respect to the Restricted Stock, including the right to vote the shares.

2.2 Termination of Employment due to Death or Disability. If the shares of Restricted Stock have not already vested or been forfeited under the terms of this Agreement or the Plan, all of the shares of Restricted Stock shall vest and all restrictions set forth in Section 2.1 shall lapse on the date on which the employment of the Award Recipient terminates as a result of (i) death or (ii) disability within the meaning of Section 22(e)(3) of the Internal Revenue Code.

2.3 Termination of Employment Following a Change of Control of Lumen:

(a) If the shares of Restricted Stock have not already vested or been forfeited under the terms of this Agreement or the Plan, and if, within 18 months following a Change of Control of Lumen (as defined in the Plan), the Award Recipient's employment is terminated either (i) by the Company or its Affiliates without Cause (as defined below) or (ii) by the Award Recipient for Good Reason (as defined below), then all restrictions set forth in Section 2.1 with respect to such vested shares shall lapse, on the 60th day following the Award Recipient's termination of employment, provided the Release Condition (as defined in Section 2.5) has been satisfied. If the Release Condition is not satisfied, then all unvested Restricted Stock shall automatically terminate and be forfeited as of the 60th day following termination of employment.

(b) "Cause" following a Change of Control

For purposes of this Section 2.3, "Cause" shall mean the Award Recipient's (A) willful breach of any nondisclosure, noncompetition, nonsolicitation or nondisparagement covenants contained in any agreement between the Company and the Award Recipient; (B) conviction of, or plea of guilty or *nolo contendere* to, a felony or other crime involving dishonesty or moral turpitude; (C) workplace conduct resulting in either the payment of civil monetary penalties or the incurrance of civil non-monetary penalties that will materially restrict or prevent the Award Recipient from discharging his obligations to the Company; (D) habitual intoxication during working hours or habitual abuse of or addiction to a controlled substance; (E) material breach of the Company's insider trading, corporate ethics and compliance policies and programs or any other Board-adopted policies applicable to management conduct; (F) participation in the public reporting of any information contained in any report filed by the Company with the Securities and Exchange Commission that was impacted by the Award Recipient's knowing or intentional fraudulent or illegal conduct; or (G) substantial, willful and repeated failure to perform duties as instructed by or on behalf of the Board in writing.

(ii) The Award Recipient's employment shall not be deemed terminated for Cause following a Change of Control unless the Company shall have delivered to the Award Recipient a termination notice with a copy of a resolution adopted by the affirmative vote of not less than three-quarters of the entire Board at a meeting called partly or wholly for such purpose (after reasonable notice is provided to the Award Recipient and the Award Recipient has had an opportunity, with counsel, to be heard by the Board) finding that the Award Recipient should be terminated for Cause and specifying in reasonable detail the grounds therefor.

(iii) No action or inaction shall be deemed the basis for Cause unless the Award Recipient is terminated therefor prior to the first anniversary of the date on which such action or omission is first reported to the Human Resources office of the Company with authority over the Award Recipient.

(c) For purpose of this Section 2.3, "Good Reason" shall mean a termination of the Award Recipient's employment under the following circumstances: (1) the Award Recipient has delivered a written notice to the Company, objecting to a "Good Reason Event" (as defined below) within 90 days following the initial existence or occurrence of such event, (2) the Company fails to cure such event or condition within 30 days following receipt of the Award Recipient's written notice (the "30-day Cure Period"), and (3) as a result, the Award Recipient terminates his or her employment no later than 18 months following the expiration of the 30-day Cure Period. A "Good Reason Event" shall mean:

(i) Any failure of the Company or its Affiliates (as defined below) to provide the Award Recipient with a position, authority, duties and responsibilities at least commensurate in all material respects with the most significant of those held, exercised and assigned at any time during the 180-day period immediately preceding the Change of Control. The Award Recipient's position, authority, duties and responsibilities after a Change of Control shall not be considered commensurate in all material respects with the Award Recipient's position, authority, duties and responsibilities prior to a Change of Control unless after the Change of Control the Award Recipient holds an equivalent position with, and exercises substantially equivalent authority, duties and responsibilities on behalf of, either the Company or the Post-Transaction Company;

(ii) The assignment to the Award Recipient of any duties inconsistent in any material respect with the Award Recipient's position (including status, offices, titles and reporting requirements), authority, duties or responsibilities at the time of the Change of Control, or any other action that results in a diminution in any material respect in such position, authority, duties or responsibilities;

(iii) A reduction of the Award Recipient's base salary in effect as of the date of the Change of Control without the Award Recipient's consent, except for

across-the-board salary reductions similarly affecting all or substantially all similarly-situated officers of the Company and the Post-Transaction Company;

(iv) The Award Recipient is advised of, manifests an awareness of, or becomes aware of facts that would cause a reasonable person to inquire into any failure in any material respect by the Company or its Affiliates to comply with any of the provisions of this Agreement; or

(v) Any directive requiring the Award Recipient to be based at any office or location more than 50 miles from the location the Award Recipient was based prior to the Change of Control, or requiring the Award Recipient to travel on business to a substantially greater extent than required immediately prior to the Change of Control.

(d) For purposes of this Section 2.3, “Affiliate” (or variants thereof) shall mean a person that controls, or is controlled by or is under common control with, another specified person, either directly or indirectly.

2.4 Termination of Employment due to Retirement. If the shares of Restricted Stock have not already vested or been forfeited under the terms of this Agreement or the Plan, and the Award Recipient’s employment terminates because of retirement on or after attaining the age of 55 with at least ten years of prior service with the Company, then, provided the Committee has specifically approved such action, the shares of Restricted Stock shall not terminate but shall remain outstanding and shall vest, either in full or in part (as determined by the Committee in its sole discretion), and all restrictions set forth in Section 2.1 with respect to such vested shares shall lapse, on the 60th day following the Award Recipient’s termination of employment, provided the Release Condition (as defined in Section 2.5) has been satisfied. If the Release Condition is not satisfied, then all unvested Restricted Stock shall automatically terminate and be forfeited as of the 60th day following termination of employment.

2.5 For purposes of Section 2.3 and 2.4, “Release Condition” shall mean the Award Recipient’s execution, delivery to the Company and non-revocation of a mutual liability release agreement in the form and substance determined by the Company (and the expiration of any revocation period contained in such release agreement) within 60 days following the Award Recipient’s termination of employment.

3.

TERMINATION OF EMPLOYMENT

Notwithstanding anything in this Agreement to the contrary, all unvested Restricted Stock shall automatically terminate and be forfeited if the employment of the Award Recipient terminates for any reason, unless and to the extent otherwise specifically provided in Section 2.

4.
FORFEITURE OF AWARD

4.1 If, at any time during the Award Recipient's employment by the Company or within 18 months after termination of employment, the Award Recipient engages in any activity in competition with any activity of the Company, or inimical, contrary or harmful to the interests of the Company, including but not limited to: (a) conduct relating to the Award Recipient's employment for which either criminal or civil penalties against the Award Recipient may be sought; (b) conduct or activity that results in termination of the Award Recipient's employment for cause; (c) violation of the Company's policies, including, without limitation, the Company's insider trading, ethics and corporate compliance policies and programs; (d) participating in the public reporting of any financial or operating result that was impacted by the participant's knowing or intentional fraudulent or illegal conduct; (e) accepting employment with, acquiring a 5% or more equity or participation interest in, serving as a consultant, advisor, director or agent of, directly or indirectly soliciting or recruiting any employee of the Company who was employed at any time during the Award Recipient's tenure with the Company, or otherwise assisting in any other capacity or manner any company or enterprise that is directly or indirectly in competition with or acting against the interests of the Company or any of its lines of business (a "competitor"), except for (i) any isolated, sporadic accommodation or assistance provided to a competitor, at its request, by the Award Recipient during the Award Recipient's tenure with the Company, but only if provided in the good faith and reasonable belief that such action would benefit the Company by promoting good business relations with the competitor and would not harm the Company's interests in any substantial manner or (ii) any other service or assistance that is provided at the request or with the written permission of the Company; (f) disclosing or misusing any confidential information or material concerning the Company, except for any disclosures provided in good faith to regulators in response to inquiries or investigations or otherwise made in good faith to any regulator or law enforcement authority; (g) engaging in, promoting, assisting or otherwise participating in a hostile takeover attempt of the Company or any other transaction or proxy contest that could reasonably be expected to result in a Change of Control not approved by the Board; or (h) making any statement or disclosing any information to any customers, suppliers, lessors, lessees, licensors, licensees, employees, or others with whom the Company engages in business that is defamatory or derogatory with respect to the business, operations, technology, management, or other employees of the Company, or taking any other action that could reasonably be expected to injure the Company in its business relationships with any of the foregoing parties or result in any other detrimental effect on the Company, except for any statements or disclosures provided in good faith to regulators in response to inquiries or investigations or otherwise made in good faith to any regulator or law enforcement authority, then the award of Restricted Stock granted hereunder shall automatically terminate and be forfeited effective on the date on which the Award Recipient engages in such activity and (1) all shares of Common Stock acquired by the Award Recipient pursuant to this Agreement (or other securities into which such shares have been converted or exchanged) shall be returned to the Company or, if no longer held by the Award Recipient, the Award Recipient shall pay to the Company, without interest, all cash, securities or other assets received by the Award Recipient upon the sale or transfer of such stock or securities, and (2) all unvested shares of Restricted Stock shall be forfeited.

4.2 If the Award Recipient owes any amount to the Company under Section 4.1 above, the Award Recipient acknowledges that the Company may, to the fullest extent permitted by applicable law, deduct such amount from any amounts the Company owes the Award Recipient from time to time for any reason (including without limitation amounts owed to the Award Recipient as salary, wages, reimbursements or other compensation, fringe benefits, retirement benefits or vacation pay). Whether or not the Company elects to make any such set-off in whole or in part, if the Company does not recover by means of set-off the full amount the Award Recipient owes it, the Award Recipient hereby agrees to pay immediately the unpaid balance to the Company.

4.3 The Award Recipient may be released from the Award Recipient's obligations under Sections 4.1 and 4.2 above only if the Committee or its delegee determines in its sole discretion that such action is in the best interests of the Company.

5. STOCK CERTIFICATES

No stock certificates evidencing the Restricted Stock shall be issued by Lumen until the lapse of restrictions under the terms hereof. Instead, ownership of the Restricted Stock shall be evidenced by a book entry with the applicable restrictions reflected. Upon the lapse of restrictions on shares of Restricted Stock, Lumen shall issue the vested shares of Restricted Stock (either through book entry issuances or delivery of a stock certificate) in the name of the Award Recipient or his or her nominee, subject to the other terms and conditions hereof, including those governing any withholdings of shares under Section 6 below. Upon receipt of any such vested shares, the Award Recipient is free to hold or dispose of such shares, subject to (i) applicable securities laws, (ii) Lumen's policy statement on insider trading, and (iii) any of Lumen's stock ownership guidelines then in effect that are applicable to the Award Recipient.

6. WITHHOLDING TAXES

Notwithstanding any Plan provision to the contrary, at the time that all or any portion of the Restricted Stock vests, Lumen will withhold from the shares the Award Recipient otherwise would receive hereunder the number of whole shares of Common Stock, rounding up if necessary, having a value equal to the minimum statutory amount required to be withheld under federal, state and local law (or, if permitted by the Committee and elected by the Award Recipient, such other rate as will not cause adverse accounting consequences and is permitted under applicable IRS withholding rules).

7. ADDITIONAL CONDITIONS

Anything in this Agreement to the contrary notwithstanding, if, at any time prior to the vesting of the Restricted Stock in accordance with Section 1 or 2 hereof, Lumen further determines, in its sole discretion, that the listing, registration or qualification (or any updating of any such document) of the shares of Common Stock issuable pursuant hereto is necessary on any

securities exchange or under any federal or state securities or blue sky law, or that the consent or approval of any governmental regulatory body is necessary or desirable as a condition of, or in connection with the issuance of shares of Common Stock pursuant thereto, or the removal of any restrictions imposed on such shares, such shares of Common Stock shall not be issued, in whole or in part, or the restrictions thereon removed, unless such listing, registration, qualification, consent or approval shall have been effected or obtained free of any conditions not acceptable to Lumen. Lumen agrees to use commercially reasonable efforts to issue all shares of Common Stock issuable hereunder on the terms provided herein.

8.

NO CONTRACT OF EMPLOYMENT INTENDED

Nothing in this Agreement shall confer upon the Award Recipient any right to continue in the employment of the Company, or to interfere in any way with the right of the Company to terminate the Award Recipient's employment relationship with the Company at any time.

9.

BINDING EFFECT

Upon being duly executed and delivered by Lumen and the Award Recipient, this Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, executors, administrators, legal representatives and successors. Without limiting the generality of the foregoing, whenever the term "Award Recipient" is used in any provision of this Agreement under circumstances where the provision appropriately applies to the heirs, executors, administrators or legal representatives to whom this award may be transferred by will or by the laws of descent and distribution, the term "Award Recipient" shall be deemed to include such person or persons.

10.

EFFECT OF PLAN TERMS AND COMMITTEE ACTIONS

10.1 Capitalized terms used but not defined in this Agreement shall have the respective meanings ascribed to them in the Plan.

10.2 This Agreement, the rights of the Award Recipient hereunder and the shares of Restricted Stock granted hereby are subject to (i) all of the terms, conditions, restrictions and other provisions of the Plan, as it may be amended from time to time, as fully as if all such provisions were set forth in their entirety in this Agreement and (ii) such rules and regulations as the Committee may adopt for administration of the Plan. It is expressly understood that the Committee is authorized to administer, construe, and make all determinations necessary or appropriate for the administration of the Plan and this Agreement, all of which shall be binding upon the Award Recipient. If any provision of this Agreement conflicts with a provision of the Plan, the Plan provision shall control.

10.3 The Plan is discretionary and may be amended, cancelled or terminated by the Company at any time, in its discretion. The grant of Restricted Stock in this Agreement does not

create any contractual rights other than as set forth in this Agreement, and does not create a right to receive Restricted Stock or any other Incentives in the future. Future Incentives, if any, will be at the sole discretion of the Company.

10.4 The Award Recipient acknowledges receipt from Lumen of a copy of the Plan and a prospectus summarizing the Plan and further acknowledges that the Award Recipient was advised to review such materials prior to entering into this Agreement. The Award Recipient waives the right to claim that the provisions of the Plan are not binding upon the Award Recipient and the Award Recipient's heirs, executors, administrators, legal representatives and successors.

11.

ATTORNEYS' FEES AND EXPENSES

Should any party hereto retain counsel for the purpose of enforcing, or preventing the breach of, any provision hereof, including, but not limited to, the institution of any action or proceeding in court to enforce any provision hereof, to enjoin a breach of any provision of this Agreement, to obtain specific performance of any provision of this Agreement, to obtain monetary or liquidated damages for failure to perform any provision of this Agreement, or for a declaration of such parties' rights or obligations hereunder, or for any other judicial remedy, then the prevailing party shall be entitled to be reimbursed by the losing party for all costs and expenses incurred thereby, including, but not limited to, attorneys' fees (including costs of appeal).

12.

GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of the State of Colorado. The Award Recipient and Lumen shall submit to the exclusive jurisdiction of, and venue in, the courts in Colorado in any dispute relating to this Agreement.

13.

SEVERABILITY

If any term or provision of this Agreement, or the application thereof to any person or circumstance, shall at any time or to any extent be invalid, illegal or unenforceable in any respect as written, the Award Recipient and Lumen intend for any court construing this Agreement to modify or limit such provision so as to render it valid and enforceable to the fullest extent allowed by law. Any such provision that is not susceptible of such reformation shall be ignored so as to not affect any other term or provision hereof, and the remainder of this Agreement, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid, illegal or unenforceable, shall not be affected thereby and each term and provision of this Agreement shall be valid and enforced to the fullest extent permitted by law.

14.
OTHER PROVISIONS

14.1 It is intended that the payments and benefits provided under this Agreement will comply with the requirements of Section 409A of the Code and the regulations promulgated thereunder ("Section 409A") or an exemption therefrom. The Agreement shall be interpreted, construed, administered, and governed in a manner that effects such intent.

14.2 The Plan and this Agreement contain the entire agreement between the parties with respect to the subject matter contained herein. This Agreement may not, without the Award Recipient's consent, be amended or modified so as to materially adversely affect the Award Recipient's rights under this Agreement, except (i) as provided in the Plan, as it may be amended from time to time in the manner provided therein, or (ii) by a written document signed by each of the parties hereto. Any oral or written agreements, representations, warranties, written inducements, or other communications with respect to the subject matter contained herein made prior to the execution of the Agreement shall be void and ineffective for all purposes.

14.3 Nothing expressed or implied in this Agreement is intended or shall be construed to confer upon or give any person, other than the parties hereto and their successors, assigns, heirs, executors, administrators, or legal representatives, any rights or remedies under, or by reason of, this Agreement.

15.
ELECTRONIC DELIVERY AND EXECUTION OF DOCUMENTS

15.1 The Company may, in its sole discretion, deliver any documents related to the Award Recipient's current or future participation in the Plan or any other equity compensation plan of the Company by electronic means or request Award Recipient's consent to the terms of an award by electronic means. The plan documents may, but do not necessarily, include: the Plan, any grant notice, this Agreement, the Plan prospectus, and any reports of Lumen provided generally to Lumen's shareholders. In addition, the Award Recipient may deliver by electronic means any grant notice or award agreement to the Company or to such third party involved in administering the applicable plan as the Company may designate from time to time. Such means of electronic delivery may include the delivery of a link to a Company intranet or the Internet site of a third party involved in administering the applicable plan, the delivery of the document via e-mail or such other means of electronic delivery specified by the Company. By accepting the terms of this Agreement, the Award Recipient also hereby consents to participate in such plans and to execute agreements setting the terms of participation through an on-line or electronic system as described herein.

15.2 The Award Recipient acknowledges that the Award Recipient has read Section 15.1 of this Agreement and consents to the electronic delivery and electronic execution of plan documents as described in Section 15.1. The Award Recipient acknowledges that he or she may receive from the Company a paper copy of any documents delivered electronically at no cost to the Award Recipient by contacting the Company by telephone or in writing. The Award Recipient further acknowledges that the Award Recipient will be provided with a paper copy of

any documents if the attempted electronic delivery of such documents to the Award Recipient fails. Similarly, the Award Recipient understands that the Award Recipient must provide the Company or any designated third-party administrator with a paper copy of any documents if the attempted electronic delivery of such documents by the Award Recipient fails. The Award Recipient may revoke his or her consent to the electronic delivery and execution of documents described in Section 15.1 or may change the electronic mail address to which such documents are to be delivered (if Award Recipient has provided an electronic mail address) at any time by notifying the Company of such revoked consent or revised e-mail address by telephone, postal service or electronic mail. Finally, the Award Recipient understands that he or she is not required to consent to electronic delivery or execution of documents described in Section 15.1.

16. DATA PRIVACY

As a condition to his or her participation in the Plan, the Award Recipient consents to the collection, use, and transfer of personal data as described in this paragraph. The Award Recipient understands that the Company holds certain personal information about the Award Recipient, including his or her name, home address and telephone number, date of birth, social security number or identification number, salary, nationality, job title, any shares of stock or directorships held in the Company, details of all options or any other entitlement to shares of stock awarded, canceled, exercised, vested, unvested, or outstanding in the Award Recipient's favor, for the purpose of managing and administering the Plan ("Data"). The Award Recipient further understands that Lumen or its subsidiaries will transfer Data amongst themselves as necessary for the purpose of implementation, administration, and management of the Award Recipient's participation in the Plan, and that Lumen and any of its subsidiaries may each further transfer Data to any third parties assisting the Company in the implementation, administration, and management of the Plan. The Award Recipient understands that these recipients may be located in the United States or elsewhere, and that the recipients' country may have different data privacy laws and protections than the Award Recipient's country. The Award Recipient authorizes them to receive, possess, use, retain, and transfer the Data, in electronic or other form, for the purposes of implementing, administering, and managing the Award Recipient's participation in the Plan, including any requisite transfer to a broker or other third party with whom the Award Recipient may elect to deposit any amounts received pursuant to the Plan and this Agreement, such Data as may be required for the administration of the Plan. The Award Recipient understands that he or she may, at any time, view Data, require any necessary amendments to it or withdraw the consents herein in writing by contacting his or her human resources representative. The Award Recipient further understands that this consent is purely voluntary, and will not affect the Award Recipient's employment or career with the Company, although it may affect the Award Recipient's ability to participate in the Plan.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered on the day and year first above written.

Lumen Technologies, Inc.

By:_____

[AUTHORIZED SIGNATORY]
[TITLE]

[NAME]
Award Recipient



Human Resources Plan

Executive Severance

As Updated, Amended and Restated 10/10/2017,
Updated to Reflect new Exhibits 11/14/19, Brand launch 10/2020

Summary Plan Description
for the
LUMEN
EXECUTIVE SEVERANCE PLAN*

AS AMENDED AND RESTATED
EFFECTIVE OCTOBER 10, 2017

Updated to Reflect New Exhibits effective Nov. 14, 2019

*Brand launch Oct. 2020

**The Lumen brand was launched on September 14, 2020. As a result, CenturyLink, Inc. is referred to as Lumen Technologies, or simply Lumen. The legal name CenturyLink, Inc. is expected to be formally changed to Lumen Technologies, Inc. upon the completion of all applicable requirements.*

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LUMEN EXECUTIVE SEVERANCE PLAN

SUMMARY PLAN DESCRIPTION

Lumen Technologies, Inc. (hereinafter, inclusive of subsidiaries, successors and predecessor companies referred to as “Lumen” or “Company”) is pleased to provide you with this Summary Plan Description (hereinafter “SPD”) for the Lumen Executive Severance Plan (the “Plan”). This SPD and the Lumen Executive Severance Plan document, which is attached, describe your benefits, as well as rights and responsibilities, under the Plan. This is an unfunded welfare plan sponsored by the Company. This Plan provides benefits for Employees who, as of Termination Date, have a job in grades M6 or above or E1 or above, or equivalent grades if a different job grading system is used, as reflected in the Company’s personnel records.

PURPOSE: This section of this document provides you with a summary of benefits and tells you where to find important information such as deadlines, obligations, as well as, administrative and other information about the Plan.

RESERVED RIGHTS: If there is any conflict between the terms of the Plan document and this SPD, the terms of the Plan document will govern. The Company has delegated and reserved to the Plan Administrator, the Employee Benefits Committee, the right to interpret and resolve any ambiguities in the Plan or any document relating to the Plan in its sole and absolute discretion. Benefits are determined by the Company in its sole and absolute discretion and do not create a contract of employment.

YOUR ERISA RIGHTS

If you are a participant in the Plan, which is a component benefit plan of the Company’s Welfare Benefits Plan (Unfunded) and which is subject to the Employee Retirement Income Security Act of 1974, as amended (ERISA), you are entitled to certain rights and protections under ERISA. ERISA provides that all plan participants are entitled to:

Receive Information About the Plan and Benefits

- Examine, without charge, at the Plan Administrator’s office and at other specified locations, such as work sites, all documents governing the Plan, including a copy of the most recently filed annual report (Form 5500) filed by the Plan with the U.S. Department of Labor and available at the Public Disclosure Room of the Employee Benefits Security Administration.
- Obtain, upon written request to the Plan Administrator, copies of documents governing the operation of the Plan, a copy of the latest annual report (Form 5500 Series) if required to be filed, and a copy of the most recent summary plan description. The Plan Administrator may make a reasonable charge for the copies requested.

Prudent Actions by Plan Fiduciaries

In addition to creating rights for Plan participants, ERISA imposes duties upon the people who are responsible for the operation of employee benefit plans. The people who operate plans

subject to ERISA, called “fiduciaries” of the plan, have a duty to do so prudently and in the interest of you and other Plan participants and beneficiaries. No one, including your employer or any other person, may fire you or otherwise discriminate against you in any way to prevent you from obtaining benefits or exercising your rights under ERISA.

Enforce Your Rights

If your claim for benefits is denied or ignored, in whole or in part, you have a right to know why this was done, to obtain copies of documents relating to the decision without charge, and to appeal any denial, all within certain time schedules. The applicable procedures for requesting review are set forth in the Plan (attached), specifically in Article IX of the Plan.

Under ERISA, there are steps you can take to enforce your legal rights. For instance, if you request a copy of plan documents or the latest annual report from a plan (if not exempt from such filing requirement) and do not receive them within 30 days, you may file suit in a federal court. In such a case, the court may require the Plan Administrator to provide the materials and pay you up to \$110 a day until you receive the materials, unless the materials were not sent because of reasons beyond the Plan Administrator’s control or there was no filing obligation. If you have a claim for benefits that is denied or ignored, in whole or in part, you may file suit in a state or federal court.

If it should happen that plan fiduciaries misuse plan money, or if you are discriminated against for asserting your rights, you may seek assistance from the U.S. Department of Labor, or you may file suit in a federal court. The court will decide who should pay court costs and legal fees. If you are successful, the court may order the person you have sued to pay these costs and fees. If you lose, the court may order you to pay these costs and fees, for example, if it finds your claim is frivolous.

Assistance with Your Questions

If you have any questions about the Plan, you should contact the Plan Administrator. If you have any questions about this statement or your rights under ERISA, or if you need assistance in obtaining documents from the Plan Administrator, you should contact the nearest office of the Employee Benefits Security Administration, U.S. Department of Labor, listed in your local telephone directory or the Division of Technical Assistance and Inquiries, Employee Benefits Security Administration, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210. You may also obtain certain publications about your rights and responsibilities under ERISA by calling the publications hotline of the Employee Benefits Security Administration at 1-866-444-EBSA (3272) or by going to its website at: www.dol.gov/ebsa.

OTHER IMPORTANT FACTS ABOUT THE LUMEN EXECUTIVE SEVERANCE PLAN

Plan Year - The fiscal year of the Plan begins on January 1 and ends on December 31.

Plan Type, Name and Number - The Plan is a component benefit plan of the Company's Welfare Benefits Plan which is welfare benefit plan that is an "umbrella" plan. The Plan subject to the federal law known as "ERISA." The plan number assigned to the Plan for reporting purposes is: 513. The Plan has been renamed with the September 2020 Brand launch: *The Lumen brand was launched on September 14, 2020. As a result, CenturyLink, Inc. is referred to as Lumen Technologies, or simply Lumen. The legal name CenturyLink, Inc. is expected to be formally changed to Lumen Technologies, Inc. upon the completion of all applicable requirements.*

Plan Funding and Administration - The Plan is an unfunded component welfare benefit plan of the Company's Welfare Benefits Plan and is self-administered by the Company. Benefits are paid for by the Company. No employee contributions are required.

Identification of Plan Sponsor, Plan Administrator and Participating Companies - Lumen Technologies, Inc.* is the Plan Sponsor and the Lumen Employee Benefits Committee is the Plan Administrator of the Plan for purposes of ERISA. **The Lumen brand was launched on September 14, 2020. As a result, CenturyLink, Inc. is referred to as Lumen Technologies, or simply Lumen. The legal name CenturyLink, Inc. is expected to be formally changed to Lumen Technologies, Inc. upon the completion of all applicable requirements.*

The federal tax identification number is 72-0651161. The address for the Plan Sponsor is:

Lumen Technologies, Inc.*
100 CenturyLink Drive
Monroe, LA 71203-2041

** The Lumen brand was launched on September 14, 2020. As a result, CenturyLink, Inc. is referred to as Lumen Technologies, or simply Lumen. The legal name CenturyLink, Inc. is expected to be formally changed to Lumen Technologies, Inc. upon the completion of all applicable requirements.*

The address for the Plan Administrator is:

Lumen Employee Benefits Committee
214 E. 24th Street
Vancouver, WA 98663

However, please note that Claims and Appeals under the Plan should be directed to:

Lumen
Attn: Kate Fisher
14111 Capital Blvd., NCWKFR0326
Wake Forest, NC 27587-5900

Exhibit C, attached at the end of the attached plan document, is the List of Participating Companies and is updated from time to time without advance notice. Exhibit C is also available for examination at the office of the Plan Administrator during business hours. You may obtain a complete list of the Participating Companies upon making a written request to the Plan Administrator at the address above.

Service of Legal Process - Legal Process may be served on the Company's registered agent, CT Corporation System, at the following address:

CT Corporation System
5615 Corporate Boulevard
Suite 400B
Baton Rouge, LA 70808

Eligibility - The definition of "Eligible Employee" in Plan Article II establishes and describes eligibility and this definition has changed overtime. To be eligible, an Employee must have, as of his Termination Date, a job in grades M6 or above or E1 or above, or equivalent grades if a different job grading system is used, as reflected in the Company's personnel records. Other terms and conditions for Eligibility for benefits are explained in Section 3.01 (Conditions). **Please Note:** The definition of "Eligible Employee" in Article II also describes who is ineligible for benefits under the Plan. For example, if you are a Temporary Employee or are classified as a Project Based Employee, or if you voluntarily resign, you are ineligible for benefits. Refer to the Eligible Employee definition in Article II of the Plan.

Note for Level 3 employees effective Nov. 14, 2019: *With the successful completion of the LVL Corporate Transaction, you are participants in the Plan, subject to its terms and conditions.* The "LVL Corporate Transaction" means the corporate combination transaction described in the Agreement and Plan of Merger, dated as of October 31, 2016, by and among CenturyLink, Inc., Wildcat Merger Sub 1 LLC, WWG Merger Sub LLC and Level 3 Communications, Inc.

Conditions for Receipt of Benefits - An explanation of the conditions that must be fulfilled to receive benefits (such as, Release of claims, compliance with restrictive covenants, offsets from benefits, etc.) is in Article III, Section 3.01. As a condition to receiving Severance Benefits under this Plan, Participants are required to sign and timely return a form of Release in full of all claims, attached as Exhibit A, which form is subject to change over time and from time to time. Each Eligible Employee is required to adhere in all respects to the Company's ethics and compliance program, Code of Conduct, Employee Handbook and/or other applicable policies.

There is a Non-Compete Period which is the one year (12 consecutive months, not necessarily a calendar year) time period immediately following your Termination Date. For more information refer to the Article II definition of "Non-Compete Period" and Section 6.03 which explains that in exchange for Benefits, you agree not to engage in Competitive Employment which is also defined in Article II. Section 6.04 explains the obligation not to solicit Customers or other Employees. Please review these provisions carefully.

Your benefits may be impacted if you are offered a Comparable Position as defined by Article II.

Benefits. The purpose of the Plan is to provide benefits, Severance Pay and subsidized COBRA coverage for the Severance Period (and possibly up to a maximum of 12 months). Refer to

Exhibit D which has a matrix of the eligibility for COBRA subsidy. There is also an outplacement assistance benefit available to Eligible Employees by a reputable firm specializing in such services. Such assistance shall comply with the requirements of the duration of Treasury Regulation § 1.409A-1(b)(9)(v)(A).

For an Involuntary Termination, other than a Change in Control Termination, refer to Section 4.01. For a Change in Control Termination, refer to Section 4.02. Section 4.03 details the benefits available to Eligible Employees who incur either Involuntary or Change in Control Terminations. Section 4.01A explains the Lower Performer Benefit and who is eligible.

Service. Your Service with the Company is used to determine the amount of your Benefits. Please refer to the definition of Service in Plan Article II.

Timing and Method of Payments. Severance Pay is paid differently depending on whether the action is a Non-Change in Control Termination or a Change in Control Termination (refer to Article II for definitions of both Non-Change in Control Termination and Change in Control Termination).

Non-Change in Control Severance Benefits are paid in prorated installments, less withholding for all applicable federal, state and local taxes, over the length of the Participant's Severance Period. Such installments will begin no later than 60 days after the Eligible Employee's Termination Date, and will be paid on a bi-weekly basis, subject to the Eligible Employee's execution of a Release and the expiration of the seven day revocation period. Refer to Section 5.01(a).

Change in Control Severance Payments are paid in a single lump sum cash payment, less withholding for all applicable federal, state, and local taxes, subject to the Eligible Employee's execution of a Release and the expiration of the seven day revocation period. Refer to Section 5.01(b).

COBRA. Continuation health care coverage under the federal law known as "COBRA" is explained in Section 4.03(a) and summarized here. Your contribution obligation depends upon when you were notified and terminated from employment as described below.

Your current health coverage (medical, dental, and vision) will continue through the end of the month in which you separate from employment. (For example, if your separation from employment occurs on March 15, your health coverage will continue through March 31. If your separation of employment occurs on March 31 your health coverage will continue until midnight on March 31).

Once your health coverage terminates, you will have the opportunity to elect to continue your health coverage under the federal law, the Consolidated Omnibus Budget Reconciliation Act (COBRA), at the same cost to you while you were actively employed (the active employee rate, which is subject to change), for up to a maximum of the 18 month COBRA period (this is referred to as "subsidized COBRA coverage"). Typically, the COBRA period is a maximum of 18 months from the date coverage would otherwise terminate. The COBRA package will provide you with a description of your right to continue coverage through COBRA. Your COBRA continuation coverage period includes the period of subsidized COBRA coverage so that the maximum period of COBRA continuation coverage is 18 months (unless a second qualifying event occurs to extend it).

Subsidized COBRA Coverage: Certain Eligible Employees are also eligible for subsidized COBRA coverage but not all. For example, for Legacy Company Employees, eligibility for COBRA subsidy is explained in Exhibit D of the Plan; The individual would be required to pay the active employee share of the premium, which is subject to change. Subsidized COBRA coverage will terminate upon the earlier of:

- the date you discontinue COBRA coverage or otherwise become ineligible for COBRA coverage, or
- the date you are eligible to enroll (regardless of whether you actually enroll) in other group medical coverage.

You may elect to continue coverage for the balance of any COBRA period remaining, after the applicable subsidized COBRA coverage ends, by paying the COBRA rate, which is 102% of the cost of coverage.

The Section 4.03 subsidy does not extend the period for which you are eligible for COBRA continuation coverage.

Reminder: It is important that former employees report all address changes to Lumen through the Service Center at 1-800-729-7526.

Claims and Appeals - An Eligible Employee may make a claim for (1) recovery of benefits under the plan, (2) enforcement of the Participant's rights under the Plan, and (3) clarification of the Participant's rights to future benefits under the terms of the Plan. All claims must be submitted in writing to:

Lumen
Attn: Kate Fisher
14111 Capital Blvd., NCWKFR0326
Wake Forest, NC 27587-5900

Initial claims that are denied may then be appealed to the Plan Administrator.

Requirement to Exhaust Plan Procedures, 6 Month Deadline and Limitation on Court Venue. After the procedures specified in Sections 9.01 (Claims), 9.02 (Initial Claim), and 9.03 (Appeals of Denied Administrative Claims) are exhausted and a final decision has been made by the Plan Administrator, if an Eligible Employee wishes to pursue other legal proceedings, the action must be brought in the United States District Court in Denver, Colorado. Please refer to Plan Articles IX and X for Plan claims and appeals process and deadline, as well as waiver of jury trial and the Forum Selection provision.

Not An Insured Benefit - Plan benefits are not insured under Title IV of ERISA because MSP is an unfunded welfare benefit plan as explained above.

Plan Amendment and Termination - The Plan may be amended or terminated without prior notice in whole or in part at any time, with future or with retroactive effect, by a writing approved by Company's Board of Directors and signed on behalf of the Company by an officer duly authorized by the Board of Directors. The Plan may also be amended in writing by the Company's Plan Design Committee. Amendment or Termination of the Plan with respect to any

Participating Company will not affect the rights of any Eligible Employee to any Plan benefits that the Eligible Employee was entitled to prior to the date the amendment or termination was adopted. On termination of the Plan, all rights to benefits end if an Employee has not become already entitled. Refer to Section 8.01(a).

Plan Administrator's Discretion and Authority - The Company has delegated and reserved to the Plan Administrator the right to interpret and resolve any ambiguities in the Plan or any document relating to the Plan in its sole and absolute discretion. Benefits are determined by the Company in its sole and absolute discretion and do not create a contract of employment. Refer to Section 7.04.

CIRCUMSTANCES THAT MAY AFFECT YOUR PLAN BENEFITS

Under certain circumstances, all or a portion of your benefits under the Plan may be denied, reduced, suspended, terminated or otherwise affected, such as by a repayment obligation or a Change in Control. Many of these circumstances are addressed elsewhere in this SPD and in the attached Plan. Such circumstances, in general, include, but are not limited to:

- You were not eligible or become no longer an Eligible Employee, refer to the definition in Plan Article II which also explains who is an ineligible Employee, and Plan Section 3.01;
 - You were determined to be eligible only for the Lower Performer Benefits in Section 4.01A; You were terminated for Cause, unsatisfactory job performance, voluntary resignation or retirement, disability or death; refer to Plan definitions in Article II, and Plan Sections 4.04, 4.05, and Article VI, Restrictive Covenants;
 - You are not employed by a Participating Company, refer to Exhibit C;
 - The Plan is amended, suspended, or terminated, refer to Plan Section 8.01;
 - You untimely return or refuse to sign the Waiver and Release of claims, refer to Section 10.01 and Exhibit A;
 - You have received the maximum benefit available under the Plan;
 - You misrepresent or falsify any information required under the Plan;
 - You are found to have violated the Code of Conduct, refer to Plan Section 6.01;
 - You are found to have engaged in conduct that would have constituted "Cause" (as defined by the Plan in Article II), refer to Plan Sections 4.05 and Article VI (covenants);
 - You have been overpaid a benefit and the Plan seeks restitution, refer to Plan Section 4.06;
 - You have been given a Comparable Offer of Employment, refer to Plan Article I (definition of "Eligible Employee");
-

- You are employed at a Director Employment Level and above and you become employed during your Severance Period by a Competitor, refer to Plan Article II (definition of “Non-Compete Period” and Section 6.03);
- You have solicited Customers or Employees in violation of Section 6.04;
- You become reemployed by the Company during your Severance Period, refer to Exhibit A, Section 12;
- You are determined to have used or disclosed Company Information following your termination from employment, refer to Plan Section 6.02; or

Please Note: to the extent that the SPD and the Plan contain federal tax advice, such advice cannot be used to avoid federal tax penalties.

**LUMEN
EXECUTIVE SEVERANCE PLAN***

**AS UPDATED, AMENDED AND RESTATED
EFFECTIVE OCTOBER 10, 2017**

Updated to Reflect New Exhibits effective Nov. 14, 2019

**The Lumen brand was launched on September 14, 2020. As a result, CenturyLink, Inc. is referred to as Lumen Technologies, or simply Lumen. The legal name CenturyLink, Inc. is expected to be formally changed to Lumen Technologies, Inc. upon the completion of all applicable requirements.*

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Article I PURPOSE OF PLAN

Section 1.1 Purpose of the Plan. The Plan is not intended to be an “employee pension benefit plan” or “pension plan” within the meaning of section 3(2) of ERISA. Rather, the Plan is intended to be a “welfare benefit plan” within the meaning of section 3(1) of ERISA and to meet the descriptive requirements of a plan constituting a “severance pay plan” within the meaning of regulations published by the Secretary of Labor at 29 CFR § 2510.3-2(b). No employee contributions are required or permitted. Accordingly, no employee has or shall have a vested right to such benefits.

Section 1.2 Application of the Plan. The Plan shall generally be applicable to an Involuntary Termination, a Non-CiC Good Reason Resignation or a CiC Good Reason Resignation, as defined herein and except as described in Exhibits C and E. This Plan supersedes any other plan, policy, program, or arrangement providing an Eligible Employee with severance or related benefits, with the exception of (i) any vested benefits under another severance or change of control plan, policy, or arrangement which became effective prior to the Effective Date, and (ii) any contract between Company (including its predecessors) and an Eligible Employee concerning the provision of Severance Benefits following a termination of employment. The Plan applies to all Eligible Employees who are terminated due to one of the reasons listed in Article W of this Plan. The Effective Date for the implementation of this Restatement is October 10, 2017, and Exhibit C was modified November 14, 2019 to indicate the lapsing of the terms applicable to the transaction described in the Agreement and Plan of Merger, dated as of October 31, 2016, by and among CenturyLink, Inc., and Level 3 Communications, Inc (the “LVT Merger”) and it applies based on the date an Eligible Employee is notified of termination, an offer for a Non-Comparable Position or a Non-CiC Good Reason Trigger Event, and not the actual date of termination from employment with the Company (e.g., an employee notified on March 27, 2016 with a last day worked of April 15, 2016, is eligible for Benefits under the formula stated in the July 1, 2014 Plan Restatement rather than the formula stated in this April 1, 2016 Restatement); Notwithstanding any other provision hereof, there is intended to be no duplication of Severance Benefits to an Eligible Employee. As such, if an Eligible Employee has any vested rights under another severance or change of control plan, policy, arrangement or contract for severance benefits following termination of employment, this Plan shall not apply to such Eligible Employee with respect to such termination.

Section 1.3 Gender and Number. Whenever used herein, the masculine pronoun shall include the feminine and the singular shall encompass the plural, and vice versa.

Article II DEFINITIONS

The following definitions apply except as expressly provided in Exhibits C or E.

“**Base Salary**” means the Eligible Employee’s annual rate of base pay, as reflected in the Company’s payroll or personnel files, in effect on a specified date.

“**Board**” means the Board of Directors of the Company, or any successor thereto, or its delegate, including but not limited to, a committee thereof specifically designated for purposes of making determinations hereunder.

LUMEN EXECUTIVE SEVERANCE PLAN
As Amended and Restated Effective October 10, 2017
Reissued November 14, 2019. *Brand launch Oct. 2020

“Cause” means an Eligible Employee’s (i) failure to substantially comply with supervisor directives, including directives related to job performance (ii) misconduct, (iii) conduct that violates the Company’s ethics and compliance program, including its Code of Conduct, (iv) conduct that is injurious to the Company’s reputation, customer relationships, employees or finances, (v) act(s) that, if proven in a court of law, would constitute a felony crime, (vi) act(s) of dishonesty, fraud or moral turpitude, or (vii) violation of any of the restrictive covenants found in Article VI. The Plan Administrator, in its sole discretion, shall determine whether the elements of Cause have been met, including whether the facts and circumstances indicate that the Employee’s actions constitute a violation of the Company’s ethics and compliance program and/or are injurious to the Company.

“CEO” means the Executive Officer who is designated by the Board as the Chief Executive Officer of the Company.

“Change in Control” means any of the following events:

(a) the acquisition, directly or indirectly, by any “person” or “group” (as those terms are defined in sections 3(a)(9), 13(d), and 14(d) of the Exchange Act and the rules thereunder, including Rule 13d-5(b)) of “beneficial ownership” (as determined pursuant to Rule 13d-3 under the Exchange Act) of securities entitled to vote generally in the election of directors (“voting securities”) of the Company that represent 30% or more of the combined voting power of the Company’s then outstanding voting securities, other than:

(i) an acquisition by a trustee or other fiduciary holding securities under any employee benefit plan (or related trust) sponsored or maintained by the Company or any person controlled by the Company or by any employee benefit plan (or related trust) sponsored or maintained by the Company or any person controlled by the Company, or

(ii) an acquisition of voting securities by the Company or a corporation owned, directly or indirectly, by the stockholders of the Company of at least 50% of the voting power of the Company’s then outstanding securities in substantially the same proportions as their ownership of stock of the Company, or

(iii) an acquisition of voting securities pursuant to a transaction described in subsection (c) below that would not be a Change in Control under subsection (c) below;

(b) a change in the composition of the Board that causes less than a majority of the directors of the Company to be directors that meet one or more of the following descriptions:

(i) a director who has been a director of the Company for a continuous period of at least 24 months (or, if less, since the date the shares of Company common stock were listed on the New York Stock Exchange) or,

(ii) a director whose election or nomination as a director was approved by a vote of at least two-thirds of the then directors described in subsections 2.04(b)(i), (ii) or (iii) by prior nomination or election, but excluding, for the purpose of this subsection (ii), any director whose initial assumption to office occurred as a result of an actual or threatened (y) election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a person or group other than the Board or (z) tender offer, merger, sale of substantially all of the

Company's assets, consolidation, reorganization or business combination that would be a Change in Control under subsection (c) below on consummation thereof, or

(iii) who were serving on the Board as result of the consummation of a transaction described in subsection (c) below that would not be a Change in Control under subsection (c) below;

(c) the consummation by the Company (whether directly involving the Company or indirectly involving the Company through one or more intermediaries) of

- (i) a consolidation, merger, reorganization or business combination or
- (ii) a sale or disposition of all or substantially all of the Company's assets or
- (iii) the acquisition of assets or stock of another entity,

in each case, other than in a transaction, (x) that results in the Company's voting securities outstanding immediately before the transaction continuing to represent (either by remaining outstanding or by being converted into voting securities of the Company or the person that, as a result of the transaction, controls, directly or indirectly, the Company or owns, directly or indirectly, all or substantially all of the Company's assets or otherwise succeeds to the business of the Company (the Company or such person, the "Successor Entity")) directly or indirectly, at least 50% of the combined voting power of the Successor Entity's outstanding voting securities immediately after the transaction and (y) after which more than 50% of the members of the Board of the Successor Entity were members of the Board at the time of the Board's approval of the transaction or other action of the Board approving the transaction (or whose election or nomination was approved by a vote of at least two-thirds of the members who were members of the Board at that time), and (z) after which no person or group beneficially owns voting securities representing 30% or more of the combined voting power of the Successor Entity; provided, however, no person or group shall be treated for purposes of this subsection (z) as beneficially owning 30% or more of combined voting power of the Successor Entity solely as a result of the voting power held in the Company before the consummation of the transaction; or

(d) a liquidation or dissolution of the Company other than in connection with a transaction described in subsection (c) above that would not be a Change in Control thereunder.

"CiC Good Reason Resignation" means an Eligible Employee's written resignation that has been delivered to the Company within 30 calendar days of the notification to the Employee of any of the following events (each a "Trigger Event") related to a Change in Control:

(a) a reduction of more than 10% in the Eligible Employee's Base Salary in effect immediately prior to the Change in Control.

(b) a demotion that results in both (i) the movement of an Eligible Employee from one job level to a lower job level (that is, Senior Vice-President to Vice-President or below, Vice-President to Director or below, or Director to Manager or below) and (ii) a material reduction or diminution of authority, duties, responsibilities, and/or budget or fiscal authority. "Demotion" excludes any move from one job to another initiated by the Employee.

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(c) A relocation of the Eligible Employee's principal work location such that (i) the driving distance from the work location of the new position to the current position held immediately prior to the change in job location is more than 50 miles and (ii) the increase in commuting distance from the employee's current home location to his/her work location (comparing current position location against the new position location) is more than 50 miles.

- If an Employee's current position or new position is classified as "work at home" (i.e., with no assigned office at a Company facility), his/her home address is or, as applicable, will be deemed his/her work location with respect to such work at home position.

In order to constitute a CiC Good Reason Resignation, one of the above three Trigger Events must occur within one year following a Change in Control.

Notwithstanding the foregoing, the written resignation shall not constitute a "CiC Good Reason Resignation" if the Company fully corrects the circumstances which gave rise to Eligible Employee's claim that there has been a CiC Good Reason Resignation within 30 days following receipt of written notice from the Eligible Employee (the "30-day Cure Period"). If the Company does not fully correct the circumstances that gave rise to the CiC Good Reason Resignation within the 30-calendar day Cure Period, the Eligible Employee's employment shall be deemed to be a CiC Good Reason Resignation and to have Terminated no later than two years following the expiration of the 30-calendar day Cure Period or the Company's notice that it does not intend to cure, whichever is earlier.

"CiC Termination" means an Eligible Employee's Involuntary Termination within one year after the date of a Change in Control or his CiC-Good Reason Resignation.

"COBRA" means the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, as codified in section 4980B of the Code, and Part 6 of Title I of ERISA and as amended by subsequent legislation.

"Code" means the Internal Revenue Code of 1986, as amended, and regulations thereunder.

"Company" means Lumen Technologies, Inc.* and, solely Lumen Technologies, Inc.'s U.S.-based affiliates and subsidiaries, as well as any predecessor (specifically including but not limited to U.S.-based affiliates and subsidiaries of EMBARQ Corporation, Qwest Communications International, Inc., etc.) that are Participating Companies as defined in the Plan and on Exhibit C; non-participating Companies are also separately identified on Exhibit C.

** The Lumen brand was launched on September 14, 2020. As a result, CenturyLink, Inc. is referred to as Lumen Technologies, or simply Lumen. The legal name CenturyLink, Inc. is expected to be formally changed to Lumen Technologies, Inc. upon the completion of all applicable requirements.*

"Comparable Position" means a position offered by the Company or by another entity (e.g., one providing services to or purchasing assets from the Company) in connection with a reduction in headcount, an outsourcing to a vendor, a reorganization impacting two or more distinct business groups, a sale of distinct business groups, or a merger or acquisition other than a Change in Control, **and** that

- (i) involve a relocation of 50 miles or less such that either (i) the driving distance from the work location of the new position to the current position held immediately prior to the change in job location is 50 miles or less or (ii) the increase in commuting distance from the employee's current home location to his/her work location (comparing current position location against the new position location) is 50 miles or less.
 - If an Employee's current position or new position is classified as "work at home" (i.e., with no assigned office at a Company facility), his/her home address is or, as applicable, will be deemed his/her work location with respect to such work at home position.
- and
- (ii) has a Total Targeted Compensation (Base Salary plus target short term incentive or sales incentive opportunity) that is at least 90% of the Participant's current Total Targeted Compensation. A job at job grades P6 and below (or their equivalent) is not a "Comparable Position."

"Competitive Employment" means the direct or indirect performance of duties or responsibilities (whether paid or unpaid and whether as a consultant, employee or otherwise) for a Competitor, including, without limitation, the ownership of any interest in, the provision of any financing, management or advisory services to, any connection with or being a principal, partner or agent of, any Competitor; provided that the Eligible Employee may passively own less than 1% of the outstanding shares of any Competitor.

"Competitor" means any person, firm, company, corporation or other entity, that markets, sells, resells or otherwise engages in the business of selling to any business or government customer any product or service that is competitive, in any territory or location where the Company does business, with any of the following services, which may be changed from time to time and over time: local exchange telephone service (including services provided by wireless and cable providers), E-911 service, long distance services, dial-up and high-speed Internet access, security monitoring and related services, video delivery, web development, web hosting, high speed data services, wireless communications, IPTV and other video services (including satellite or cable television services), data hosting, cloud computing, any other product or service provided to customers of the Company which the Employee sold or supported, and any other products and services ancillary or related thereto. The burden is on the Eligible Employee to demonstrate that such person is not a Competitor.

"Effective Date" means October ?? 2020, when the Brand launch was incorporated into this October 10, 2017 Restatement. The Plan applies to all Eligible Employees of a Participating Company who are terminated due to one of the reasons listed in Article W of this Plan;

"Eligible Employee" means an Employee who holds, as of his Termination Date, a Director or Vice-President level job in grades P7 or above or E1 or above, or equivalent grades if a different job grading system is used, as reflected in the Company's personnel records. "Director or Vice-President level" jobs include those job titles which were classified as Director (M6 or M7) or Vice-President (E1 or above) jobs as of January 1, 2016. A Legacy Level 3 Employee will become an Eligible Employee upon the closing the LVL Corporate Transaction. A Legacy Level 3 SVP will become an Eligible Employee (and eligible for benefits under Sections 4.01,

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4.01A, 4.02 and 4.03) immediately after he or she ceases to participate in the Level 3 Communications Key Employee Severance Plan (KESP), provided he or she continues in employment with a Participating Company. An Employee who is terminated for job performance is an Eligible Employee, but solely for limited Severance Benefits as set for in Section 4.01A. An otherwise “Eligible Employee” is not eligible for: (a) benefits under this Plan relating to a Non-CiC Termination, including Sections 4.01 and 4.03 (“Non-CiC Severance Benefits”), if he has signed and not revoked a binding contract with Company (including its predecessors) concerning the provision of benefits similar to Non-CiC Severance Benefits to that Employee following a termination of employment and (b) benefits under this Plan relating to a CiC Termination, including Sections 4.02 and 4.03 (“CiC Severance Benefits”), if he has signed and not revoked a binding contract with Company (including its predecessors) concerning the provision of benefits similar to CiC Severance Benefits to that Employee following a termination of employment. If there is any question as to whether an Employee is an Eligible Employee for purposes of the Plan, the Administrator shall make the determination. The term “Eligible Employee” also excludes an Employee who signed a waiver of his rights under this Plan subsequent to the Effective Date. Additionally, an Employee is not an “Eligible Employee” if:

- (1) he is covered by the provisions of a collective bargaining agreement which address the same issues as this Plan, in which case the collective bargaining agreement will prevail, and this Plan shall not apply;
- (2) he is covered by the provisions of the Lumen Reduction In Force Policy or an individual employee agreement which address the same issues as this Plan, in which case the Lumen Reduction In Force Plan or such individual agreement will prevail and this Plan shall not apply;
- (3) the provisions of any other reduction in force or severance plan or policy apply to any group of employees of the Company (such as employees who join the Company via merger or acquisition who are covered by a reduction in force or severance plan or policy that remains in effect after the acquisition; employees of a particular subsidiary or division; or employees at a particular location), in which case the terms of such plan or policy shall apply and this Plan shall not apply;
- (4) he is a Temporary Employee, which term is defined to mean all employees of a Participating Company who are hired to perform an assignment which is not intended to be ongoing and which is intended to have a specified end date (by reference to a calendar end date or a project end date) and/or who are classified on the payroll and/or HR systems as “temporary;”
- (5) his employment with the Company is Terminated voluntarily, such as by resignation (whether or not the employee claims a constructive discharge or forced resignation) or retirement (whether or not such voluntary Termination may have been influenced by pending or threatened layoffs), or Terminated involuntarily due to attendance (other than absences that are protected by applicable law) or misconduct, including but not limited to violation of the Code of Conduct or other Company policies;
- (6) he is offered a Comparable Position, or he is offered and accepts a position with the Company, a vendor to which the Company outsourced the employee’s work, a buyer to which the Company has sold the business, or any successor to the Company, even if such position is a Non-Comparable Position;

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(7) he is not classified in the Company's payroll and/or HR systems as an "employee," regardless of whether such person is determined by any court, governmental agency or other entity to be an employee under any federal, state or local law, regulation or rule;

(8) he is employed by a non-U.S. subsidiary or affiliate, or he/she has been transferred from a non-U.S. subsidiary or affiliate to U.S. subsidiary or affiliate for a finite period of time pursuant to a letter of assignment; or is employed by a non-Participating Company identified on Exhibit C; or

(9) he is not employed by a Participating Company, or the participation of the Participating Company is limited by the Plan such that the employee is not eligible, as described in Exhibit C; or

(10) he is considered classified on the payroll and/or HR systems as a Government Services Modified Benefits employee or is categorized on the payroll and / or HRIS systems as a Project Based Employee.

"Employee" means an individual employed by a Participating Company within the United States as an employee, and excludes any person working for the Company through a temporary service or on a leased basis or who is hired by the Company as an independent contractor, consultant, or otherwise, and excludes a person who is not an employee, or not treated as such, for purposes of withholding federal employment taxes, as evidenced by payroll records or a written agreement with the individual, regardless of any contrary governmental or judicial determination or holding relating to such status or tax withholding.

"ERISA" means the Employee Retirement Income Security Act of 1974, as amended, and regulations thereunder.

"Executive Officer" means an Eligible Employee who is (i) a Vice-President, including Senior Vice-President and Executive Vice-President, reporting directly to the CEO, (ii) an Officer, other than the CEO, designated on an annual or other periodic basis as a Section 16 Officer of the Company, or (iii) an Officer, other than the CEO, designated by the Compensation Committee of the Board as a Senior Officer (as such term is defined in the Compensation Committee's charter).

"Involuntary Termination" means a Termination of the Eligible Employee's employment, initiated by the Company for any reason other than Cause, Permanent Disability or death.

"Legacy Level 3 Employee" "means any person who (i) is employed by Level 3 Communications, Inc., or any affiliate of it at the Vice-President level, other than any person covered by the Level 3 Key Executive Severance Plan (the "KESP" at Exhibit E), immediately prior to the closing of the LVL Corporate Transaction and (ii) remains employed by Level 3 Communications, Inc., or any affiliate of it immediately after the closing of the LVL Corporate Transaction.

"Legacy Level 3 SVP" " means person who (i) is, immediately prior to the closing of the LVL Corporate Transaction, employed by Level 3 Communications, Inc., or any affiliate of it at the Senior Vice-President level or above and is covered by the Level 3 Key Executive Severance Plan (the "KESP" at Exhibit E) and (ii) remains employed by Level 3 Communications, Inc., or any affiliate of it immediately following the closing of the LVL Corporate Transaction.

“LVLt Corporate Transaction” means the corporate combination transaction described in the Agreement and Plan of Merger, dated as of October 31, 2016, by and among CenturyLink, Inc., Wildcat Merger Sub 1 LLC, WWG Merger Sub LLC and Level 3 Communications, Inc.

“Non-CiC Good Reason Resignation” means an Eligible Employee’s written notice to the Company, delivered within 7 calendar days of the offer to the Employee of a Non-Comparable Position, declining such offer and resigning employment. The written resignation shall not constitute a “Non-CiC Good Reason Resignation” if the Company fully corrects the circumstances giving rise to the Non-CiC Good Reason Resignation within 30 days following receipt of written notice from the Eligible Employee (the “30-day Cure Period”). If the Company does not fully correct the circumstances that gave rise to the Non-CiC Good Reason Resignation within the 30-day Cure Period, the Eligible Employee’s employment shall be deemed to be a Non-CiC Good Reason Resignation and to have Terminated no later than two years following the expiration of the 30-day Cure Period or the Company’s notice that it does not intend to cure, whichever is earlier.

“Non-CiC Termination” means an Eligible Employee’s Involuntary Termination of employment prior to a Change in Control or his Non-CiC Good Reason Resignation.

“Non-Comparable Position” means a position offered by the Company or by another entity (e.g., one providing services to or purchasing assets from the Company) in connection with a reduction in headcount, an outsourcing to a vendor, a reorganization impacting two or more distinct business groups, a sale of distinct business groups, or a merger or acquisition other than a Change in Control, **and** that

- (i) involves a relocation of more than 50 miles in driving distance such that both (i) the driving distance from the work location of the new position to the current position held immediately prior to the change in job location is more than 50 miles and (ii) the increase in commuting distance from the employee’s current home location to his/her work location (comparing current position location against the new position location) is more than 50 miles.
- If an Employee’s current position or new position is classified as “work at home” (i.e., with no assigned office at a Company facility), his/her home address is or, as applicable, will be deemed his/her work location with respect to such work at home position.

and/or

- (ii) has a Total Targeted Compensation (Base Salary plus target short term incentive or sales incentive opportunity) that is less than 90% of the Participant’s current Total Targeted Compensation. A job at job grades P6 and below (or their equivalent) is a “Non-Comparable Position.”

“Non-Compete Period” means the one-year (12 consecutive months, not necessarily a calendar year or month) time period immediately following Termination Date.

“Participant” means an Eligible Employee entitled to Severance Benefits.

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“Participating Company” means any divisions, subsidiaries or affiliates of the Company that participate in the Plan on or after the Effective Date of this restatement of the Plan and as listed, or as may be restricted, on Exhibit C. The Company’s Plan Design Committee or the Vice President of Human Resources with responsibility for benefits, or their respective designee, have the authority to amend Exhibit C at any time and from time to time, including but not limited to, adding or restricting participation of an entity as a Participating Company as such participation is approved by the Plan Design Committee.

“Permanent Disability” means that an Eligible Employee has a permanent and total incapacity from engaging in any employment for the Company for physical or mental reasons. A “Permanent Disability” shall be deemed to exist if the Eligible Employee is judged to satisfy the requirements for disability benefits under the Company’s long-term disability plan.

“Plan” means the Lumen Executive Severance Plan, as set forth herein and as it may be amended from time to time.

“Plan Administrator” is the Lumen Employee Benefits Committee as delegated by the Board of Directors to administer the terms of the Plan. In the event any member of the Employee Benefits Committee is entitled to Severance Benefits under the Plan or makes a claim for benefits under the Plan, the remaining members of the Employee Benefits Committee shall act as the Plan Administrator for purposes of administering the terms of the Plan with respect to such employee. The Plan Administrator may delegate all or any portion of its authority under the Plan to any other person(s).

“Release” means the Confidential Separation Agreement and Release in Full of All Claims, substantially in the form attached hereto as Exhibit A, as the same may be amended from time to time in the sole discretion of the Company.

“Service” means the total number of completed years the Eligible Employee was an Employee of the Company, as reflected in the Company’s payroll and human resources records pursuant to the provisions of the Company’s Service Bridging Policy. Any period of employment with the Company, a Subsidiary, or a predecessor Company for which an Eligible Employee previously received Severance Benefits from the Company, shall be excluded from Service and, thus, not included in calculating any Severance Benefit, except to the extent the Eligible Employee repaid the Company the Severance Benefits relating to such Service pursuant to Section 4.07.

“Severance Benefit” means the severance pay amounts and benefits that a Participant is eligible to receive pursuant to Article W of the Plan based on the Eligible Employee’s Service and job performance.

“Severance Period” means the number of weeks for which an Eligible Employee is entitled to receive Severance Benefits pursuant to Article IV of the Plan based on the Eligible Employee’s Service.

“Specified Employee” means, subject to section 409A(2)(B)(i) of the Code and Treasury Regulations issued thereunder, (i) an Employee who is an officer of the Company or its Subsidiaries and having annual compensation (within the meaning of section 414(q)(4) of the Code) greater than \$170,000 (for 2016, as it may be adjusted for inflation as described in section 416(i) of the Code), provided the number of such officers who are considered Specified Employees shall be limited to 50 employees as described in section 416(i) of the Code, (ii) a

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five-percent owner of the Company and its Subsidiaries, or (iii) a one-percent owner of the Company and its Subsidiaries who has annual compensation from the Company and its Subsidiaries greater than \$150,000. For purposes of determining who are Specified Employees, all Employees of the Company and its Subsidiaries, including employees who are nonresident aliens, shall be considered. The Plan Administrator, or its duly-appointed designee, shall determine the Specified Employees each year in accordance with section 416(i) of the Code, the “specified employee” requirements of section 409A of the Code, and applicable regulations. Specified Employees shall be identified as of December 31 of each year with respect to the 12-month period beginning on the next following April 1.

“Subsidiary” means (a) a U.S.-based subsidiary of the Company (wherever incorporated, including but not limited to any subsidiary of EMBARQ Corporation, Qwest Communications International, Inc.), (b) any separately organized business unit, whether or not incorporated, of the Company, (c) any U.S.-based Company that is required to be aggregated with the Company pursuant to section 414 of the Code and regulations issued thereunder, and (iv) notwithstanding anything to the contrary herein, in order for employees a Subsidiary to be considered as eligible for benefits under the Plan, such Subsidiary must be listed as a Participating Company on Exhibit C and participation in this Plan is restricted as indicated on Exhibit C.

“Termination” or “Terminated” means a separation from service with the Company as defined in Treasury Regulation § 1.409A-1(h).

“Termination Date” means the date on which the active employment of the Eligible Employee by the Participating Company is severed, whether by reason of an Involuntary Termination, Voluntary Resignation, CiC Good Reason Resignation, Non-CiC Good Reason Resignation or Termination for Cause.

“Total Targeted Cash Compensation” means the Eligible Employee’s annual rate of Base Salary in effect on a specified date plus the targeted annual incentive opportunity under either the short-term incentive compensation program or the sales incentive compensation program, as applicable, on that same date.

“Voluntary Resignation” means any retirement or Termination that is not initiated by the Company other than a CiC Good Reason Resignation.

“Year of Service” means each completed full year of Service.

Article III ELIGIBILITY FOR BENEFITS

Section 1.1 Conditions.

(a) Except as expressly provided in Exhibit E, eligibility for and receipt of any Severance Benefits under the Plan are expressly conditioned on the Eligible Employee’s (i) execution of a Release in connection with his termination of employment with the Company; (ii) compliance with all the terms and conditions of such Release; (iii) compliance with all the terms and conditions of the restrictive covenants set forth in Article VI; (iv) execution of a written agreement that authorizes the deduction of amounts owed to the Company prior to the payment of any Severance Benefit (or in accordance with any other schedule as the Plan Administrator may determine to be appropriate); provided that, to the extent applicable, any such

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deduction shall be made in compliance with section 409A of the Code; and (v) acknowledgement that all decisions and determinations of the Plan Administrator shall be final and binding on the Eligible Employee, his beneficiaries and any other person having or claiming an interest under the Plan on his behalf. Subject to and contingent upon the consummation of the LVL Corporate Transaction, Severance Benefits for Legacy Level 3 Employees during the one-year period immediately following the closing of the LVL Corporate Transaction are described in Exhibit C, subject to all applicable Plan terms.

(b) If the Plan Administrator determines that the Eligible Employee has not fully complied with any of the terms of the Plan or the Release, the Plan Administrator, acting on behalf of the Company, may deny Severance Benefits not yet paid or discontinue the payment of the Eligible Employee's Severance Benefits and may require the Eligible Employee to repay any portion of any Severance Benefits already received under the Plan, by providing written notice of such repayment obligation to the Eligible Employee. If the Plan Administrator notifies a Participant that repayment of all or any portion of the Severance Benefits received under the Plan is required, such amounts shall be repaid within 30 calendar days of the date the written notice is sent. Any remedy under this subsection (b) shall be in addition to, and not in place of, any other remedy, including injunctive relief, that the Company may have.

Article IV DETERMINATION OF SEVERANCE BENEFITS

Section 1.1 Severance Benefits — Non-CiC Termination. Except as noted on Exhibit C, each Participant who incurs an Involuntary Termination, other than a CiC Termination or a Lower Performer termination, or who declines an offer of a Non-Comparable Position or incurs a Non- CiC Good Reason Resignation, shall, subject to the conditions of the Plan, receive the Severance Benefits as provided in this Section. The Severance Benefits described in this Section shall be paid in accordance with Article V.

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Tier Title	Severance Period
Directors at P7 or P8	2 weeks of Severance Benefits per year of Service, with a minimum of 12 weeks of Severance Benefits and a maximum of 34 weeks of Severance Benefits; Severance Benefits are calculated using Base Salary
Vice Presidents at E1 and E2	2 weeks of Severance Benefits per year of Service, with a minimum of 18 weeks of Severance Benefits and a maximum of 52 weeks of Severance Benefits; Severance Benefits are calculated using Base Salary
Vice-President at E3 or above, other than Executive Officers	6 weeks of Severance Benefits plus an additional 2 weeks of Severance Benefits for each Year of Service up to a maximum of 52 weeks, but in no event less than 39 weeks; Severance Benefits are calculated using Total Targeted Cash Compensation
Executive Officers	52 weeks of Severance Benefits, calculated using Total Targeted Cash Compensation
CEO	104 weeks of Severance Benefits, calculated using Total Targeted Cash Compensation

Eligible Employees who are in positions classified as “Regular Part-Time” status will receive severance benefits prorated based on the Eligible Employee’s weekly base salary or wages as of the employee’s last day of work (excluding overtime, bonus or incentive compensation) as noted in the HR payroll system. Any Eligible Employee who is in a position that is classified as “Regular Full Time” status but working less than a 40 hour work week will receive severance benefits prorated based on the Eligible Employee’s weekly base salary or wages as of the employee’s last day of work (excluding overtime, bonus or incentive compensation) as noted in the HR payroll system.

Section 4.1A Lower Performer Severance Benefit: Eligible Employees below the E3 job level who have at least one year of service are eligible for this Lower Performer Severance Benefit if they are terminated for poor job performance, such as missing sales targets or deficient leadership of their teams. An Employee who is terminated for poor attendance (other than absences that are protected by applicable law), misconduct, including but not limited to violation of the Company’s Code of Conduct, or violating other Company policies or supervisor directives, remains ineligible for Severance Benefits, including this Lower Performer Severance Benefit. As with other Severance Benefits under the Plan, the Lower Performer Severance Benefit is contingent upon the Participant signing an acceptable Release and complying with the restrictive covenants in Article VI of this Plan. The Severance Benefit under this subsection is:

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Tier Title	Severance Period
Directors at P7 or P8, and Vice Presidents at E1 and E2 with one year of service	1 week of Severance Benefits per year of Service, with a minimum of 2 weeks of Severance Benefits and a maximum of 8 weeks of Severance Benefits; Severance Benefits are calculated using Base Salary; the benefit is prorated, as applicable, for Part-Time status or Full-Time status working less than 40 hours in a work week

Section 1.2 Severance Benefits — CiC Termination. Except as noted on Exhibit C, each Participant who incurs a CiC Termination shall, subject to the conditions of the Plan, receive the Severance Benefits subject to the conditions of the Plan, as provided in this Section, which benefits shall be paid in accordance with Article V:

Tier Title	Severance Period
Director at P7 and P8	6 weeks of Severance Benefits, calculated using Total Targeted Cash Compensation plus an additional 2 weeks of Severance Benefits for each Year of Service up to a maximum of 52 weeks, but in no event less than 26 weeks; the benefit is prorated, as applicable, for Part-Time status or Full-Time status working less than 40 hours in a work week.
Vice-President at E1 or above, other than Executive Officers and the CEO	52 weeks of Severance Benefits, calculated using Total Targeted Cash Compensation; the benefit is prorated, as applicable, for Part-Time status or Full-Time status working less than 40 hours in a work week

Section 1.3 Severance Benefits — Non-CiC Terminations or CiC Terminations. Except as expressly noted on Exhibit C, the following additional provisions apply to Participants who incur either a CiC Termination or a Non-CiC Termination:

(a) Employee Benefits. Medical (including prescription drug), vision and dental benefits for the Participant and his/her dependents, if enrolled in the Company's Health Care Plan at the time of Termination, will continue through the last day of the month in which the Termination occurs. Eligibility for life insurance coverage and short-term disability coverage and benefits end on the date of termination from employment; however, in accordance with applicable laws and the respective plan documents, notice of any rights to continue, convert, or obtain replacement coverage will be provided to Participants.

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(i) COBRA. Participants, and if applicable, their dependents, who participate in the Company's Health Care Plan may elect under COBRA to continue coverage for a monthly charge for a maximum of 18 months beyond the date coverage would otherwise terminate, subject to the provisions of the applicable plans and COBRA. The Company will provide COBRA enrollment information to employees within 45 days following the Termination Date. Employees who wish to continue coverage must return the COBRA enrollment forms within 60 days from receipt of the COBRA notification.

Participants whose job levels are below E3 (or its equivalent) who elect COBRA coverage will be eligible to receive a subsidy to their COBRA payments according to the schedule in the chart attached at Exhibit D. Participants whose job levels are at E3 and above who elect COBRA coverage will be eligible to receive a subsidy to their COBRA payments according to the applicable schedule in Exhibit D. For all Participants, the subsidy means that the Participant will pay the same premium contribution rate for medical/prescription, vision and dental coverage during the period of the subsidy as comparable active employees pay. Following the expiration of the subsidy, the employee will pay the COBRA rate, which is 102% of the cost of coverage, as long as coverage remains in place.

(b) The COBRA subsidy will terminate upon the earlier of (i) the date the Participant discontinues COBRA coverage or otherwise becomes ineligible for COBRA coverage, or (ii) the date the Participant is eligible to enroll (regardless of whether he actually enrolls) in medical coverage sponsored by a subsequent employer of the Participant.

(c) Short Term Incentive or Sales Incentive Payment for Period Prior to Termination Date. Short-term incentive or sales incentive compensation for the period prior to the Termination Date shall be calculated and paid in accordance with the terms of the applicable short-term incentive compensation plan.

(d) Retirement Plans. The provisions of any applicable qualified and/or nonqualified defined contribution or defined benefit plan maintained by the Company pursuant to which an Eligible Employee is eligible to participate, shall control with respect to any recognition of service during the Severance Period and the eligibility for benefits before, during and after the Severance Period.

(e) Equity. The provisions of any applicable equity incentive plan or equity compensation plan maintained by the Company pursuant to which an Eligible Employee has received an equity grant and the Eligible Employee's relevant grant agreement shall control with respect to the treatment of the Eligible Employee's equity grants upon the Eligible Employee's Termination.

(f) Outplacement Assistance. The Company at its cost shall provide to the Participant outplacement assistance by a reputable firm specializing in such services. Such assistance shall comply with the requirements of the duration of Treasury Regulation § 1.409A-1(b)(9)(v)(A).

(g) Any failure to execute a Release within the time period set forth in Section 5.01 will result in the forfeiture of the compensation (if any) contingent upon execution of such Release.

Section 1.4 Voluntary Resignation; Termination for Death or Permanent Disability. If the Eligible Employee's employment terminates on account of the Eligible Employee's (a) Voluntary Resignation, (b) death, or (c) Permanent Disability, then the Eligible Employee shall not be entitled to receive Severance Benefits under this Plan and shall be entitled only to those benefits (if any) as may be available under the Company's applicable equity incentive plans, equity compensation plans, or equity grant agreements; other separation or severance plans, policies, or arrangements; or any other employee health, welfare, retirement or benefit plan.

Section 1.5 Termination for Cause. If the Company terminates the Eligible Employee's employment for Cause, the Eligible Employee shall not be entitled to receive Severance Benefits under this Plan. Notwithstanding any other provision of the Plan to the contrary, if the Plan Administrator determines that an Eligible Employee engaged in conduct that constitutes Cause at any time prior to the Eligible Employee's Termination Date, any Severance Benefits payable to the Eligible Employee under Article W shall immediately cease, and the Eligible Employee shall be required to return any Severance Benefits paid to the Eligible Employee prior to such determination. The Company may withhold paying Severance Benefits under the Plan pending resolution of an inquiry that could lead to a determination that Cause exists.

Section 1.6 Deductions from Severance Benefits. The Plan Administrator reserves the right to make deductions in accordance with applicable law for any monies owed to the Company by the Eligible Employee or the value of Company property that the Eligible Employee has retained in his possession, e.g., if an employee (a) was overpaid commissions/sales incentive, (b) had a negative PTO balance, (c) retained a company laptop or other property, or (d) used his corporate card for unauthorized personal purchases. To the extent applicable, any such deduction from Severance Benefits shall be made in compliance with section 409A of the Code. To the maximum extent allowed by applicable law, Eligible Employees are deemed, by their participation in the Plan and execution of a Release (which is a pre-condition to receipt of severance benefits hereunder), to have consented in writing to such deductions.

Section 1.7 Repayment of Severance Benefits upon Subsequent Rehire. Employees rehired by the Company before the expiration of the period covered by their Severance Benefit will be required to repay all or part of the Severance Benefit upon rehire. The repayment percentage is obtained by dividing the number of days remaining in the layoff period (i.e., the total number of days included in the Severance Benefit calculation minus the number of prior days in layoff status) by the total number of days included in the Severance Benefit calculation. The amount to be repaid is equal to the total Severance Benefit multiplied by the repayment percentage.

Article V

TIMING AND METHOD OF PAYMENT AND LIMITATION ON BENEFITS

Section 1.1 Timing and Method of Payment.

(a) Non-CiC Severance Benefits. Subject to Section 5.02 below, Non-CiC Severance Benefits (benefits under Sections 4.01 and 4.01A) shall be paid periodically, in prorated installments on a bi-weekly basis in accordance with the Company's normal payroll cycle, less withholding for all applicable federal, state and local taxes and other applicable withholdings and deductions, over the Participant's Severance Period. The first installment (including any retroactive installments) shall begin no later than 60 days after the Eligible Employee's

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Termination Date, subject to the Eligible Employee's execution of a Release and, if applicable, the expiration of any revocation period for such Release within such 60-day period.

(b) CiC Severance Benefits. Subject to Section 5.02 below, CiC Severance Benefits (benefits under Section 4.02) shall be paid in a single lump sum cash payment, less withholding for all applicable federal, state and local taxes and other applicable withholdings and deductions, no later than 60 days after the Eligible Employee's Termination Date, subject to the Eligible Employee's execution of a Release and, if applicable, the expiration of any revocation period for such Release within such 60-day period.

(c) General Rules. In the event of the Participant's death after he becomes entitled to Severance Benefits under the Plan, but prior to full payment of all Severance Benefits due to such Participant, any remaining Severance Benefits due to the Participant under Section 4.01, 4.01A or 4.02 above shall be paid to the Participant's estate in a lump sum payment within 60 days following written notification of the Participant's death. Interest will not be credited on any unpaid Severance Benefit due to a Participant. Payment(s) shall be made by direct deposit or by mailing to the last address provided by the Participant to the Company or such other reasonable method as determined by the Plan Administrator.

(d) Timing of Payment Rules Applicable to Specified Employees.

(i) If the Participant is a Specified Employee on the date of the Participant's Termination and there are benefits provided to the Employee hereunder that are taxable to the Participant, then the value of the aggregate amount of such taxable benefits provided to the Participant during the six month period following the Termination Date shall be limited to (A) the amount specified by section 402(g)(1)(B) of the Code for the year in which the Termination occurred, (B) medical benefits that are allowed to be provided during such time pursuant to Treasury Regulation § 1.409A-1(b)(9)(v)(B), (C) any amounts subject to the short-term deferral exception to section 409A of the Code, (D) any amount payable under the involuntary separation from service exception to section 409A of the Code, and (E) other payments to the extent they are covered by an exception to such 6-month delay applicable to Specified Employees, under section 409A of the Code, applicable Treasury Regulations and IRS guidance.

(ii) To the extent there has been delayed commencement of any portion of the Severance Benefits to which the Participant is entitled under this Plan in order to avoid a prohibited distribution under section 409A(a)(2)(B)(i) of the Code (any such delayed commencement, a "Payment Delay"), such portion of the Participant's Severance Benefit payments shall not be provided to Participant prior to the earlier of (A) the expiration of the six- month period measured from the date of Participant's Termination or (2) the date of the Participant's death. Upon the earlier of such dates, all payments deferred pursuant to the Payment Delay shall be paid in a cash lump sum payment to the Participant, and any remaining payments due under the Plan shall be paid as otherwise provided herein.

(e) Application of Section 409A of the Code. To the extent that the Company determines that any compensation or benefit payable under the Plan constitutes nonqualified deferred compensation within the meaning of section 409A of the Code, the Plan, with respect to such compensation or benefit, will be construed and interpreted to comply with the requirements of section 409A of the Code or one or more applicable exceptions thereto, in accordance with the statutory provisions of section 409A of the Code and any Treasury Regulations and other

interpretive guidance issued thereunder. Notwithstanding any provision of the Plan to the contrary:

(i) No Guaranty of Tax Liability. In no event does the Company guarantee any particular tax consequences, outcome or tax liability to Eligible Employees. No provision of the Plan shall be interpreted or construed to transfer any liability for failure to comply with the requirements of section 409A of the Code from an Eligible Employee or any other individual to the Company.

(ii) Additional Actions Permitted. In the event the Company determines that any compensation or benefit payable hereunder may be subject to section 409A of the Code, the Company (without any obligation to do so or obligation to indemnify any Eligible Employee for any failure to do so) may adopt, without the consent of any Eligible Employee, such amendments to the Plan or take any other actions that the Company in its sole discretion determines are necessary or appropriate for such compensation or benefit to either (a) be exempt from section 409A of the Code or (b) comply with the requirements of section 409A of the Code.

(iii) Actual Payment Date. Whenever a payment under the Plan specifies a payment period, the actual date of payment within such specified period shall be within the sole discretion of the Company, and no Participant shall have any right (directly or indirectly) to determine the year in which such payment is made.

(iv) Installments. Each installment payment payable hereunder shall be deemed to be a separate payment for purposes of section 409A of the Code. With respect to compensation or benefits subject to Code Section 409A that are paid pursuant to the Company's payroll schedule, in the event of any change in that payroll schedule after such compensation or benefits are no longer subject to a substantial risk of forfeiture, each installment or payment to be made to an Eligible Employee under this Plan shall be made according to such new payroll schedule in effect at the time of such payment, but in any event within thirty (30) days of the payroll date that would have applied pursuant to the payroll schedule in effect on the date that the compensation or benefits to such Employee were no longer subject to a substantial risk of forfeiture.

(v) Reimbursements. To the extent that any amounts payable hereunder are deemed to be reimbursements and other separation payments under Treasury Regulation §1.409A-1(b)(9)(v), they shall not be deemed to provide for the deferral of compensation governed by section 409A of the Code. If they do constitute deferral of compensation governed by Code Section 409A, they shall be deemed to be reimbursements or in-kind benefits governed by Treasury Regulation § 1.409A-3(i)(1)(iv). If the previous sentence applies, (i) the amount of expenses eligible for reimbursement or in-kind benefits provided during the Employee's taxable year shall not affect the expenses eligible for reimbursement or in-kind benefits in any other taxable year, provided that the foregoing shall not be violated by any lifetime or annual limits contained in the Company's group health plans; (ii) the reimbursement of an eligible expense must be made on or before the last day of the Eligible Employee's taxable year following the taxable year in which the expense was incurred and (iii) the right to reimbursement or in-kind benefits shall not be subject to liquidation or exchange for another benefit.

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(vi) Application of the exceptions to section 409A of the Code are additive, that is, the exceptions may be “stacked” and used in combination with other exceptions, including but not limited to the short-term deferral exception and the separation pay exception.

Section 1.2 Limitation on Benefits.

(a) Notwithstanding anything set forth in the Plan to the contrary, if any payment or benefit, including the Severance Benefits, an Eligible Employee would receive from the Company (“Payment”) would (i) constitute a “parachute payment” within the meaning of section 280G of the Code and (ii) but for this sentence, be subject to the excise tax imposed by section 4999 of the Code (the “Excise Tax”), then such Payment shall be reduced to the Reduced Amount. The “Reduced Amount” shall be either (i) the largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax or (ii) the largest portion, up to and including the total, of the Payment, whichever amount, after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in the Eligible Employee’s receipt, on an after-tax basis, of the greater amount of the Payment notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in payments or benefits (or a cancellation of the acceleration of vesting of stock options or equity awards) constituting “parachute payments” is necessary so that the Payment equals the Reduced Amount, such reduction and/or cancellation of acceleration shall occur in the order that provides the maximum economic benefit to the Eligible Employee. In the event that acceleration of vesting of a stock option or equity award is to be reduced, such acceleration of vesting also shall be canceled in the order that provides the maximum economic benefit to the Eligible Employee.

(b) The Company shall appoint a nationally-recognized accounting firm with appropriate subject matter expertise to make the determinations required under this Section 5.03.

(c) The Company shall bear all expenses with respect to the making of the determinations by such accounting firm required to be made under this Section 5.03. The accounting firm engaged to make the determinations under this Section 5.03 shall provide its calculations, together with detailed supporting documentation, to the Company and the Eligible Employee as soon as practicable after the date on which the Eligible Employee’s right to a Payment is triggered (if requested at that time by the Company or the Eligible Employee) or such other time as requested by the Company or the Eligible Employee. If the accounting firm determines that no Excise Tax is payable with respect to a Payment, either before or after the application of the Reduced Amount, it shall furnish the Company with an opinion reasonably acceptable to the Eligible Employee that no Excise Tax will be imposed with respect to such Payment. Any good faith determinations of the accounting firm made under this Section 5.03 shall be final, binding, and conclusive upon the Company and the Eligible Employee.

Article VI RESTRICTIVE COVENANTS

Section 1.1 Code of Conduct. Each Eligible Employee shall adhere in all respects to the Company’s ethics and compliance program, Code of Conduct, Employee Handbook and/or other applicable policies, as they may from time to time be established, interpreted, amended or terminated.

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Section 1.2 Proprietary Information.

(a) Each Eligible Employee shall acknowledge that, during the course of his employment, the Eligible Employee has learned or will learn or develop Proprietary Information. Each Eligible Employee shall further acknowledge that unauthorized disclosure or use of such Proprietary Information, other than in discharge of the Eligible Employee's duties, will cause the Company irreparable harm. Except in the course of his employment with the Company, in pursuit of the business of the Company, or as otherwise required in employment with the Company or by applicable law, each Eligible Employee shall not, during the course of his employment or at any time following termination of his employment, directly or indirectly, disclose, publish, communicate, or use on his behalf or another's behalf, any Proprietary Information. If during or after his employment, the Eligible Employee has any questions about whether particular information is Proprietary Information, the Eligible Employee shall consult with the Company's General Counsel or other representative designated by the Company.

(b) Each Eligible Employee shall also agree to promptly disclose to the Company any information, ideas, or inventions made or conceived by him or her that results from or are suggested by services performed by the Eligible Employee for the Company, and to assign to the Company all rights pertaining to such information, ideas, or inventions. Knowledge or information of any kind disclosed by the Eligible Employee to the Company shall be deemed to

have been disclosed without obligation on the part of the Company to hold the same in confidence, and the Company shall have the full right to use and disclose such knowledge and information without compensation to the Eligible Employee.

Section 1.3 Non-Competition.

(a) During the Eligible Employee's employment with the Company and during the Non-Compete Period, each Eligible Employee shall agree, to the maximum extent allowed under applicable law, that he shall not engage in Competitive Employment.

(b) If an Eligible Employee ceases to be employed by the Company because of the sale, spin-off, divestiture, or other disposition by the Company of a Subsidiary, division, or other divested unit employing the Eligible Employee, this provision shall continue to apply during the Non-Compete Period, except that the Eligible Employee's continued employment for the Subsidiary, division, or other divested unit disposed of by the Company shall not be deemed a violation of this provision.

Section 1.4 Inducement of Employees, Customers and Others. During an Eligible Employee's employment with the Company and during the Non-Compete Period, each Eligible Employee shall agree, to the maximum extent allowed under applicable law, that he will not, directly or indirectly, solicit, induce, or encourage any employee, consultant, agent or customer of the Company or its Subsidiaries or vendors or other parties doing business with the Company or its Subsidiaries, to terminate their employment, agency, or other relationship with the Company or its Subsidiaries or to render services for or transfer business to any Competitor, and each Eligible Employee shall not initiate discussion with any such person for any such purpose or authorize or knowingly cooperate with the taking of any such actions by any other individual or entity on behalf of the Competitor.

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Section 1.5 No Adverse Actions. During the Non-Compete Period, each Eligible Employee shall not, without the prior written consent of the Company, in any manner, solicit, request, advise, or assist any other person to (a) undertake any action that would be reasonably likely, or is intended, to result in a reorganization, merger, share exchange, transfer of ownership of 50% or more of the outstanding voting securities of the Company, consolidation, or sale or disposition of all or substantially all of the assets of the Company, or (b) seek to control or change the composition of the Board in any material manner.

Section 1.6 Return of Property. Each Eligible Employee shall, upon the Eligible Employee's Termination Date, return to the Company all property of the Company in the Eligible Employee's possession, including all notes, reports, sketches, plans, published memoranda, or other documents, whether in hard copy or in electronic form, created, developed, generated, received, or held by the Eligible Employee during the Eligible Employee's employment, concerning or related to the Company's business, whether or not containing or relating to Proprietary Information. Each Eligible Employee shall not remove, by e-mail, by removal of computer discs or hard drives, or by other means, any of the above property containing Proprietary Information, or reproductions or copies thereof, or any apparatus from the Company's premises without the Company's written consent.

Section 1.7 Non-Disparagement. Each Eligible Employee shall agree to refrain from making any statements about the Company, its Subsidiaries or their officers or directors that would disparage, or reflect unfavorably upon the image or reputation of the Company, its Subsidiaries or any such officer or director.

Section 1.8 Assistance with Claims.

(a) Each Eligible Employee shall agree, that, during and after the Eligible Employee's employment by the Company, the Eligible Employee shall assist the Company, on a reasonable basis, in the defense of any claims or potential claims that may be made or threatened to be made against it in any action, suit, or proceeding, whether civil, criminal, administrative, or investigative ("Proceeding") and shall assist the Company in the prosecution of any claims that may be made by the Company in any Proceeding, to the extent that such claims may relate to the Eligible Employee's services.

(b) Each Eligible Employee shall agree, unless precluded by law, to promptly inform the Company if the Eligible Employee is asked to participate (or otherwise become involved) in any Proceeding involving such claims or potential claims.

(c) Each Eligible Employee shall also agree, unless precluded by law, to promptly inform the Company if the Eligible Employee is asked to assist in any investigation (whether governmental or private) of the Company or its Subsidiaries (or its actions), regardless of whether a lawsuit has then been filed against the Company or its Subsidiaries with respect to such investigation.

Section 1.9 Reasonableness. In the event that any of the provisions of this Article VI should ever be adjudicated to exceed the time, geographic, service, or other limitations permitted by applicable law in any jurisdiction, then such provisions shall be deemed reformed in such jurisdiction to the maximum time, geographic, service, or other limitations permitted by applicable law.

Section 1.10 Equitable Relief.

(a) Each Eligible Employee shall acknowledge that the restrictions contained in this Article VI are reasonable and necessary to protect the legitimate interests of the Company, its Subsidiaries and its affiliates, that the Company would not have established this Plan in the absence of such restrictions, and that any violation of any provision of this Article VI will result in irreparable injury to the Company. Each Eligible Employee shall represent that his experience and capabilities are such that the restrictions contained in this Article VI will not prevent the Eligible Employee from obtaining employment or otherwise earning a living at the same general level of economic benefit as is currently the case. Each Eligible Employee shall further represent and acknowledge that (i) he has been advised by the Company to consult his own legal counsel in respect of this Plan, and (ii) that he has had full opportunity, prior to agreeing to participate in this Plan, to review thoroughly this Plan with his counsel.

(b) Each Eligible Employee shall agree that the Company shall be entitled to preliminary and permanent injunctive relief, without the necessity of proving actual damages and without posting a bond or other security, as well as an equitable accounting of all earnings, profits and other benefits arising from any violation of this Article VI, which rights shall be cumulative and in addition to any other rights or remedies to which the Company may be entitled.

(c) Each Eligible Employee shall also irrevocably and unconditionally consent to the service of any process, pleadings, notices or other papers in a manner permitted by the notice provisions of Section 10.04.

Section 1.11 Survival of Provisions. The obligations contained in this Article VI shall survive the termination of each Eligible Employee's employment with the Company and shall be fully enforceable, to the maximum extent allowed under applicable law, thereafter.

Article VII PLAN ADMINISTRATOR

Section 1.1 Authority and Duties. The Company has established this Plan on behalf of Company. The Company is the "Plan Sponsor" and the Employee Benefits Committee (the "EBC") is the "Plan Administrator" (unless and to the extent that Plan Administrator duties have been otherwise delegated), as those terms are defined under ERISA. In the absence of an EBC, the Company is the Plan Administrator. As Plan Administrator, the EBC shall have primary responsibility for the operation and administration of the Plan, and this responsibility shall be delegated as designated in the Plan or as determined by the EBC. To the extent of such delegation, the delegate shall be a "named fiduciary" of the Plan, as that term is defined in ERISA, and shall have all of the authority, discretion and powers of the Plan Administrator. It shall be the duty of the Plan Administrator to properly administer the Plan. The Plan Administrator shall have the full power, authority and discretion to construe, interpret and administer the Plan, to make factual determinations, to correct deficiencies therein, and to supply omissions. The Plan Administrator may adopt such rules and regulations and may make such decisions as it deems necessary or desirable for the proper administration of the Plan.

As set forth in this Section, "administration" of this Plan does not include any decisions to amend or terminate all or any portion of the Plan, which functions are reserved to the Company in its capacity as Plan Sponsor and not in any fiduciary capacity.

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Section 1.2 Compensation of the Plan Administrator. The Plan Administrator shall receive no compensation for services as such. However, all reasonable expenses of the Plan Administrator shall be paid or reimbursed by the Company upon proper documentation. The Plan Administrator shall be indemnified by the Company against personal liability for actions taken in good faith in the discharge of the Plan Administrator's duties.

Section 1.3 Records, Reporting and Disclosure. The Plan Administrator shall keep a copy of all records relating to the payment of Severance Benefits to Participants and former Participants and all other records necessary for the proper operation of the Plan. All Plan records shall be made available to the Company and to each Eligible Employee for examination during business hours except that an Eligible Employee shall examine only such records as pertain exclusively to the examining Eligible Employee and to the Plan. The Plan Administrator shall prepare and shall file as required by law or regulation all reports, forms, documents and other items required by ERISA, the Code, and every other relevant statute, each as amended, and all regulations thereunder (except that the Company, as payor of the Severance Benefits, shall prepare and distribute to the proper recipients all forms relating to withholding of income or wage taxes, Social Security taxes, and other amounts that may be similarly reportable).

Section 1.4 Discretion. Any decisions, actions or interpretations to be made under the Plan by the Plan Administrator shall be made in its sole and absolute discretion, subject to the terms of the Plan and applicable law, and need not be uniformly applied and such decisions, actions or interpretations shall be final, binding and conclusive upon all parties, with respect to denied claims for Severance Benefits. Not in limitation, but in amplification of the foregoing and of the authority conferred upon the Plan Administrator, the Plan Sponsor specifically intends that the Plan Administrator and its duly authorized delegates have the greatest permissible discretion to construe the terms of the Plan and to determine all questions concerning eligibility, participation, and benefits. The decisions by the Plan Administrator or any delegates shall be conclusive and binding, and any interpretation, determination, or other action by them is intended to be subject to the most deferential standard of review. Such standard of review is not to be affected by any real or alleged conflict of interest on the part of the Plan Administrator or its delegates. The EBC delegated its authority and discretion to review and grant or deny initial claims under the Plan to Severance Analyst, Legal & Corporate Administration, and this delegation has been accepted. In addition to the duties and powers described hereunder and elsewhere in this Plan, the Plan Administrator or its delegate is specifically given the discretionary authority and such powers as are necessary for the proper administration of the Plan, including, but not limited to, the following:

- to resolve ambiguities or inconsistencies,
- to supply omissions and the like,
- to make determinations, grants, or denials of the amount, manner, and time of payment of any Benefits under the terms of the Plan,
- to authorize its agents or delegates to execute or deliver any instrument or make payments on the Plan Administrator's behalf or with respect to the Plan;
- to select and retain counsel, service providers, vendors, employ agents, and provide for such clerical, accounting, actuarial, legal, consulting and/or claims processing

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services as it deems necessary or desirable to assist the Plan Administrator in the administration of the Plan;

- to prepare and distribute, in such manner as the Plan Administrator determines to be appropriate, summary plan descriptions and other information explaining the Plan;
- to receive from each Participating Company and from Eligible Employees such information as shall be necessary for the proper administration of the Plan, and to require such information as a condition to receiving benefits under the Plan;
- to furnish the Company, upon request, such annual reports with respect to the administration of the Plan as the Plan Administrator deems reasonable and appropriate;
- to receive, review and keep on file, as the Plan Administrator deems necessary or appropriate, reports of Plan payments and reports of disbursements for expenses; and
- in general to decide and /or settle questions and disputes,

and all such authorizations, interpretations, determinations, decisions and settlements shall be final and binding for purposes of the Plan.

Section 1.5 Implementation of the Plan is Non-Fiduciary. The decision to implement the Plan and as to which employees, if any, will be included in an Involuntary Termination or terminated due to job performance, as well as all other Management Team decisions, including but not limited to, offering ongoing employment, shall be determined by the Management Team as Plan sponsor functions and not in any fiduciary capacity. Management shall have unlimited discretion under the Plan in making Involuntary Termination decisions.

Article VIII AMENDMENT, SUSPENSION AND TERMINATION

Section 1.1 Amendment, Suspension and Termination.

(a) In General. Except as otherwise provided in this Article VIII, the Plan may be amended, suspended or terminated, without prior notice, in whole or in part at any time, with future or with retroactive effect, by a writing approved by Board of Directors and signed on behalf of the Company by an authorized officer. The Plan may also be amended in writing by the Plan Design Committee. Amendment or termination of the Plan with respect to any Subsidiary of the Company shall not affect the rights of any Eligible Employee to any Plan benefit to which such Eligible Employee may have become irrevocably entitled under the Plan prior to the date such amendment or termination is adopted. On termination of the Plan, all rights to benefits end unless an Eligible Employee already has become entitled to such benefits. The Plan Design Committee or the Vice President - Legal with responsibility for Severance Benefits, or their respective designee, have the authority to amend Exhibit C, "List of Participating Companies," at any time and from time to time, including but not limited to, adding an entity as a Participating Company as such participation is approved by the Plan Design Committee.

(b) Prospective Operation of Amendments. Any amendment, suspension or termination shall operate prospectively only and shall not impair an Eligible Employee's right to

retain any amount paid to him/her prior to the date of the amendment, suspension or termination (except as expressly provided herein) or cause the cessation of Severance Benefits after an Eligible Employee has executed a Release as required under Article III.

Section 1.2 Continuation of Plan. Subject to Section 8.01, the Plan shall continue and shall be binding on the Company and its successors until the Company and/or its successors have fully performed all of the Company's obligations under the Plan with respect to all Eligible Employees covered under the Plan as of the Effective Date.

Article IX CLAIMS PROCEDURES

Section 1.1 Claims. Except as expressly provided in Exhibit E, The Plan Administrator, in its sole discretion, shall determine eligibility for Severance Benefits and the amount of Severance Benefits, as well as the administration of Severance Benefits, in accordance with the terms of this Plan. An Eligible Employee or his beneficiary, as applicable (the "claimant") may contest such determinations by completing and filing with the Plan Administrator a written request for review in the manner specified by the Plan Administrator within 90 days following the Eligible Employee's Termination Date. A Participant must send a written claim to the Plan Administrator as follows:

The Lumen Employee Benefits Committee
c/o Lumen Technologies, Inc.
214 E. 24th Street
Vancouver, WA 98663.

Each such application must be supported by such information as the Plan Administrator deems relevant and appropriate. The claimant may not bring an action for any alleged wrongful denial of Plan benefits in a court of law unless the claims and appeals procedures described in this Article IX are exhausted and a final determination has been made by the Plan Administrator or its delegate. If the claimant challenges a decision by the Plan Administrator or its delegate, any review by a court of law will be limited to the facts, evidence and issues presented to the Plan Administrator during the claims procedure set forth in this Article IX. Facts and evidence that become known to the claimant after such individual has exhausted the claims procedure must be brought to the attention of the Plan Administrator for reconsideration. Issues not raised with the Plan Administrator will be deemed waived.

Section 1.2 Initial Claim. In the event that any claim under Section 9.01 is denied in whole or in part, the claimant whose claim has been so denied shall be notified of such denial in writing by the Plan Administrator, or its delegate, within ninety (90) days after the receipt of the claim for benefits. This period may be extended an additional ninety (90) days if the Plan Administrator, or its delegate, determines such extension is necessary and the Plan Administrator, or its delegate, provides notice of the extension to the claimant prior to the end of the initial ninety (90) day period. The notice advising of the denial shall: (i) specify the reason or reasons for denial, (ii) make specific reference to the Plan provisions on which the determination was based, (iii) describe any additional material or information necessary for the claimant to perfect the claim (explaining why such material or information is needed), and (iv) describe the Plan's review procedures and the time limits applicable to such procedures, including a statement of the claimant's right to bring a civil action under section 502(a) of ERISA following an adverse benefit determination on review.

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Section 1.3 Appeals of Denied Administrative Claims. All appeals of denied claims shall be made by the following procedure:

(a) A claimant whose claim has been denied shall file with the Plan Administrator a written notice of appeal of the denial. Such notice shall be filed within sixty (60) calendar days of receipt of notification by the Plan Administrator of the denial of a claim, shall be made in writing, and shall set forth all of the facts upon which the appeal is based. Appeals not timely filed shall be barred.

(b) The Plan Administrator shall consider the merits of the claimant's written presentations, the merits of any facts or evidence in support of the denial of benefits, and such other facts and circumstances as the Plan Administrator shall deem relevant.

(c) The Plan Administrator shall render a determination upon the appealed claim which determination shall be accompanied by a written statement as to the reasons therefore. The determination shall be made to the claimant within sixty (60) days of the claimant's request for review, unless the Plan Administrator determines that special circumstances require an extension of time for processing the claim. In such case, the Plan Administrator shall notify the claimant of the need for an extension of time to render its decision prior to the end of the initial sixty (60) day period, and the Plan Administrator shall have an additional sixty (60) day period to make its determination. The determination so rendered shall be binding upon all parties. If the determination is adverse to the claimant, the notice shall: (i) provide the reason or reasons for denial, (ii) make specific reference to the Plan provisions on which the determination was based, (iii) state that the claimant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information relevant to a the claimant's claim for benefits, and (iv) state that the claimant has the right to bring a civil action under section 502(a) of ERISA.

Section 1.4 Deadline to Bring a Plan Claim, Arbitration or Civil Suit.

(a) Claims regarding any Benefit under the Plan must be submitted in writing within six (6) months of the earlier of:

- (i) the date a claimant has reason to believe that the Plan has not been properly administered or
- (ii) the date that a claimant did not receive a Plan benefit to which he believes he was entitled.

(b) Plan claims and appeals procedures as explained, above must be completely and timely exhausted by a claimant/Participant. A civil lawsuit, arbitration or other proceeding must be filed not later than one (1) year after the exhaustion of these internal Plan remedies as described in this Article IX.

Article X MISCELLANEOUS

Section 1.1 Waiver of Jury Trial.

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(a) The Company waives and each Employee upon becoming an Eligible Employee in the Plan shall waive his, her or its right to a jury trial in any court action arising under the Plan or otherwise and whether made by claim, counter-claim, third-party claim or otherwise.

(b) If for any reason the jury waiver is held to be unenforceable, but only in that event, the Eligible Employee and the Company agree to binding arbitration for any dispute arising out of this Plan or any claim arising under any federal, state or local statutes, laws or regulations, pursuant to the arbitration terms set forth on attached Exhibit B.

(c) The agreement of the Eligible Employee to waive his right to a jury trial will be binding on his beneficiaries or assigns and will survive the termination of this Plan.

Section 1.2 Forum Selection. Except as the laws of the United States may otherwise require, any and all disputes relating to or arising under this Policy to enforce or interpret this Policy must be brought by civil action. Any court proceeding brought by you or the Company to enforce rights or obligations related to or arising under any provision of this Plan (a “Claim”) must be brought in the United States District Court in Denver, Colorado (the “Court”) or, if and only if another proceeding is pending between you and the Company in another jurisdiction and a Claim would be related to such pending proceeding, in such other jurisdiction. Each party agrees to personal jurisdiction in either venue. Each Participant, by virtue of his or her participation in this Policy, irrevocably consents to the jurisdiction and venue in the Court and that any and all disputes shall be adjudicated solely by the Court, and further irrevocably waives any defense based on lack of venue, personal jurisdiction, forum non conveniens, transfer, priority doctrines, and any defense(s) of similar type or import except that, as noted in Section 10.01, if the Court refuses to enforce the jury waiver in Section 10.01, the case shall proceed in arbitration.

Section 1.3 Non-Alienation of Benefits. None of the payments, benefits or rights of any Participant shall be subject to any claim of any creditor of any Participant, and, in particular, to the fullest extent permitted by law, all such payments, benefits and rights shall be free from attachment, garnishment (if permitted under applicable law), trustee’s process, or any other legal or equitable process available to any creditor of such Participant. No Eligible Employee shall have the right to alienate, anticipate, commute, plead, encumber or assign any of the benefits or payments that he may expect to receive, contingently or otherwise, under this Plan, except for the designation of a beneficiary.

Section 1.4 Notices. All notices and other communications required hereunder shall be in writing and shall be delivered personally or mailed by registered or certified mail, return receipt requested, or by overnight express courier service. In the case of the Eligible Employee, mailed notices shall be addressed to him or her at the home address which he most recently communicated to the Company in writing. In the case of the Company, mailed notices shall be addressed to the Plan Administrator.

Section 1.5 No Mitigation. Eligible Employees shall not be required to mitigate the amount of any Severance Benefit provided for in this Plan by seeking other employment or otherwise, nor shall the amount of any Severance Benefit provided for herein be reduced by any compensation earned by other employment or otherwise, except if the Eligible Employee is re-employed by the Company, in which case Severance Benefits shall cease.

Section 1.6 No Contract of Employment. Neither the establishment of the Plan, nor any modification thereof, nor the creation of any fund, trust or account, nor the payment of any

benefits shall be construed as giving any Eligible Employee or any person whosoever, the right to be retained in the service of the Company, and all Eligible Employees shall remain at-will employees, subject to discharge to the same extent as if the Plan had never been adopted.

Section 1.7 Severability of Provisions. Except to the extent provided in Section 6.09, if any provision of this Plan shall be held invalid, illegal or unenforceable by a court of competent jurisdiction, as to such jurisdiction that provision shall be limited (“blue penciled”) to the minimum extent necessary so that this Plan shall otherwise remain enforceable in full force and effect. To the extent such provision cannot be so modified, the offending provision shall, as to such jurisdiction, be deemed severable from the remainder of this Agreement, and the remaining provisions contained in this Agreement shall be construed to preserve to the maximum permissible extent the intent and purposes of this Agreement.

Section 1.8 Unfunded Plan. The Plan shall not be funded. No Participant shall have any right to, or interest in, any assets of the Company that may be applied by the Company to the payment of Severance Benefits. Payments of Severance Benefits under the Plan shall be paid from the Company’s general assets, in accordance with the terms of the Plan.

Section 1.9 Payments to Incompetent Persons. Any Severance Benefit payable to or for the benefit of a minor, an incompetent person or other person incapable of receipting therefore shall be deemed paid when paid to such person’s guardian or to the party providing or reasonably appearing to provide for the care of such person, and such payment shall fully discharge the Company, the Plan Administrator and all other parties with respect thereto.

Section 1.10 Lost Payees. A Severance Benefit shall be deemed forfeited if the Committee is unable to locate an Eligible Employee to whom a Severance Benefit is due. Such Severance Benefit shall be reinstated if application is made by the Eligible Employee for the forfeited Severance Benefit while this Plan is in operation.

Section 1.11 Controlling Law. This Plan shall be construed and enforced according to the laws of the State of Colorado to the extent not superseded by Federal law. Any provision of this Plan that is determined by a court to be in conflict with any applicable Federal or State laws shall be deemed amended by this paragraph to conform to the minimum requirements of such laws, except to the extent they are preempted by BRISA.

Section 1.12 Clerical Error. By participation in this Plan, each Eligible Employee agrees that any amount paid in error will be returned promptly to Company and a payment error does not create a legally binding right to payment under this Plan. If a clerical error or other mistake occurs, however occurring, including but not limited to, by the Plan Administrator, its delegates, members of the Employee Benefits Group of the Company’s Human Resources Organization, Vendors, a Participant, such clerical error or mistake does not and shall not create a right to a Benefit under the Plan. When an error is found, it will be corrected or adjusted appropriately as soon as practicable. Interest shall not be payable by the Plan, the Plan Administrator or any delegate with respect to a Benefit corrected or adjusted.

Executed this 14 day of September, 2020

Lumen Technologies, Inc.*

By: /s/ Scott A. Trezise

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Scott A. Trezise, Chair
CenturyLink Plan Design Committee

** The Lumen brand was launched on September 14, 2020. As a result, CenturyLink, Inc. is referred to as Lumen Technologies, or simply Lumen. The legal name CenturyLink, Inc. is expected to be formally changed to Lumen Technologies, Inc. upon the completion of all applicable requirements.*

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**EXHIBIT A
SEPARATION AGREEMENT
AND RELEASE IN FULL OF ALL CLAIMS**

Employee Name: NAME
Employee ID: PERNR
Work City, State: WORK CITY, STATE

Notice to Employee: You should discuss this Separation Agreement with an attorney prior to signing it. In any event, you should thoroughly review and understand the effect of this document before acting upon it. Therefore, please take this Separation Agreement home and carefully consider it before you decide whether to sign it. You have 45 calendar days from the date of receipt of this Separation Agreement in which to decide whether to sign it.

This Separation Agreement and Release in Full of All Claims ("Agreement") is made by and between

NAME ("**Employee**")

AND

The subsidiary or affiliate of CenturyLink, Inc. (doing business as Lumen*) which is Employee's employer, as reflected on Employee's pay/salary statements and W-2 form ("**Employer**").

1. Intent to Resolve all Claims. In connection with Employee's separation and termination of employment with Employer at the close of business on DATE ("Termination Date"), Employer and Employee desire to settle and compromise fully and finally all differences between them, including, but not limited to, all claims Employee has or might have asserted against Employer arising out of the employment with Employer or termination of that employment.

2. Severance Pay. Employee is entitled to Severance Pay provided all the following conditions have been met: (1) Employee's employment has terminated, (2) Employee has signed this Agreement on or after his/her last day of work and has returned it to Employer at the address provided in the notification letter, (3) the revocation period described in paragraph 21 has expired and Employee has not revoked the Agreement and (4) Employee has complied in full with the terms of this Agreement, including but not limited to paragraphs 9, 10, 11 and 12 (collectively, the "Conditions").

Employer agrees to pay Employee the gross sum of \$AMOUNT less withholdings, as severance pay. Severance will be paid in pro-rated installments on a bi-weekly basis over a 34 week period of time beginning no later than 60 days after the Termination Date, in accordance with Article V of the Executive Severance Plan (the "Plan"). In addition, Employer will provide a COBRA subsidy as further described in Paragraph 4 below.

- A. COBRA Subsidy for up to COBRA MONTHS, whereby Employee effectively pays the same rate for Medical/Prescription, Vision and Dental insurance during

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the subsidy period as active employees. The subsidy may terminate prior to the end of COBRA MONTHS, as specified in the Plan. Following the expiration of the subsidy, Employee will pay 102% of the cost of coverage, as long as COBRA coverage remains in place.

B. Outplacement assistance in accordance with Section 4.03 of the Plan.

In addition to the benefits described in the Plan, and provided the above Conditions have been met, certain tranches of restricted shares granted will be accelerated as reflected on the attached Stock-Based Compensation Summary, attached as Exhibit A, within a reasonable period of time after the Termination Date.

3. Payment in Full of All Compensation and Benefits. Employee hereby expressly acknowledges and agrees that Employee has been paid for all work performed and is not entitled to from Employer as of the date of separation, except for: (i) final pay earned by Employee but not yet payable under Employer's normal payroll cycle and not yet due under state law, (ii) unpaid sales compensation, if applicable, which will be determined by Employer and paid in accordance with the terms of the applicable sales compensation plan, (iii) applicable prorated short term incentive or bonus plan payment, subject to Employee signing and not revoking this Agreement, and (iv) severance payments payable under the terms of this Agreement.

4. Termination of Group Health Insurance/Continuation Coverage. Subject to applicable laws, Employee and dependent group health (medical, prescription, dental and vision) insurance coverage, if any, will end on 10/31/2020. Employer will provide, in accordance with applicable laws and plan documents, notice of any rights to continue, convert, or obtain (a) continued health coverage at Employee's own expense, and (b) replacement coverage for any life insurance coverage in effect prior to Employee's separation from employment. If Employee is eligible to continue health insurance coverage pursuant to COBRA and elects to do so, Employee is eligible for a COBRA subsidy (equal to the company subsidy provided for equivalent active employee coverage for similarly situated employees) for up to a maximum of 1 month, subject to earlier termination of the subsidy as described in COBRA or the applicable severance plan.

5. Full and Complete Waiver and Release. Employee hereby accepts Employer's payment and promises in this Agreement in full settlement and satisfaction of all grievances, claims, actions and lawsuits of every nature and kind whatsoever, known or unknown, suspected or unsuspected, past, present or future, in any way related to or arising from the employment relationship between Employer and Employee or the termination of that relationship, which Employee has or might have asserted against Employer in the future.

In connection with Employee's waiver of potential claims unknown to Employee at the time of signing the Agreement, if Employee lives in California, Employee hereby waives the provisions of section 1542 of the California Civil Code, which states: "A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his favor at the time of executing the release, and that if known by him or her would have materially affected his or her settlement with the debtor or released party."

Employee releases, acquits, and forever discharges and covenants not to sue Employer, and its related and parent companies, including CenturyLink, Inc. and its affiliates such as EMBARQ Corporation, Qwest Communications International, Inc., SAVVIS, Inc., Level 3 Communications, Inc., and their subsidiaries, predecessors and successors (collectively

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“CenturyLink”), and each of their individual directors, officers, employees, agents and insurers, and assigns (collectively, the “Company”) as well as the Company’s shareholders, directors, officers, employees, agents, employee benefit plans, and insurers, and all other persons who might be claimed to be liable, to the fullest extent allowed by law, of and from any and all grievances, claims, actions and lawsuits arising out of or related to Employee’s employment with Employer or the termination of that employment, other than as expressly excepted in paragraph 6. Although (as noted in paragraph 6) this Agreement does not limit Employee’s right to file a charge with an administrative agency or participate in an agency investigation, Employee waives the right to recover additional compensation related to the employee’s prior employment or termination of employment with Employer in connection with any charge or investigation by any agency, regardless of whether Employee or someone else initiated that charge or investigation. Employee hereby assigns to Employer all rights to such compensation, if any, in consideration of the payments received under this Agreement.

This release includes to the fullest extent allowed by law, but is not limited to, any and all claims, grievances, actions or lawsuits in any forum, which have been, might have been, or in the future might be asserted by Employee and/or on behalf of Employee, under local, state and federal laws, administrative regulations, Executive Orders, and wage payment or equal employment opportunity legislation such as Title VII of the Civil Rights Act of 1964; the Sarbanes-Oxley Act of 2002 (15 USC § 78d-3); the Civil Rights Acts of 1866, 1870, 1871, 1964, and 1991; 42 U.S.C. § 1981, 1981a, 1983, 1985, or 1988; rehire or reemployment rights, the Age Discrimination in Employment Act; the Family and Medical Leave Act; the Older Workers Benefit Protection Act; the Americans with Disabilities Act; the Labor Management Relations Act; the National Labor Relations Act; the Employee Retirement Income Security Act of 1974, as amended to include COBRA and HIPAA, among other laws, the Uniformed Services Employment and Reemployment Rights Act; the Worker Adjustment and Retraining Notification (WARN) Act, 23 U.S.C. § 2101, including WARN Act claims that may arise after the date on which this Agreement became effective, and Executive Order 11246, all as amended as well as any and all state law, common-law or statutory claims, including retaliation, tort, fraud, misrepresentation and wrongful discharge claims; contract claims, including express or implied contract and breach of the covenant of good faith and fair dealing; and claims for attorneys’ fees (collectively, the “Claims”). “Claims” shall include all claims relating to Employee’s application for employment, background checks, privacy, unfair competition, compensation, hiring, employment, resignation, discharge, termination, and wages, including any disputes related to sales compensation for any months for which final payment has been made under the terms of any applicable sales compensation plan documents.

6. Exceptions to the Release. Notwithstanding any other provisions of this Agreement, nothing in this Agreement will waive, release, modify, or otherwise affect any of Employee’s accrued and vested rights under existing pension and 401(k) plans, such as claims for vested benefits under the Employer-sponsored Pension or 401(k) plans, or under state workers’ compensation and unemployment laws. This Agreement is not intended to change or modify any provision of any benefit plan governed by ERISA. With the exception of claims under the WARN Act, this Agreement does not govern claims or rights based on events that may occur after the date of this Agreement. Also excluded from this Agreement is your right to file a charge with an administrative agency, participate in an agency investigation and to file an unfair labor practice charge. You are, however, waiving all rights to recover money in connection with any such charge, investigation or related lawsuit, except that nothing in this Agreement is intended to waive your right to seek, receive or retain any monetary award you may be entitled to related to any federal whistleblower action.

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7. No Pending Claims. Employee represents that there are no complaints, grievances, or claims related to Employee's employment with Employer or termination of that employment pending or filed against Employer, including grievances, claims, or charges filed or pending with any local, state, or federal agency or court as of the date this Agreement was signed.

8. No Admission of Liability. Nothing in this Agreement shall be interpreted as an admission of liability as to any of the complaints, claims, or lawsuits that it releases. Employer and each of its individual directors, officers, employees, agents and insurers, and their successors, individually and collectively, expressly deny any such liability.

9. Restrictive Covenants; Prohibitions on Solicitation of Customers and Employees. Employee agrees to each of the Restrictive Covenants listed in Article VI of the Plan including, but not limited to, the restrictions for a period of one year following the Termination Date against competitive employment and against inducing employees, customers or others to reduce, limit, terminate or discontinue their transactions, services, employment or relationship with the Company. The terms "solicit" and "induce," as used in this paragraph, apply to any contacts by Employee, regardless of whether Employee or another person initiated the first contact. Employee understands that if Employee breaches this paragraph 9, the Company is entitled to recover any and all damages caused by such breach.

If your work location immediately prior to your separation from employment was in the State of California, the above prohibition on soliciting customers does not apply to you.

If your work location immediately prior to your separation from employment was in the State of Louisiana, the above prohibition on soliciting customers applies only within the Restricted Territory, as defined on Exhibit D hereto.

10. Cooperation. Employee agrees to cooperate with Employer in connection with any internal or external investigation or dispute involving Employer with respect to which Employee possesses relevant information. If Employer, in its sole discretion, determines that such cooperation is required, then upon reasonable notice and at reasonable times, and for reasonable periods, Employee agrees that Employee will make him or herself available for interviews, and witness preparation sessions and for appearances in connection with any external investigation or dispute (including, but not limited to, appearances at depositions, hearings and trials). Recognizing that upon Employee's departure from Employer, participating in interviews and witness preparation sessions may be a burden, Employer agrees to reimburse Employee time spent in interviews and witness preparation sessions requested by Employer at a rate equal to Employee's final base pay computed on an hourly basis (assuming a 40 hour week). Employer will not reimburse Employee for testimony or time spent at the request of a third party or time spent with regard to Employee's own defense or in pursuing Employee's own action. In addition, Employer will reimburse Employee for reasonable expenses incurred in connection with such interviews and witness preparation sessions (except that Employer will not reimburse Employee for lost wages, lost opportunities etc. other than through payment of the hourly rate referred to above). Employee agrees that Employer will not pay you for any time spent testifying in any external investigation or dispute (including, but not limited to, appearances at deposition, hearings and trials). Nothing in this Agreement shall limit, restrict, preclude or influence Employee's testimony in any way or cause Employee not to provide truthful testimony or information in any matter or in response to any inquiry by a government official. Employer's

agreement to reimburse Employee as described above is premised on Employee providing completely truthful information during any internal or external investigation or dispute.

11. No Disparagement. Employee agrees and covenants not in any way (directly or indirectly) to do or say anything at any time which disparages or derogates Employer or its business interests or reputation, or any of its individual directors, officers, employees, customers, or agents. However, nothing in this Paragraph shall limit Employee's right to file a charge of discrimination, participate in any agency investigation, or file an unfair labor practice charge as provided in paragraph 6. In addition, this paragraph does not prohibit Employee from providing truthful information a) as required by applicable law or regulation or by legal or regulatory process or proceeding or b) to governmental or regulatory agencies.

12. Property of Employee and Employer. Employee has possession of all of Employee's personal property that was on Employer's premises. Employee has returned all copies and originals of any Company property, documents, computer programs, or other records, regardless of how created, copied, stored and/or maintained, specifically including any documents or records relating to the Company's finance, accounting and/or audit policies and procedures. Employee has returned to Employer all Company property, including without limitation computer, cell phone, badge and security access equipment, Company credit cards, calling cards, etc. no later than the date of termination. In addition, Employee agrees to make no disclosure or use whatsoever of any proprietary or confidential information, data, developments or trade secrets belonging to the Company. This Agreement does not supersede the Intellectual Property Rights Agreement or any other similar written agreement with the Company.

13. Repayment Requirements. Employees rehired by CenturyLink before the expiration of the period covered by their severance allowance will be required to repay all or part of the allowance. The repayment amount will be determined by subtracting the number of days in layoff status before rehire from the number of days included in the severance allowance, and then dividing that amount by the total number of days included in the severance allowance. The resulting percentage will be applied to the total severance amount to determine the amount to be repaid.

14. Choice of Venue, Jury Trial and Class Action Waiver-Court Proceedings. If Employee lives anywhere other than California, any claims under this Agreement must be brought in the United States District Court for the Western District of Louisiana or, if there is no federal jurisdiction, in the 4th Judicial District Court in Ouachita Parish, and Employee and Employer expressly consents to the jurisdiction of such court. The Parties voluntarily, knowingly and intelligently waive and relinquish the right to a trial before a jury in any action, brought in any court, concerning this Agreement or any other claim against Employer. Employee also expressly agrees to bring Claims against Employer in an individual capacity, and not as a plaintiff or class member in any purported class, collective or representative action. If for any reason either the jury waiver or the class action waiver of this paragraph is held to be unenforceable, but only in that event, the Parties agree to binding arbitration of any Claims, or any dispute arising out of this Agreement, pursuant to the arbitration terms set forth on the attached Exhibit C.

15. Agreement to Arbitrate Claims. If Employee lives in California, in consideration for and as a pre-condition to receiving severance pay under this Agreement, Employee agrees to this Agreement to Arbitrate Claims set forth in Exhibit C. This Agreement to Arbitrate Claims is governed by the Federal Arbitration Act, as amended, 9 U.S.C. §§ 1, et seq. ("FAA").

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16. Severability. To the extent that any provisions in this Agreement are deemed illegal and/or unenforceable, the parties agree that this Agreement shall be interpreted so that all other obligations and protections established by it are enforceable.

17. Final, Binding and Entire Agreement. This Agreement contains the entire agreement and understanding between the parties regarding the termination of Employee's employment, severance to which employee is entitled, and disputes concerning Employee's employment with Employer up to the date of this Agreement. It incorporates and supersedes all prior written and oral agreements on these subjects. This Agreement, however, does not supersede, modify, or limit any non-compete or non-solicit agreement previously signed by Employee. Employee specifically reaffirms and agrees to continue to abide by the terms of any such non-compete or non-solicit agreement and all such agreements remain in full force. This Agreement may be amended only by a written document signed by the parties which specifically states that it was intended as an amendment.

18. Acknowledgements. You acknowledge and agree that the severance pay and benefits described in paragraphs 2 and 4 of this Agreement are in addition to whatever you already are entitled to receive apart from this Agreement. You also acknowledge that termination of your employment is not in connection with an "exit incentive program" or "other employment termination program," as defined in the Older Worker Benefit Protection Act ("OWBPA"). Thus, you acknowledge and agree that you are not entitled to any information which employers are required to disclose under the OWBPA (such as a description of the decisional unit, the job titles and age of all individuals in that decision unit who were or were not selected benefits) when such a program exists.

19. WARN. If Employer paid any payments under WARN, Employee agrees and acknowledges that the method used to determine the rate of pay and benefits is reasonable and fairly compensates Employee for the sixty day WARN Act period. In addition, Employee agrees and acknowledges that the separation pay is a voluntary and unconditional payment from Employer, which Employer is not legally obliged to provide unless you sign this Agreement, and such pay is sufficient and adequate consideration for your release of any WARN Act claims that you may have either now or in the future as a result of your termination of employment.

20. Section 409A. This Agreement will be construed and interpreted to comply with the requirements of Section 409A of the Internal Revenue Code, to the extent applicable, or one or more applicable exceptions thereto, in accordance with the provisions of section 409A of the Code and any Treasury Regulations or interpretive guidance issued thereunder.

21. Consideration and Revocation Periods. Employee hereby acknowledges having been allowed at least forty-five (45) days to consider this Agreement and that if the Agreement is signed sooner, such decision is entirely voluntary. Employee has been advised in writing by Employer to consult an attorney prior to signing this Agreement and to ask the attorney to review and explain this Agreement. Employee has thoroughly reviewed this Agreement and understands this Agreement and the effect of it. If Employee lives anywhere other than Minnesota, Employee understands that Employee may revoke this Agreement for a period of seven (7) days after signing it, and that the Agreement will not become effective or enforceable until the seven-day period has expired without such revocation. If Employee lives in Minnesota, Employee understands that Employee may revoke this Agreement for a period of fifteen (15) days after signing it, and that the Agreement will not become effective or enforceable until the fifteen-day period has expired without such revocation.

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EMPLOYEE NAME

Employee Signature

Date of Signature

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EXHIBIT C (to EXHIBIT A)
Agreement to Arbitrate Claims

In consideration for and as a pre-condition to receiving severance pay under this Agreement, Employee agrees to this Agreement to Arbitrate Claims. This Agreement to Arbitrate Claims is governed by the Federal Arbitration Act, as amended, 9 U.S.C. §§ 1, et seq. ("FAA").

BOTH EMPLOYER AND EMPLOYEE VOLUNTARILY, KNOWINGLY, AND INTELLIGENTLY AGREE TO BINDING ARBITRATION OF ANY AND ALL CLAIMS (AS DEFINED IN PARAGRAPH 5 ABOVE) WHICH HAVE NOT BEEN WAIVED AND RELEASED BY THIS AGREEMENT. BOTH EMPLOYER AND EMPLOYEE WAIVE ANY RIGHT THEY MAY OTHERWISE HAVE TO A JURY TRIAL AND TO PURSUE REMEDIES IN COURT OR OTHER FORUMS EXCEPT as noted below. If, however, Employee would otherwise be legally or contractually permitted or required to exhaust administrative remedies to obtain legal relief, Employee may pursue permitted administrative remedies and must exhaust required administrative remedies prior to pursuing arbitration. The terms of this Agreement to Arbitrate Claims shall apply to Claims against Employer, its parents, subsidiaries, affiliates, and their directors, officers and employees, and any of their respective successors or assignees and to Claims against the Employee, his or her heirs, executors, administrators, or legal representatives.

In the event that a court concludes that this Agreement to Arbitrate Claims is not enforceable under the FAA in a particular case, the law of the state in which Employee principally performed the duties of Employee's position with Employer shall apply and govern the arbitrability of all Claims in that case. In all cases, arbitrability shall be determined by a court of competent jurisdiction. The substantive law of the state in which Employee principally performed the duties of Employee's position with Employer, to the extent it is consistent with the terms stated in this Agreement to Arbitrate Claims, shall apply to any Claims. A single neutral arbitrator will conduct the arbitration under the Judicial Arbitration and Mediation Services Inc. ("JAMS") Employment Arbitration Rules and Procedures ("JAMS Rules") in effect when the demand for arbitration is filed. The current rules can be accessed at www.jamsadr.com. Employer will provide a printed copy of the current rules upon request. Other than as set forth in this Agreement, the arbitrator shall have no authority to add to, detract from, change, amend or modify existing law. The parties will mutually agree on the arbitrator (who does not need to be on the JAMS panel) and the location of the arbitration. The arbitrator shall have the authority to order such discovery as is necessary for a fair resolution of the dispute. The arbitrator shall also have the authority to award any and all relief or remedies provided under the statute or other law pursuant to which an asserted prevailing claim or defense is raised, as if the matter were being decided in court. The arbitrator may award punitive damages, where provided for by statute or the common law, subject to applicable caps (including but not limited to Title VII of the Civil Rights Act of 1964, as amended; the Civil Rights Act of 1991, as amended; the Age Discrimination in Employment Act of 1967, as amended; and the Americans with Disabilities Act of 1990, as amended), and the arbitrator shall be bound by any limitations on the amount of punitive or other damages imposed by said statutes or laws or the U.S. Constitution. **The arbitrator shall not have authority to hear any class, collective, consolidated or representative claims but is limited to individual claims.**

The arbitrator will apply the same statutes of limitation that would apply in court. The arbitrator will honor claims of privilege recognized by law, and will take reasonable steps to

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protect confidential or proprietary information, including the use of protective orders. The arbitrator's award will be in writing and shall include the essential findings of fact and conclusions of law on which the award is based. The arbitrator's decision and award shall be final and binding as to all Claims that were or could have been raised in the arbitration, except as otherwise provided by the FAA, and judgment upon the award rendered by the arbitrator may be entered by any court having jurisdiction thereof.

A party may apply to a court of competent jurisdiction for temporary or preliminary injunctive relief in connection with an arbitrable controversy in accordance with applicable law, and any such application shall not be deemed incompatible with or a waiver of this agreement to arbitrate. The court to which the application is made is authorized to consider the merits of the arbitrable controversy to the extent it deems necessary in making its ruling, but only to the extent permitted by applicable law. All determinations of final relief, however, will be decided in arbitration.

Nothing in this Agreement for Arbitration prohibits Employee from reporting possible violations of state or federal law or regulation to any government agency or entity, including but not limited to the Equal Employment Opportunity Commission, Department of Justice, the Securities and Exchange Commission, the U.S. Congress, and any agency Inspector General, or making other disclosures that are protected under the whistleblower provisions of law.

Attorneys' Fees and Costs. For arbitrations commenced by Employee pursuant to this section, the JAMS Rules applicable to initial filing fees shall apply, but in no event will Employee be responsible for any portion of those fees in excess of the filing or initial appearance fees applicable to court actions in the jurisdiction where the arbitration will be conducted. Employer otherwise shall pay all costs and expenses unique to arbitration, including without limitation the arbitrator's fees. Employer will pay all of the arbitrator's fees and expenses if it commences the arbitration. Each party will pay its own attorneys' fees and costs in arbitration and in court proceedings, except an arbitrator has the discretion to award the prevailing party reasonable attorneys' fees and costs where fees and costs are expressly permitted under the law.

Exceptions to Arbitration Requirement. The only exceptions to the parties' obligations to arbitrate disputes are:

- (1) **Exception for Sarbanes-Oxley (SOX) whistleblower claims.** This Agreement to Arbitrate Claims does not require arbitration of any claims to enforce rights or remedies provided by 18 U.S.C. § 1514A.
- (2) **Exception for Employees Working for a CenturyLink Entity that is party to Certain Federal Contracts.** If Employee works for a CenturyLink Entity that is party to a Federal contract that is: 1) in excess of \$1,000,000; 2) awarded after February 17, 2010; and 3) funded under the Department of Defense Appropriations Act of 2010, then he/she is not required to resolve through arbitration any claim under Title VII of the Civil Rights Act of 1964 or any tort related to or arising out of sexual assault or harassment, including assault and battery, intentional infliction of emotional distress, false imprisonment, or negligent hiring, supervision or retention.
- (3) **Exception for Miscellaneous Claims.** All claims for employee benefits under the Employee Retirement Income Security Act ("ERISA") of 1984, as amended, are

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governed by the terms of the applicable plan and/or ERISA. Similarly, claims for workers' compensation or unemployment compensation benefits are not subject to the terms of this Agreement to Arbitrate Claims. Employee retains the right to file administrative claims with any state or federal agency including, but not limited to the National Labor Relations Board, the Equal Employment Opportunity Commission and the Department of Labor.

Waiver of Right to Bring Class, Collective, Consolidated or Representative Actions. EMPLOYEE AND EMPLOYER AGREE THAT THEY VOLUNTARILY, KNOWINGLY, AND INTELLIGENTLY WAIVE ANY RIGHT THEY MAY HAVE TO BRING OR OTHERWISE PARTICIPATE WITH OTHER PERSONS IN ANY CLASS, COLLECTIVE, CONSOLIDATED ACTION OR REPRESENTATIVE ACTION UNDER ANY FEDERAL, STATE OR LOCAL LAW OR STATUTE TO THE FULLEST EXTENT PERMITTED BY LAW (hereinafter "Class Action Waiver"). Accordingly, both Employer and Employee agree to bring any dispute in arbitration on an individual basis only, and not on a class or collective basis on behalf of others. There will be no right or authority for any dispute to be brought, heard or arbitrated as a class or collective action, or as a member in any such class or collective proceeding.

Notwithstanding any other provision of this Agreement or the JAMS Rules, disputes in court or arbitration regarding the validity, enforceability or breach of the Class Action Waiver may be resolved only by the court and not by an arbitrator. In any case in which (1) the dispute is filed as a class or collective action and (2) there is a final judicial determination that all or part of the Class Action Waiver is unenforceable, the class and/or collective action to that extent must be litigated in a civil court of competent jurisdiction, but the portion of the Class Action Waiver that is enforceable shall be enforced in arbitration. Employee will not be retaliated against, disciplined or threatened with discipline as a result of Employee's filing of or participation in a class or collective action in any forum. However, Employer may lawfully seek enforcement of this Agreement to Arbitrate Claims and the Class Action Waiver under the Federal Arbitration Act and seek dismissal of such class and collective actions or claims. The Class Action Waiver shall be severable in any case in which the dispute is filed as an individual action and severance is necessary to ensure that the individual action proceeds in arbitration.

Private attorney general representative actions brought on behalf of the state under the California Labor Code are not arbitrable, not within the scope of this Agreement to Arbitrate Claims and may be maintained in a court of law, but a claim Employee brings on Employee's own behalf as an aggrieved employee for recovery of underpaid wages (as opposed to a representative claim for civil penalties) is arbitrable.

Severability. If any term of this Agreement to Arbitrate Claims is held to be invalid or unenforceable or contrary to public policy or any law by a court of competent jurisdiction, the term shall be severed in its entirety from this Agreement; the remaining terms of this Agreement shall remain in full force and effect. Employer does not agree that class, collective, consolidated or representative claims may be arbitrated.

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EXHIBIT D (to EXHIBIT A)**Restricted Territory for Non-Compete and Non-Solicit**

STATE	COUNTY/PARISH
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AL	Limestone Madison
AR	Crittendon Pulaski
AZ	Maricopa Pima Yavapai Coconino
CA	Los Angeles Orange San Francisco Alameda Santa Clara Sacramento Placer San Diego Riverside San Bernardino
CO	Denver Adams Arapahoe Douglas El Paso Boulder Larimer Weld Pueblo Mesa
DC	Washington, DC
DE	Camden

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FL	Hillsborough Pinellas Orange Osceola Miami-Dade Broward Lee Leon Duval Collier Okaloosa Walton
GA	Fulton Cobb
IA	Polk Warren Linn Black Hawk Dubuque Johnson Pottawattamie Scott
ID	Ada Canyon Bonneville
IL	Cook DuPage McLean Rock Island St. Clair Will
IN	Marion Hamilton
KS	Johnson Wyandotte
KY	Jefferson

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LA	Acadia
	Allen
	Avoyelles
	Beauregard
	Bienville
	Bossier
	Jefferson Davis
	LaSalle
	Lincoln
	Morehouse
	Orleans
	Ouachita
	Caddo
	Calcasieu
	Caldwell
	Catahoula
	Claiborne
	East Baton Rouge
	Evangeline
	Franklin
	Jackson
	Rapides
	Richland
	St. Helena
	St. Landry
	St. Martin
	Union
	Webster
	West Baton Rouge
MA	Suffolk
	Norfolk
	Middlesex
MD	Baltimore
MI	Wayne
	Macomb
	Kent
MN	Clay
	St. Louis
	Sherburne
	Benton
	Stearns Olmsted
	Winona
	Hennepin
MS	Ramsey
	DeSoto

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MO	Boone Cole Callaway St. Louis City and County Jackson Clay
MT	Yellowstone Flathead
NC	Wake Mecklenburg Gaston Cabarrus
ND	Burleigh Cass
NE	Douglas
NM	Bernalillo Santa Fe
NV	Clark
NJ	Essex New Castle
NY	Erie Niagara New York Kings Bronx Richmond Queens Essex Nassau Suffolk
OH	Franklin Cuyahoga Lorain Lake Hamilton Butler Warren Summit Mahoning Trumbull

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OK	Osage Tulsa Wagoner Oklahoma Canadian Cleveland Pottawatomie
OR	Crook Lane Jackson Multnomah Washington
PA	Allegheny Dauphin Cumberland Philadelphia
SD	Minnehaha Lincoln
TN	Davidson Rutherford Williamson Knox Washington Carter Sullivan Shelby Sullivan Hawkins Washington
TX	Dallas Denton Tarrant Harris Fort Bend Chambers Bexar Medina Comal Travis Williamson Nueces Aransas San Patricio
UT	Salt Lake Weber Davis Utah

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VA	Arlington
	Fairfax
	Richmond
	Washington
	Virginia Beach
	New Port News
	Norfolk
WA	Clark
	King
	Pierce
	Spokane
	Kitsap
WI	Thurston
	Dane
	Milwaukee
	Waukesha
	Brown
WY	La Crosse
	Laramie

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EXHIBIT B

Agreement to Arbitrate Claims

In consideration for and as a pre-condition to receiving severance pay under this Agreement, Employee agrees to this Agreement to Arbitrate Claims. This Agreement to Arbitrate Claims is governed by the Federal Arbitration Act, as amended, 9 U.S.C. §§ 1, et seq. ("FAA").

BOTH EMPLOYER AND EMPLOYEE VOLUNTARILY, KNOWINGLY, AND INTELLIGENTLY AGREE TO BINDING ARBITRATION OF ANY AND ALL CLAIMS (AS DEFINED IN PARAGRAPH 5 ABOVE) WHICH HAVE NOT BEEN WAIVED AND RELEASED BY THIS AGREEMENT. BOTH EMPLOYER AND EMPLOYEE WAIVE ANY RIGHT THEY MAY OTHERWISE HAVE TO A JURY TRIAL AND TO PURSUE REMEDIES IN COURT OR OTHER FORUMS EXCEPT as noted below. If, however, Employee would otherwise be legally or contractually permitted or required to exhaust administrative remedies to obtain legal relief, Employee may pursue permitted administrative remedies and must exhaust required administrative remedies prior to pursuing arbitration. The terms of this Agreement to Arbitrate Claims shall apply to Claims against Employer, its parents, subsidiaries, affiliates, and their directors, officers and employees, and any of their respective successors or assignees and to Claims against the Employee, his or her heirs, executors, administrators, or legal representatives.

In the event that a court concludes that this Agreement to Arbitrate Claims is not enforceable under the FAA in a particular case, the law of the state in which Employee principally performed the duties of Employee's position with Employer shall apply and govern the arbitrability of all Claims in that case. In all cases, arbitrability shall be determined by a court of competent jurisdiction. The substantive law of the state in which Employee principally performed the duties of Employee's position with Employer, to the extent it is consistent with the terms stated in this Agreement to Arbitrate Claims, shall apply to any Claims. A single neutral arbitrator will conduct the arbitration under the Judicial Arbitration and Mediation Services Inc. ("JAMS") Employment Arbitration Rules and Procedures ("JAMS Rules") in effect when the demand for arbitration is filed. The current rules can be accessed at www.jamsadr.com. Employer will provide a printed copy of the current rules upon request. Other than as set forth in this Agreement, the arbitrator shall have no authority to add to, detract from, change, amend or modify existing law. The parties will mutually agree on the arbitrator (who does not need to be on the JAMS panel) and the location of the arbitration. The arbitrator shall have the authority to order such discovery as is necessary for a fair resolution of the dispute. The arbitrator shall also have the authority to award any and all relief or remedies provided under the statute or other law pursuant to which an asserted prevailing claim or defense is raised, as if the matter were being decided in court. The arbitrator may award punitive damages, where provided for by statute or the common law, subject to applicable caps (including but not limited to Title VII of the Civil Rights Act of 1964, as amended; the Civil Rights Act of 1991, as amended; the Age Discrimination in Employment Act of 1967, as amended; and the Americans with Disabilities Act of 1990, as amended), and the arbitrator shall be bound by any limitations on the amount of punitive or other damages imposed by said statutes or laws or the U. S Constitution. **The arbitrator shall not have authority to hear any class, collective, consolidated or representative claims but is limited to individual claims.**

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The arbitrator will apply the same statutes of limitation that would apply in court. The arbitrator will honor claims of privilege recognized by law, and will take reasonable steps to protect confidential or proprietary information, including the use of protective orders. The arbitrator's award will be in writing and shall include the essential findings of fact and conclusions of law on which the award is based. The arbitrator's decision and award shall be final and binding as to all Claims that were or could have been raised in the arbitration, except as otherwise provided by the FAA, and judgment upon the award rendered by the arbitrator may be entered by any court having jurisdiction thereof.

A party may apply to a court of competent jurisdiction for temporary or preliminary injunctive relief in connection with an arbitrable controversy in accordance with applicable law, and any such application shall not be deemed incompatible with or a waiver of this agreement to arbitrate. The court to which the application is made is authorized to consider the merits of the arbitrable controversy to the extent it deems necessary in making its ruling, but only to the extent permitted by applicable law. All determinations of final relief, however, will be decided in arbitration.

Nothing in this Agreement for Arbitration prohibits Employee from reporting possible violations of state or federal law or regulation to any government agency or entity, including but not limited to the Equal Employment Opportunity Commission, Department of Justice, the Securities and Exchange Commission, the U.S. Congress, and any agency Inspector General, or making other disclosures that are protected under the whistleblower provisions of law.

Attorneys' Fees and Costs. For arbitrations commenced by Employee pursuant to this section, the JAMS Rules applicable to initial filing fees shall apply, but in no event will Employee be responsible for any portion of those fees in excess of the filing or initial appearance fees applicable to court actions in the jurisdiction where the arbitration will be conducted. Employer otherwise shall pay all costs and expenses unique to arbitration, including without limitation the arbitrator's fees. Employer will pay all of the arbitrator's fees and expenses if it commences the arbitration. Each party will pay its own attorneys' fees and costs in arbitration and in court proceedings, except an arbitrator has the discretion to award the prevailing party reasonable attorneys' fees and costs where fees and costs are expressly permitted under the law.

Exceptions to Arbitration Requirement. The only exceptions to the parties' obligations to arbitrate disputes are:

- (1) **Exception for Sarbanes-Oxley (SOX) whistleblower claims.** This Agreement to Arbitrate Claims does not require arbitration of any claims to enforce rights or remedies provided by 18 U.S.C. § 1514A.
- (2) **Exception for Employees Working for a CenturyLink Entity that is party to Certain Federal Contracts.** If Employee works for a CenturyLink Entity that is party to a Federal contract that is: 1) in excess of \$1,000,000; 2) awarded after February 17, 2010; and 3) funded under the Department of Defense Appropriations Act of 2010, then he/she is not required to resolve through arbitration any claim under Title VII of the Civil Rights Act of 1964 or any tort related to or arising out of sexual assault or harassment, including assault and battery, intentional infliction of emotional distress, false imprisonment, or negligent hiring, supervision or retention.

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- (3) **Exception for Miscellaneous Claims.** All claims for employee benefits under the Employee Retirement Income Security Act (“ERISA”) of 1984, as amended, are governed by the terms of the applicable plan and/or ERISA. Similarly, claims for workers’ compensation or unemployment compensation benefits are not subject to the terms of this Agreement to Arbitrate Claims. Employee retains the right to file administrative claims with any state or federal agency including, but not limited to the National Labor Relations Board, the Equal Employment Opportunity Commission and the Department of Labor.

Waiver of Right to Bring Class, Collective, Consolidated or Representative Actions. EMPLOYEE AND EMPLOYER AGREE THAT THEY VOLUNTARILY, KNOWINGLY, AND INTELLIGENTLY WAIVE ANY RIGHT THEY MAY HAVE TO BRING OR OTHERWISE PARTICIPATE WITH OTHER PERSONS IN ANY CLASS, COLLECTIVE, CONSOLIDATED ACTION OR REPRESENTATIVE ACTION UNDER ANY FEDERAL, STATE OR LOCAL LAW OR STATUTE TO THE FULLEST EXTENT PERMITTED BY LAW (hereinafter “Class Action Waiver”). Accordingly, both Employer and Employee agree to bring any dispute in arbitration on an individual basis only, and not on a class or collective basis on behalf of others. There will be no right or authority for any dispute to be brought, heard or arbitrated as a class or collective action, or as a member in any such class or collective proceeding.

Notwithstanding any other provision of this Agreement or the JAMS Rules, disputes in court or arbitration regarding the validity, enforceability or breach of the Class Action Waiver may be resolved only by the court and not by an arbitrator. In any case in which (1) the dispute is filed as a class or collective action and (2) there is a final judicial determination that all or part of the Class Action Waiver is unenforceable, the class and/or collective action to that extent must be litigated in a civil court of competent jurisdiction, but the portion of the Class Action Waiver that is enforceable shall be enforced in arbitration. Employee will not be retaliated against, disciplined or threatened with discipline as a result of Employee’s filing of or participation in a class or collective action in any forum. However, Employer may lawfully seek enforcement of this Agreement to Arbitrate Claims and the Class Action Waiver under the Federal Arbitration Act and seek dismissal of such class and collective actions or claims. The Class Action Waiver shall be severable in any case in which the dispute is filed as an individual action and severance is necessary to ensure that the individual action proceeds in arbitration.

Private attorney general representative actions brought on behalf of the state under the California Labor Code are not arbitrable, not within the scope of this Agreement to Arbitrate Claims and may be maintained in a court of law, but a claim Employee brings on Employee’s own behalf as an aggrieved employee for recovery of underpaid wages (as opposed to a representative claim for civil penalties) is arbitrable.

Severability. If any term of this Agreement to Arbitrate Claims is held to be invalid or unenforceable or contrary to public policy or any law by a court of competent jurisdiction, the term shall be severed in its entirety from this Agreement; the remaining terms of this Agreement shall remain in full force and effect. Employer does not agree that class, collective, consolidated or representative claims may be arbitrated.

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EXHIBIT C**Modified Effective Nov. 14, 2019
Participating and Non-Participating Companies**

Participating Companies: Subject to the exceptions described below, Lumen Technologies, Inc*. and its Subsidiaries and affiliates as of November 14, 2019 (including subsidiaries and affiliates of Embarq Corporation and Qwest Communications International, Inc.).

** The Lumen brand was launched on September 14, 2020. As a result, CenturyLink, Inc. is referred to as Lumen Technologies, or simply Lumen. The legal name CenturyLink, Inc. is expected to be formally changed to Lumen Technologies, Inc. upon the completion of all applicable requirements.*

Non-Participating Companies: The Companies noted below are not participating in the Plan:

⑩ None

The Plan Design Committee or the Vice President of Legal with responsibility for Severance Benefits, or their respective designee, have the authority to amend this Exhibit C at any time and from time to time, including but not limited to, adding an entity as a Participating Company as such participation is approved by the Plan Design Committee.

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EXHIBIT D**Period of Subsidized COBRA Coverage for
Directors and Vice Presidents Under Section 4.1**

Years of Service	Severance (weeks)			COBRA (months)		
	Directors	VPs (E1-E2)	VPs (E3 and above)	Directors	VPs (E1-E2)	VPs (E3 and above)
Up to 1	12	18	39	3	5	9
2	12	18	39	3	5	9
3	12	18	39	3	5	9
4	12	18	39	3	5	9
5	12	18	39	3	5	9
6	12	18	39	3	5	9
7	14	18	39	4	5	9
8	16	18	39	4	5	9
9	18	18	39	5	5	9
10	20	20	39	5	5	9
11	22	22	39	6	6	9
12	24	24	39	6	6	9
13	26	26	39	6	6	9
14	28	28	39	7	7	9
15	30	30	39	7	7	9
16	32	32	39	8	8	9
17	34	34	40	8	8	9
18	34	36	42	9	9	9
19	34	38	44	9	9	9
20	34	40	46	9	10	9
21	34	42	48	9	10	9
22	34	44	50	9	11	9
23	34	46	52	9	11	12
24	34	48	52	9	12	12
25	34	50	52	9	12	12
26	34	52	52	9	12	12
27+	34	52	52	9	12	12

Executive Officers and the CEO are eligible for a COBRA subsidy of up to one year in the event they are eligible for severance under Section 4.01, regardless of their years of service.

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**Period of Subsidized COBRA coverage for Lower Performance
Severance Under Section 4.1A**

Years of Service	Severance (weeks)		COBRA (months)	
	Directors	VPs (E1-E2)	Directors	VPs (E1-E2)
1	2	2	1	1
2	2	2	1	1
3	3	3	1	1
4	4	4	1	1
5	5	5	2	2
6	6	6	2	2
7	7	7	2	2
8 or more	8	8	2	2

**Period of Subsidized COBRA Coverage for
Directors and Vice Presidents at E1 or above
Under Section 4.2**

Directors	
Weeks of Severance	Maximum Months of COBRA Subsidy
26-38	6
39-51	9
52	12

Vice-Presidents at E1 or above, excluding Executive Officers and the CEO, are eligible for a COBRA subsidy of up to one year in the event they are eligible for severance under Section 4.2, regardless of their years of service.

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Lumen Technologies, Inc.
NON-EMPLOYEE DIRECTORS DEFERRED COMPENSATION PLAN

1. Purpose. The purpose of the Lumen Technologies, Inc. Non-Employee Directors Deferred Compensation Plan (the “Plan”) is to aid the Company in attracting and retaining experienced Non-Employee Directors by providing them with tax-deferred savings opportunities. This Plan is intended to comply with Section 409A of the Code. Capitalized terms used but not defined in this Plan have the respective meanings provided in Appendix A. The Plan was adopted by the Company on March 1, 2019 and, as provided in Section 2.4(b), is effective for the deferral of Equity Awards granted after May 17, 2019, and is effective for the deferral of Cash Compensation earned after December 31, 2019.

2. Participation and Participant Elections.

2.1 Participation. Participation in the Plan shall be limited to those individuals who (a) are Non-Employee Directors and (b) elect to participate in this Plan by filing one or more Participation Agreements with the Administrative Committee.

2.2 Deferral of Cash Compensation. Subject to the other terms and conditions of this Plan, a Participant may elect to defer all or a portion of his Cash Compensation for a given Plan Year, expressed as either a dollar amount or a percentage of the Participant’s Cash Compensation for such Plan Year. Such deferral election must be made during the applicable Section 2.4 enrollment period for the Plan Year in which the Cash Compensation will be earned. If a Participant elects to defer all or a portion of his Cash Compensation (the “Cash Deferral”), those amounts will be deducted from amounts paid currently to the Participant (if less than 100%, ratably across all of such Participant’s Cash Compensation for the Plan Year), credited to the Participant’s Account, and be notionally invested in accordance with the Participant’s direction in certain Hypothetical Investment Benchmarks as set forth in Section 3.2.

2.3 Deferral of Equity Award. Subject to the terms and conditions of this Section 2.3, a Participant may elect to defer, on a grant-by-grant basis for each Plan Year, the receipt of all or a portion of the shares of Common Stock (and any related cash or property) that he will be entitled to receive upon vesting of his Equity Award for such Plan Year. Such deferral election must be made during the applicable Section 2.4 enrollment period for the Plan Year in which the Equity Award is granted. If a Participant elects to defer all or a part of his Equity Award for such Plan Year, such portion of the Equity Award will be granted to him as restricted stock units under the applicable Equity Plan, subject to all terms and conditions applicable to such Equity Award (including vesting), but deferred in accordance with the applicable Participation Agreement (such deferred restricted stock units, “Deferred Stock Units” or “DSUs”). A Participant’s Deferred Stock Units shall be notionally accounted for separately from his Cash Deferrals, if any, and shall be subject to the all of the provisions of this Plan except Sections 2.6(a), 3.2(a), and 4.1(a).

2.4 Election Timing and Effective Dates.

(a) A Participation Agreement must be filed prior to the December 31st immediately preceding the Plan Year for which it is effective or by such earlier deadline as the Administrative Committee may prescribe.

(b) Notwithstanding Section 2.4(a), a Participant who is newly eligible for the Plan (either because he was serving as a Non-Employee Director at the time this Plan was adopted or because he was appointed as a Non-Employee Director in the middle of a Plan Year) may file a Participation Agreement effective for the remainder of his initial Plan Year and applicable to compensation earned in the remainder of such Plan Year, but only if such election is made not more than 30 days after the Participant becomes eligible for the Plan. In addition:

(i) If the Non-Employee Director makes such an initial election during such 30-day period but after the date of grant of the Equity Award, the portion of the Equity Award eligible for deferral shall be equal to the total number of shares of Common Stock in such Equity Award multiplied by a fraction, the numerator of which is the number of days between the date on which the election is made and the date of the next annual meeting of shareholders following the date of grant, and the denominator of which is the number of days between the date of grant and the date of the next annual meeting of shareholders, rounded to down to the nearest whole share.

(ii) For the 2019 Plan Year, the only form of director compensation eligible for deferral under the Plan is Equity Awards. Specifically, with respect to compensation earned during the 2019 Plan Year by Non-Employee Directors who are serving in that capacity at the time of the Plan's adoption, such Non-Employee Director is eligible to participate in the Plan effective April 18, 2019 and may defer any Equity Award granted after May 17, 2019, provided that the Participant submits a Participation Agreement no later than May 17, 2019.

2.5 Contents of Participation Agreement. The Administrative Committee will have the discretion to specify the contents of Participation Agreements. There will be separate Participation Agreements for deferrals of Cash Compensation and deferrals of Equity Awards. Subject to Section 6, each Participation Agreement shall set forth: (a) whether the Participant is electing to defer, as applicable, his Cash Compensation or Equity Award for that Plan Year; (b) as applicable, the amount of any Cash Deferral or what portion, if any, of the Equity Award that the Participant wishes to defer for that Plan Year; (c) the period after which payment of any Cash Deferral and the issuance of the Common Stock underlying the DSUs, if applicable, are to be made or begin to be made (in each case, the "Deferral Period"); and (c) the form of payment for the Cash Deferral and the DSUs, if applicable, which may be a lump sum or in substantially equal annual installments of 2 to 5 years. The Deferral Period may be expressed as ending on a specified date, upon the occurrence of an event (such as a Participant's Separation from Service), or in accordance with such other terms and options that may be set forth in the Participation

Agreement; *provided, however*, that all Cash Deferrals and any DSUs deferred for a given Plan Year must be paid out to the Participant no later than the fifth anniversary of the Participant's Separation from Service.

2.6 Modification or Revocation of Election by Participant.

- (a) A Participant may not change his Cash Deferral during a Plan Year.
- (b) Under no circumstances may a Participant's Participation Agreement be retroactively entered into, modified, or revoked.

3. Maintenance, Notional Crediting, and Investment of Accounts.

3.1 Maintenance of Accounts.

(a) A Participant's Cash Deferral and/or DSUs shall be notionally credited by the Administrative Committee to the Participant's Accounts as and when such amounts would otherwise have been paid or granted to the Participant.

(b) Separate Accounts shall be maintained for each Participant, with Cash Deferrals notionally accounted for separately from any DSUs. In addition, more than one Account may be maintained for a Participant as necessary to reflect (i) various Hypothetical Investment Benchmarks applicable to his Cash Deferrals and/or (ii) separate Participation Agreements specifying different Deferral Periods and/or forms of payment. A Participant's Accounts shall be utilized solely as a device for the measurement and determination of the amounts to be paid to the Participant pursuant to this Plan, and, as provided in Section 8.1, shall not constitute or be treated as a trust fund of any kind.

3.2 Crediting of Accounts.

(a) Each Participant shall direct the manner in which his Cash Deferrals will be deemed to be invested by selecting among the Hypothetical Investment Benchmarks specified in Appendix B, as amended by the Administrative Committee from time to time, and in accordance with such rules, regulations and procedures as the Administrative Committee may establish from time to time. Notwithstanding anything to the contrary herein, earnings and losses based on a Participant's investment elections shall begin to accrue as of the date such Participant's Cash Deferral is credited to his Accounts.

(b) The Administrative Committee shall determine the notional balance of each Account, as of each Valuation Date, by adjusting the balance of such Account as of the immediately preceding Valuation Date to reflect changes in the value of the deemed investments thereof, credits and debits pursuant to Section 3.1(a) and Section 3.2(a) and distributions pursuant to Section 4 with respect to such Account since the preceding Valuation Date.

3.3 Credit of Dividend Equivalents on Deferred Stock Units. For any Deferred Stock Units a Participant elects to defer, the Administrative Committee shall establish and maintain a “Dividend Equivalent Account” as provided in the Equity Plan from which the DSUs were issued. All amounts in a Participant’s Dividend Equivalent Account shall be distributed to the Participant in tandem with the related shares of Common Stock underlying the DSUs.

3.4 Vesting of Accounts. Subject to Section 8.1 and the terms of any DSUs, each Participant shall be 100% vested in his Account(s) at all times.

4. Distribution of Benefits.

4.1 Time and Form of Payment.

(a) For Cash Deferrals, unless otherwise stated in this Section 4, at the end of the Deferral Period for each Account, the Company shall pay to the Participant the balance of such Account at the time or times elected by the Participant in the applicable Participation Agreement; provided that if the Participant has elected to receive payments from an Account in a lump sum, the Company shall pay the balance in such Account (determined as of the most recent Valuation Date preceding or coinciding with the payment date) in a lump sum in cash as soon as practicable after the end of the Deferral Period (no later than 90 days after the Deferral Period). If the Participant has elected to receive payments from an Account in installments, the Company shall make annual payments from such Account, each of which shall consist of an amount equal to (i) the balance of such Account as of the most recent Valuation Date preceding or coinciding with the payment date times (ii) a fraction, the numerator of which is one and the denominator of which is the number of remaining installments (including the installment being paid). The first such installment shall be paid in January of the year specified in the Participation Agreement (for specified date payments), on the last day of the month in which Separation from Service occurs (for payments triggered by a Separation from Service) or as otherwise specified in the Participation Agreement upon reaching the end of the Deferral Period. Each subsequent installment shall be paid in January of the following years and shall be deemed to be made on a pro rata basis from each of the different deemed investments of the Account (if there is more than one such deemed investment).

(b) For each Participant electing to defer a portion of his Equity Award, the shares of Common Stock underlying his DSUs (and any related amounts credited to the Participant’s Dividend Equivalent Account under Section 3.4) shall be distributed at the time or times elected by the Participant in the applicable Participation Agreement, provided that if the Participant dies prior to such date, the shares of Common Stock and all related amounts shall be distributed to in accordance with Section 4.2.

4.2 Death or Disability. Notwithstanding any other provision of this Plan and any Participation Agreement, if, prior to receiving full payment of his Account(s), a Participant dies (whether before or after Separation from Service) or his board service terminates due to Disability, the Company shall pay the remaining balance of his Account in a lump sum as soon

as practicable in accordance with Section 5 following the occurrence of such event (no later than 90 days after the event occurs). For Cash Deferrals, the value of the Account balance will be determined as of the most recent Valuation Date preceding or coinciding with such event.

4.3 Acceleration of Payment. A Participant shall have no right to compel any accelerated payment of amounts due to a Participant. The Company may accelerate the payment of some or all of the amounts due to a Participant in a given year only in accordance with this Section and Section 409A of the Code.

(a) Payment Upon Income Inclusion Under Section 409A. The Administrative Committee may, in its sole discretion, provide for the acceleration of the time or schedule of a payment under the Plan if at any time the Plan fails to meet the requirements of Section 409A of the Code. The payment may not exceed the amount required to be included in income as a result of the failure to comply with the requirements of Section 409A of the Code.

(b) Plan Terminations and Liquidations. The Compensation Committee may, in its sole discretion, provide for the acceleration of the time or schedule of a payment under the Plan as provided in Section 7.2.

(c) Other Events and Conditions. A payment may be accelerated upon such other events and conditions as the Internal Revenue Service may prescribe in generally applicable guidance published in the Internal Revenue Bulletin.

4.4 Delay of Payment. The Company may delay a payment otherwise due hereunder to a date after the designated payment date under any of the following circumstances:

(a) Delay Due to Financial Considerations. Any payment required to be made on a date set forth under the terms of this Plan may be delayed if payment on the originally scheduled date would jeopardize the ability of the Company to continue as a going concern as determined by the Compensation Committee (in such case, payment will be made during the first taxable year after such payment no longer would have such effect).

(b) Legal Compliance. If the Company reasonably anticipates that the making of the payment will violate applicable law, provided that the payment shall be made at the earliest date at which the Company reasonably anticipates that the making of the payment will not cause such violation. (The making of a payment that would cause inclusion in gross income or the application of any penalty provision or other provision of the Code is not treated as a violation of applicable law.)

(c) Other Events and Conditions. Payment may also be delayed upon such other events and conditions as the Commissioner of Internal Revenue may prescribe in generally applicable guidance published in the Internal Revenue Bulletin.

4.5 Source of Shares of Common Stock for DSU Payout. All shares of Common Stock issuable upon the payout of Deferred Stock Units following the applicable

Deferral Period shall be issued under, and subject to the terms and conditions of, the Equity Plan under which the DSUs were issued.

5. Beneficiary Designation.

5.1 Right to Designate Beneficiary. Each Participant shall have the right, at any time, to designate any person, persons, or entity as his Beneficiary or Beneficiaries. A Beneficiary designation shall be made, and may be amended, by the Participant by filing a written designation with the Administrative Committee or its delegate, on such form and in accordance with such procedures as the Administrative Committee shall establish from time to time.

5.2 No Beneficiary Designation. If a Participant fails to designate a Beneficiary as provided above, or if all designated Beneficiaries predecease the Participant, then the Participant shall be deemed to have designated the surviving spouse of the Participant as the designated Beneficiary. If the Participant dies without a designated Beneficiary (or spouse as the deemed designated Beneficiary), then the Participant's Beneficiary shall be deemed to be the Participant's estate (which shall include the Participant's probate estate or living trust). If a Participant becomes Disabled, any payment in accordance with Section 4.2 shall be made to such Participant or, in the event a court has determined that he is unable to handle his own financial affairs due to such Disability, to the guardian, trustee or conservator appointed for such Participant or as otherwise directed by the court.

6. Administration.

6.1 Administrative Committee. The Plan shall be administered by the Administrative Committee. A majority of the members of the Administrative Committee shall constitute a quorum. All resolutions or other action taken by the Administrative Committee shall be by a vote of a majority of its members present at any meeting or, without a meeting, by an instrument in writing signed by all its members. Members of the Administrative Committee may participate in a meeting of such committee by means of a conference telephone or similar communications equipment that enables all persons participating in the meeting to hear each other, and such participation in a meeting shall constitute presence in person at the meeting and waiver of notice of such meeting.

6.2 Committee Responsibilities. The Administrative Committee shall be responsible for the administration of this Plan and shall have all powers necessary to administer this Plan, including discretionary authority to determine eligibility for benefits and to decide claims under the terms of this Plan, except to the extent that any such powers are vested in any other person. The Administrative Committee may from time to time establish or rescind rules for the administration of this Plan and, subject only to the oversight of the Compensation Committee, it shall have the exclusive right to interpret this Plan and to decide any and all matters arising in connection with the administration and operation of this Plan. All rules, interpretations, and decisions of the Administrative Committee shall be conclusive and binding on the Company, Participants, and Beneficiaries.

6.3 Ability to Delegate Responsibilities. The Administrative Committee's responsibilities shall include, but shall not be limited to, determining in the first instance issues related to eligibility, Hypothetical Investment Benchmarks, distribution of Cash Deferrals, determination of account balances, crediting of hypothetical earnings and debiting of hypothetical losses and of distributions, deferral elections and any and all other duties concerning the day-to-day operation of this Plan. The Administrative Committee may designate one of its members as a chairperson and may retain and supervise outside providers, third party administrators, record keepers, and professionals (including in-house professionals) to perform any and all of the duties delegated to it hereunder.

6.4 Limitation of Liability. Neither a member of the Board nor any member of the Administrative Committee shall be liable for any act or action hereunder, whether of omission or commission, by any other member or employee or by any agent to whom duties in connection with the administration of this Plan have been delegated or for anything done or omitted to be done in connection with this Plan. The Administrative Committee shall keep records of all of its proceedings and shall keep records of all payments made to Participants or Beneficiaries and payments made for expenses or otherwise.

6.5 Recovery of Administration Expenses. Any expense incurred by the Company or the Administrative Committee relative to the administration of this Plan shall be paid by the Company and/or may be deducted from the Accounts of the Participants, as determined by the Administrative Committee.

6.6 Claims Procedure. As a condition of participating in the Plan, each Participant must agree that the exclusive method for resolving any claims or disputes under the Plan is through this Section 6.6. A Participant or Beneficiary, as applicable, shall file any claim for payments under the Plan with the Administrative Committee, which shall consider such claim and notify the claimant of its decision with respect thereto within ninety (90) days (or within such longer period, not to exceed one hundred eighty (180) days, as the Administrator determines is necessary to review the claim; provided that the Administrator notifies the claimant of the extension within the original ninety (90) day period). If the claim is denied, in whole or in part, the claimant may appeal such denial to the Compensation Committee, provided that he does so within sixty (60) days of receiving the Administrator's determination. The Compensation Committee shall consider the appeal and notify the claimant of its decision with respect thereto within sixty (60) days (or within such longer period, not to exceed one hundred twenty (120) days, as the Compensation Committee determines is necessary to review the claim; provided that the Compensation Committee notifies the claimant of the extension within the original sixty (60) day period). The Compensation Committee's decision upon any appeal shall be final and binding on all parties.

7. Amendment and Termination of Plan.

7.1 Amendment. The Compensation Committee may at any time amend this Plan in whole or in part, provided, however, that no amendment shall be effective to decrease the balance in any Account as accrued at the time of such amendment, except to the extent necessary

to prevent adverse tax consequences under Section 409A of the Code. The Administrative Committee shall have authority to approve administrative and technical amendments that do not materially increase the cost of the Plan. No amendments shall divest otherwise vested rights of Participants or their Beneficiaries.

7.2 Company's Right to Terminate. The Board may terminate the Plan (or, where allowed by Section 409A of the Code, a portion of the Plan) and accelerate any payments due (or that may become due) under the Plan under the following circumstances:

(a) Section 409A Change of Control. The Plan termination occurs pursuant to an irrevocable action of the Board that is taken within the 30 days preceding or the 12 months following a Section 409A Change of Control, and all other plans sponsored by the Company that are required to be aggregated with this Plan under Section 409A of the Code are also terminated with respect to each Participant therein who was providing services by the Company that underwent the Section 409A Change of Control ("Change of Control Participant"). In the event of such a termination, the amounts due under this Plan, together with amounts due to each Change of Control Participant under all aggregated plans, shall be paid at the time and pursuant to the schedule specified by the Board, so long as all payments are required to be made no later than 12 months after the date that the Board irrevocably approves the termination.

(b) Board Discretion. In the discretion of the Board, provided that: (i) all arrangements sponsored by the Company that would be aggregated with the Agreement under Treasury Regulation Section 1.409A-1(c) if the same service provider participated in all of the arrangements are terminated; (ii) no payments other than payments that would be payable under the terms of the arrangements if the termination had not occurred are made within 12 months of the termination of the arrangements; (iii) all payments are made within 24 months of the termination of the arrangements; and (iv) the Company does not adopt a new arrangement that under Treasury Regulation Section 1.409A-1(c) that would be aggregated with the Agreement if the same service provider participated in both arrangements, at any time within three years following the date of termination of the Agreement.

(c) Other. Due to such other events and conditions as the Commissioner of the IRS may prescribe in generally applicable guidance published in the Internal Revenue Bulletin.

8. Miscellaneous.

8.1 Unfunded Plan. This Plan is intended to be an unfunded plan maintained primarily for the purpose of providing deferred compensation for Non-Employee Directors. All payments pursuant to the Plan shall be made from the general funds of the Company, are subject to the claims of the Company's creditors, and no special or separate fund shall be established or other segregation of assets made to assure payment. No Participant or other person shall have under any circumstances any interest in any particular property or assets of the Company as a result of participating in the Plan. Notwithstanding the foregoing, the Company may (but shall

not be obligated to) create one or more grantor trusts, the assets of which are subject to the claims of the Company's creditors, to assist it in accumulating funds to pay its obligations under the Plan. Participants shall have no right to compel the investment of any amounts deposited in any such trust(s) or any other specific assets of the Company.

8.2 Nonassignability. Except as specifically set forth in the Plan with respect to the designation of Beneficiaries, neither a Participant nor any other person shall have any right to commute, sell, assign, transfer, pledge, anticipate, mortgage, or otherwise encumber, transfer, hypothecate, or convey in advance of actual receipt the amounts, if any, payable hereunder, or any part thereof, which are, and all rights to which are, expressly declared to be unassignable and non-transferable. No part of the amounts payable shall, prior to actual payment of such amounts, be subject to seizure or sequestration for the payment of any debts, judgments, alimony, domestic relations order, or separate maintenance owed by a Participant or any other person, nor be transferable by operation of law in the event of a Participant's or any other person's bankruptcy or insolvency.

8.3 Binding Effect. The terms and conditions of the Plan, as amended and in effect from time to time, shall be binding upon the Company's successors and assigns, including without limitation any entity (a) into which the Company may be merged, (b) with which the Company may be consolidated, or (c) to which substantially all of the assets or business of the Company are transferred.

8.4 Validity and Severability; Code Section 409A. The invalidity or unenforceability of any provision of this Plan shall not affect the validity or enforceability of any other provision of this Plan, which shall remain in full force and effect, and any prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction. If any provision of the Plan is capable of being interpreted in more than one manner, to the extent feasible, the provision shall be interpreted in a manner that does not result in an excise tax under Code Section 409A.

8.5 Governing Law. The validity, interpretation, construction, and performance of this Plan shall in all respects be governed by the laws of the State of Louisiana, without reference to principles of conflict of law, except to the extent preempted by federal law.

8.6 Status. Nothing in this Plan or any instrument executed pursuant to this Plan will confer upon any Participant any right to continue as a director of the Company or affect the right of the Company to terminate the services of any Participant.

8.7 Underlying Plans and Programs. Nothing in this Plan shall prevent the Company from modifying, amending or terminating the compensation or the plans and programs pursuant to which compensation is earned and which is deferred under this Plan.

8.8 Construction. The masculine gender, where appearing in the Plan, shall be deemed to include the feminine gender, and the singular may indicate the plural, unless the context clearly indicates the contrary. The words "hereof," "herein," "hereunder," and similar compounds of the word "here" shall, unless otherwise specifically stated, mean and refer to the

entire Plan, not to any particular provision or Section. Section headings are included for convenience of reference and are not intended to add to, or subtract from, the terms of the Plan.

Appendix A

Definitions

Unless otherwise defined in this Plan, the following terms (and capitalized variants of such terms) have the meanings indicated, unless the context clearly indicates otherwise:

“Account” means the bookkeeping account maintained by the Administrative Committee for each Participant pursuant to Section 3.

“Administrative Committee” means the Compensation Committee or any person(s) to whom the Compensation Committee has delegated the power of administering the Plan on a day-to-day basis. As of the effective date of the Plan, the persons listed on Appendix C are members of the Administrative Committee.

“Beneficiary” means the person, persons or entity designated by the Participant to receive any benefits payable under the Plan pursuant to Section 5.

“Board” means the Board of Directors of Lumen.

“Business Combination” means the consummation of a reorganization, share exchange, merger or consolidation (including any such transaction involving any direct or indirect subsidiary of Lumen), or sale or other disposition of all or substantially all of the assets of Company.

“Cash Compensation” means all compensation payable by Lumen in cash to a Non-Employee Director for his services as a member of the Board, including, without limitation, any annual retainer, fees for attending meetings of the Board or any committee thereof, fees for acting as chairperson or vice chairperson of the Board or any committee, and any other fees as may become payable to a Non-Employee Director, including any additional retainer payable to a lead independent director. “Cash Compensation” does not include expense reimbursements, any form of noncash compensation, stock-based plan awards, or benefits.

“Cash Deferral” has the meaning set forth in Section 2.2.

“Lumen” means Lumen Technologies, Inc. (FNA CenturyLink, Inc.) and its successors and assigns, including but not limited to any corporation or entity with or into which such company may merge or consolidate.

“Change of Control” means:

(a) the acquisition by any person of beneficial ownership of 30% or more of the outstanding shares of the Common Stock or 30% or more of the combined voting power of Lumen’s then outstanding securities entitled to vote generally in the election of directors; provided, however, that for purposes of this subsection (a), the following acquisitions shall not constitute a Change of Control:

(1) any acquisition (other than a Business Combination that constitutes a Change of Control under subsection (c) hereof) of Common Stock directly from Company,

(2) any acquisition of Common Stock by the Company,

(3) any acquisition of Common Stock by any employee benefit plan (or related trust) sponsored or maintained by Lumen or any corporation controlled by the Company, or

(4) any acquisition of Common Stock by any corporation or other entity pursuant to a Business Combination that does not constitute a Change of Control under subsection (c) hereof; or

(b) individuals who, as of April 18, 2019, constituted the Board (the “Incumbent Board”) cease for any reason to constitute at least a majority of the Board; *provided, however*, that any individual becoming a director subsequent to such date whose election, or nomination for election by CenturyLink’s shareholders, was approved by a vote of at least two-thirds of the directors then comprising the Incumbent Board shall be considered a member of the Incumbent Board, unless such individual’s initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a person other than the Incumbent Board; or

(c) consummation of a Business Combination; *provided, however*, that in no such case shall any such transaction constitute a Change of Control if immediately following such Business Combination:

(1) the individuals and entities who were the beneficial owners of Lumen’s outstanding Common Stock and Lumen’s voting securities entitled to vote generally in the election of directors immediately prior to such Business Combination have direct or indirect beneficial ownership, respectively, of more than 50% of the then outstanding shares of common stock, and more than 50% of the combined voting power of the then outstanding voting securities entitled to vote generally in the election of directors of the surviving or successor corporation, or, if applicable, the ultimate parent company thereof (the “Post-Transaction Corporation”), and

(2) except to the extent that such ownership existed prior to the Business Combination, no person (excluding the Post-Transaction Corporation and any employee benefit plan or related trust of either Lumen, the Post-Transaction Corporation or any subsidiary of either corporation) beneficially owns, directly or indirectly, 20% or more of the then outstanding shares of common stock of the corporation resulting from such Business Combination or 20% or more of the combined voting power of the then outstanding voting securities of such corporation, and

(3) at least a majority of the members of the board of directors of the Post-Transaction Corporation were members of the Incumbent Board at the time of the execution of the initial agreement, or of the action of the Board of Directors, providing for such Business Combination; or

(d) approval by the stockholders of Lumen of a complete liquidation or dissolution of Lumen.

For purposes of this definition of “Change of Control,” the term “person” shall mean a natural person or entity, and shall also mean the group or syndicate created when two or more persons act as a syndicate or other group (including, without limitation, a partnership or limited partnership) for the purpose of acquiring, holding, or disposing of a security, except that “person” shall not include an underwriter temporarily holding a security pursuant to an offering of the security.

Notwithstanding any other provision of this definition of Change of Control, no payment shall be made from this Plan as a result of a Change of Control unless such event qualifies as a Change of Control under Section 409A.

“Change of Control Participant” has the meaning set forth in Section 7.2(a).

“Code” means the Internal Revenue Code of 1986, as amended. References to any provision of the Code or regulation (including a proposed regulation) thereunder shall include any successor provisions or regulations.

“Common Stock” means the common stock of Lumen, \$1.00 par value per share.

“Company” means Lumen Technologies, Inc. (FNA CenturyLink, Inc.) and its subsidiaries.

“Compensation Committee” means the Human Resources and Compensation Committee of the Board or such other committee of the Board that is responsible for the compensation of Non-Employee Directors, or its designee.

“Deferral Period” has the meaning set forth in Section 2.5.

“Deferred Stock Units” or “DSUs” means the portion of a Participant’s Equity Award that he has elected to defer past its vesting date.

“Disability” means the permanent and total disability of the Participant, as determined under Code Section 22(e)(3).

“Equity Award” means all compensation payable by Lumen in the form of equity to a Non-Employee Director for his services as a member of the Board.

“Equity Plan” means the Lumen 2018 Equity Incentive Plan or any successor equity incentive plan under which shares of Common Stock may be granted to Non-Employee Directors.

“Hypothetical Investment Benchmark” means the phantom investment benchmarks that are used to measure the return credited to a Participant’s Account. The Hypothetical Investment Benchmarks are specified by the Administrative Committee and may change from time to time.

“Non-Employee Director” means any member of the Board who is not employed by the Company.

“Participant” means any Non-Employee Director who elects to participate by filing a Participation Agreement as provided in Section 3, and any former Non-Employee Director who has outstanding deferred amounts under the Plan.

“Participation Agreement” means a participation form, in substantially the forms attached to this Plan as Appendix D-1 (for the deferral of Equity Awards) and Appendix D-2 (for the deferral of Cash Compensation), as each may be revised or amended from time to time, which is completed by a Participant in accordance with Section 3.

“Plan Year” means a twelve-month period beginning January 1 and ending the following December 31.

“Separation from Service” means “separation from service” with the Company as defined in Treasury Regulation Section 1.409A-1(h). A Participant shall not be considered to have incurred a Separation from Service until the Participant has ceased to provide any services for Lumen, its subsidiaries, and any other entity that would be treated as a member of a controlled group that includes Lumen under Code Section 414(b) or (c) (as modified by substituting 50% ownership for 80% for all purposes thereof), without any expectation of the Participant being retained to provide future services as a director or independent contractor.

“Valuation Date” means the most recent calendar date when the New York Stock Exchange was open, or such other date as the Administrative Committee in its sole discretion may determine.

LUMEN TECHNOLOGIES, INC.
SUBSIDIARIES OF THE REGISTRANT
AS OF December 31, 2021

Subsidiary	State of incorporation or formation
Actel, LLC	Delaware
Bloomington Telephone Company, Inc. (20%)	Michigan
Century Cellunet International, Inc.	Louisiana
Cellunet of India Limited	Mauritius
Century Telephone of West Virginia, Inc.	West Virginia
Lumen Clarke M. Williams Foundation	Colorado
CenturyLink Communications, LLC Formerly known as Qwest Communications Company, LLC	Delaware
Boxgate Holdings, LLC	Delaware
ELASTICBOX INC., SUCURSAL EN ESPAÑA	Spain
Q Fiber, LLC	Delaware
Qwest International Services Corporation	Delaware
CenturyLink Comunicações Ltda.	Brazil
Qwest Transoceanic, Inc.	Delaware
Qwest Communications International Ltd.	United Kingdom
CenturyLink Limited	United Kingdom
Qwest Holdings, BV	Netherlands
Qwest Germany GmbH	Germany
Qwest Netherlands BV	Netherlands
Qwest Peru S.R.L.	Peru
Lumen Technologies Asia Pacific Holdings Limited	Hong Kong
Lumen Technologies Australia Pty Ltd	Australia
Lumen Technologies Japan KK	Japan
Qwest Communications Korea, Limited	Korea
Qwest Hong Kong Telecommunications, Limited	Hong Kong
Lumen Technologies Singapore Pte. Ltd.	Singapore
Qwest Taiwan Telecommunications, Limited	Taiwan
SEAL Consulting, Inc.	New Jersey
CenturyLink Europe B.V.	Netherlands
CenturyLink Europe B.V./, M., The Netherlands, filial Sweden	Sweden
CenturyLink Europe B.V., Sucursal en España	Spain
Lumen Technologies Philippines, Inc.	Philippines
Lumen Technology Services Taiwan Limited	Taiwan
Lumen Technologies Hong Kong Limited	Hong Kong
Lumen Technologies Colocation Hong Kong Limited	Hong Kong
Lumen Technologies Services (Shanghai) Co., Ltd.	China
Digital Savvis HK JV Limited (50%)	British VI
Digital Savvis HK Holding 1 Limited	British VI
Digital Savvis Investment Management HK Limited	Hong Kong
Digital Savvis Management Subsidiary Limited	Hong Kong

Subsidiary	State of incorporation or formation
Lumen Technologies Services Malaysia Sdn. Bhd	Malaysia
CenturyLink (Thailand) Limited	Thailand
CenturyLink Canada, Inc.	Canada
SAVVIS Communications Chile, S.A.	Chile
SAVVIS Federal Systems, Inc.	Delaware
SAVVIS Communications International, Inc.	Delaware
Lumen Technologies Korea Limited	Korea
SAVVIS Communications Private Limited	India
SAVVIS Mexico, S.A. de C.V.	Mexico
Egnyte, Inc.	Delaware
Wam!Net Japan K.K.	Japan
CenturyLink of Louisiana, LLC	Louisiana
CenturyTel of Adamsville, Inc.	Tennessee
CenturyTel of Arkansas, Inc.	Arkansas
CenturyTel Broadband Services, LLC	Louisiana
CenturyTel TeleVideo, Inc.	Wisconsin
CenturyTel/Teleview of Wisconsin, Inc.	Wisconsin
Qwest Broadband Services, Inc.	Delaware
CenturyTel Broadband Wireless, LLC	Louisiana
CenturyTel of Central Indiana, Inc.	Indiana
CenturyTel of Chester, Inc.	Iowa
CenturyTel of Claiborne, Inc.	Tennessee
CenturyTel Holdings, Inc.	Louisiana
Century Marketing Solutions, LLC	Louisiana
CenturyTel Arkansas Holdings, Inc.	Arkansas
CenturyTel of Central Arkansas, LLC	Louisiana
CenturyTel of Northwest Arkansas, LLC	Louisiana
CenturyTel Holdings Alabama, Inc.	Alabama
CenturyTel of Alabama, LLC	Louisiana
CenturyTel Holdings Missouri, Inc.	Missouri
CenturyTel of Missouri, LLC	Louisiana
CenturyTel of the Northwest, Inc.	Washington
Brown Equipment Corp.	Nevada
Carter Company, Inc.	Hawaii
Cascade Autovon Company	Washington
CenturyTel/Cable Layers, Inc.	Wisconsin
CenturyTel of Central Wisconsin, LLC	Delaware
CenturyTel of Colorado, Inc.	Colorado
CenturyTel of Eagle, Inc.	Colorado
CenturyTel of Eastern Oregon, Inc.	Oregon
CenturyTel Entertainment, Inc.	Washington
CenturyTel of Fairwater-Brandon-Alto, LLC	Delaware
CenturyTel of Forestville, LLC	Delaware
CenturyTel of the Gem State, Inc. (97%)	Idaho

Subsidiary	State of incorporation or formation
CenturyTel of Inter Island, Inc.	Washington
CenturyTel of Larsen-Readfield, LLC	Delaware
CenturyTel of the Midwest-Kendall, LLC	Delaware
CenturyTel of the Midwest-Wisconsin, LLC	Delaware
CenturyTel of Minnesota, Inc.	Minnesota
CenturyTel of Monroe County, LLC	Delaware
CenturyTel of Montana, Inc. (99%)	Oregon
CenturyTel of Northern Wisconsin, LLC	Delaware
CenturyTel of Northwest Wisconsin, LLC	Delaware
CenturyTel of Oregon, Inc.	Oregon
CenturyTel of Paradise, Inc.	Washington
CenturyTel of Cowiche, Inc.	Washington
CenturyTel of Postville, Inc.	Iowa
CenturyTel of Southern Wisconsin, LLC	Delaware
CenturyTel of the Southwest, Inc.	New Mexico
CenturyTel Telecom Service, Inc.	Washington
CenturyTel Telephone Utilities, Inc.	Washington
CenturyTel of Upper Michigan, Inc.	Michigan
CenturyTel of Washington, Inc.	Washington
CenturyTel/WORLDVOX, Inc.	Oregon
CenturyTel of Wyoming, Inc.	Wyoming
Eagle Valley Communications Corporation	Colorado
International Communications Holdings, Inc.	Delaware
Pacific Telecom, Inc. (Shell)	Oregon
PTI Communications of Ketchikan, Inc.	Alaska
PTI Communications of Minnesota, Inc.	Minnesota
PTI Transponders, Inc.	Oregon
Universal Manufacturing Corp.	Wisconsin
CenturyTel of Idaho, Inc.	Delaware
CenturyTel Internet Holdings, Inc.	Louisiana
centurytel.com, LLC	Louisiana
CenturyTel Investments, LLC	Louisiana
CenturyTel of Michigan, Inc.	Michigan
CenturyTel Midwest - Michigan, Inc.	Michigan
CenturyTel Mobile Communications, Inc.	Louisiana
CenturyTel of Mountain Home, Inc.	Arkansas
CenturyTel of North Mississippi, Inc.	Mississippi
CenturyTel of Northern Michigan, Inc.	Michigan
CenturyTel of Odon, Inc.	Indiana
CenturyTel of Ohio, Inc.	Ohio
CenturyTel of Ooltewah-Collegedale, Inc.	Tennessee
CenturyTel of Port Aransas, Inc.	Texas
CenturyTel of Redfield, Inc.	Arkansas
CenturyTel SM Telecorp, Inc.	Texas

Subsidiary	State of incorporation or formation
CenturyTel Telecommunications, Inc.	Texas
CenturyTel of San Marcos, Inc.	Texas
CenturyTel San Marcos Investments, LLC	Delaware
CenturyTel Security Systems, Inc.	Louisiana
Lumen Technologies Service Group, LLC	Louisiana
CenturyTel of South Arkansas, Inc.	Arkansas
CenturyTel Supply Group, Inc.	Louisiana
CenturyTel/Tele-Max, Inc.	Texas
CenturyTel of Lake Dallas, Inc.	Texas
CenturyTel Web Solutions, LLC	Louisiana
CenturyTel of Wisconsin, LLC	Louisiana
Embarq Corporation	Delaware
Carolina Telephone and Telegraph Company LLC	North Carolina
NOCUTS, Inc.	Pennsylvania
SC One Company	Kansas
Centel Corporation	Kansas
Centel Capital Corporation	Delaware
Centel-Texas, Inc.	Texas
Central Telephone Company of Texas	Texas
EQ Central Texas Equipment LLC	Texas
Central Telephone Company	Delaware
CenturyLink of Nevada, LLC	Delaware
Central Telephone Company of Virginia	Virginia
Embarq Florida, Inc.	Florida
The Winter Park Telephone Company	Florida
CenturyLink Intellectual Property LLC	Delaware
Embarq Directory Trademark Company, LLC	Delaware
CenturyLink Sales Solutions, Inc.	Delaware
Embarq, Inc.	Kansas
Embarq Capital Corporation	Delaware
SC Seven Company	Kansas
Embarq Interactive Holdings LLC	Delaware
Embarq Interactive Markets LLC	Delaware
Embarq Management Company	Delaware
Embarq Mid-Atlantic Management Services Company	North Carolina
Embarq Minnesota, Inc.	Minnesota
Embarq Missouri, Inc.	Missouri
SC Eight Company	Kansas
Embarq Network Company LLC	Delaware
EQ Equipment Leasing, Inc.	Delaware
United Telephone Company of the Carolinas LLC	South Carolina
SC Two Company	Kansas
United Telephone Company of Eastern Kansas	Delaware
United Telephone Company of Florida	Florida

Subsidiary	State of incorporation or formation
United Telephone Company of Indiana, Inc.	Indiana
SC Four Company	Kansas
United Telephone Company of Kansas	Kansas
Embarq Midwest Management Services Company	Kansas
United Teleservices, Inc.	Kansas
United Telephone Company of New Jersey, Inc.	New Jersey
United Telephone Company of the Northwest	Oregon
United Telephone Company of Ohio	Ohio
SC Five Company	Kansas
United Telephone Company of Pennsylvania LLC, The	Pennsylvania
SC Six Company	Kansas
Valley Network Partnership (40% aggregate)	Virginia
United Telephone Company of Southcentral Kansas	Arkansas
United Telephone Company of Texas, Inc.	Texas
EQ United Texas Equipment LLC	Texas
United Telephone Company of the West	Delaware
United Telephone Southeast LLC	Virginia
SC Three Company	Kansas
Hillsboro Telephone Company, Inc. (20%)	Wisconsin
Lafayette MSA Limited Partnership (49%)	Delaware
Madison River Communications Corp.	Delaware
Gallatin River Holdings L.L.C.	Delaware
Gallatin River Communications L.L.C.	Delaware
Madison River Finance Corp.	Delaware
Madison River Holdings LLC	Delaware
Madison River LTD Funding LLC	Delaware
Coastal Utilities, Inc.	Georgia
Gulf Coast Services, LLC	Alabama
Gulf Telephone Company, LLC	Alabama
Madison River Management LLC	Delaware
Mehtel, Inc.	North Carolina
Qwest Communications International, Inc.	Delaware
EUnet International Limited	United Kingdom
Qwest Capital Funding, Inc.	Colorado
Qwest Europe LLC	Delaware
Qwest Services Corporation	Colorado
CenturyLink Investment Management Company	Colorado
Qwest Corporation	Colorado
RiskSense, Inc.	Delaware
1200 Landmark Center Condominium Association, Inc.	Nebraska
Qwest Database Services, Inc.	Colorado
Qwest India Holdings, LLC	Delaware
Lumen IT India Private Limited	India
Seal Infotech Private Limited	India

Subsidiary	State of incorporation or formation
The El Paso County Telephone Company	Colorado
MoveARoo, LLC (33.3%)	Delaware
Qwest Dex Holdings, Inc.	Delaware
Lumen Technologies Government Solutions, Inc.	Colorado
Qwest Wireless, L.L.C.	Delaware
Spectra Communications Group, LLC	Delaware
TelUSA Holdings, LLC (90%)	Delaware
Telephone USA of Wisconsin, LLC	Delaware
Western Re, Inc.	Louisiana
SIS Holdings LP	Delaware
Wildcat Holdco LLC	Delaware
Level 3 Parent, LLC	Delaware
Legend Circle Holdings, Inc.	Delaware
Eldorado Acquisition Two, Inc.	Delaware
Level 3 EON, LLC	Delaware
Level 3 Financing, Inc.	Delaware
Streamroot, Inc.	Delaware
Streamroot SAS	France
Level 3 Holdings, Inc.	Delaware
Continental Holdings, Inc.	Wyoming
KMI Continental Lignite, Inc.	Delaware
Continental Level 3, Inc.	Delaware
Continental Mineral Sales, Inc.	Delaware
CCC Canada Holding, Inc.	Delaware
AmSoft Information Services Limited	Mauritius
Level 3 International Services, Inc.	Delaware
Lumen Technologies Denmark ApS	Denmark
Lumen Technologies Austria GmbH	Austria
BTE Equipment, LLC	Delaware
Level 3 Communications Canada Co.	Nova Scotia
Level 3 Communications, LLC	Delaware
Global Crossing Americas Solutions, LLC	Delaware
Global Crossing Americas Solutions, LLC	Puerto Rico Branch
CenturyLink Latin American Solutions, LLC	Delaware
Level 3 Communications of Virginia, Inc.	Virginia
XCOM Technologies of New York, Inc.	New York
IP Networks, Inc.	Delaware
TelCove Operations, LLC	Delaware
TelCove of Pennsylvania, LLC	Delaware
WiTel Communications (Cayman) Limited	Cayman Islands
WiTel International Telecom (Chile) Limited	Cayman Islands
Williams Comunicaciones Chile Limitada	Chile
WiTel Communications Network, Inc.	Canada
WiTel Communications, LLC	Delaware

Subsidiary	State of incorporation or formation
WilTel Communications Pty Limited	Australia
Vyvx, LLC	Delaware
FTV Communications, LLC	Delaware
Broadwing, LLC	Delaware
ACME Grating Ventures, L.L.C.	Delaware
Broadwing Communications, LLC	Delaware
Corvis Gratings Company	Nova Scotia, Canada
Corvis Canada Inc.	Quebec, Canada
Global Crossing North American Holdings, Inc.	Delaware
Global Crossing North America, Inc.	New York
Global Crossing Telecommunications, Inc.	Michigan
Global Crossing Local Services, Inc.	Michigan
Global Crossing Telemanagement VA, LLC	Virginia
Level 3 Enhanced Services, LLC	Delaware
Level 3 Telecom, LLC	Delaware
Level 3 Telecom Holdings, LLC	Delaware
Level 3 Telecom Data Services, LLC	Delaware
Level 3 Telecom of Arizona, LLC	Delaware
Level 3 Telecom of Colorado, LLC	Delaware
Level 3 Telecom of Idaho, LLC	Delaware
Level 3 Telecom of Illinois, LLC	Delaware
Level 3 Telecom of Iowa, LLC	Delaware
Level 3 Telecom of Minnesota, LLC	Delaware
Level 3 Telecom of New Mexico, LLC	Delaware
Level 3 Telecom of Ohio, LLC	Delaware
Level 3 Telecom of Oregon, LLC	Delaware
Level 3 Telecom of South Carolina, LLC	Delaware
Level 3 Telecom of Tennessee, LLC	Delaware
Level 3 Telecom of Texas, LLC	Delaware
Level 3 Telecom of Utah, LLC	Delaware
Level 3 Telecom of Washington, LLC	Delaware
Level 3 Telecom Management Co., LLC	Delaware
Xspedius Management Co. International, LLC	Delaware
Level 3 Telecom of Alabama, LLC	Delaware
Level 3 Telecom of Arkansas, LLC	Delaware
Level 3 Telecom of DC, LLC	Delaware
Level 3 Telecom of Kansas City, LLC	Delaware
Level 3 Telecom of Kentucky, LLC	Kentucky
Level 3 Telecom of Louisiana, LLC	Delaware
Level 3 Telecom of Maryland, LLC	Delaware
Level 3 Telecom of Mississippi, LLC	Delaware
Level 3 Telecom of Nevada, LLC	Delaware
Level 3 Telecom of Oklahoma, LLC	Delaware
Level 3 Telecom of Virginia, LLC	Virginia

Subsidiary	State of incorporation or formation
Level 3 Telecom Holdings II, LLC	Delaware
Level 3 Telecom, LP	Delaware
Level 3 Telecom of California, LP	Delaware
Level 3 Telecom of Florida, LP	Delaware
Level 3 Telecom of Georgia, LP	Delaware
Level 3 Telecom of Hawaii, LP	Delaware
Level 3 Telecom of Indiana, LP	Delaware
Level 3 Telecom of New Jersey, LP	Delaware
Level 3 Telecom of New York, LP	Delaware
Level 3 Telecom of North Carolina, LP	Delaware
Level 3 Telecom of Wisconsin, LP	Delaware
Level 3 GC Limited	Bermuda
CenturyLink Communications PEC Luxembourg I S.à r.l.	Luxembourg
CenturyLink Communications PEC Luxembourg II S.à r.l.	Luxembourg
CenturyLink Communications PEC Services Europe Limited	Ireland
CenturyLink Communications PEC Services Ireland Limited	Ireland
Lumen Technologies PEC Ireland Limited	Ireland
Level 3 Communications Hong Kong Limited	Hong Kong
Level 3 Communications Singapore Pte. Ltd.	Singapore
Level 3 Communications Australia Pty Ltd	Australia
Global Crossing International Networks Ltd.	Bermuda
Level 3 Communications St. Croix, Inc.	US Virgin Islands
Century Link Costa Rica S.R.L.	Costa Rica
CenturyLink Panama Inc.	Panama
Lumen Technologies Brasil Holding, Ltda.	Brazil
CenturyLink Brasil Comunicações e Serviços Ltda.	Brazil
CenturyLink Communications (IMPSAT) Nederland B.V.	Netherlands
CenturyLink Impsat Holdings I Limited	United Kingdom
CenturyLink Impsat Holdings II Limited	United Kingdom
CTL Mexico Servicios, S. De R. L. de C. V.	Mexico
CTL Mexico Landing, S. de R.L.	Mexico
CTL Mexico II, S. de R.L. de C.V.	Mexico
CenturyLinkEcuador S.A.	Ecuador
CenturyLink Telecomunicaciones S.A.	Venezuela
CenturyLink Peru S.A.	Peru
CenturyLink Chile S.A.	Chile
CenturyLink Colombia S.A.S.	Colombia
CenturyLink Participações e Comercial Ltda.	Brazil
CenturyLink Comunicações do Brasil Ltda.	Brazil
Impsat Fiber Networks, LLC	Delaware
CenturyLink Argentina S.A.	Argentina
CenturyLink Argentina S.A. Sucursal Uruguay	Uruguay Branch
Global Crossing International, Ltd.	Bermuda
Level 3 Asia, Inc.	Delaware

Subsidiary	State of incorporation or formation
Level 3 Communications (Asia Pacific) Ltd.	Hong Kong
Level 3 International, Inc.	Delaware
Level 3 CDN International, Inc.	Delaware
Lumen Technologies New Zealand Limited	New Zealand
Lumen Technologies APAC Holdings Limited	United Kingdom
Lumen Technologies EMEA Holdings Limited	United Kingdom
Lumen Technologies Europe Limited	United Kingdom
Level Three Telecommunications Kenya Limited	Kenya
Lumen Technologies UK Limited	United Kingdom
Fibernet UK Limited	United Kingdom
CenturyLink Communications India Private Limited	India
Level 3 Holdings B.V.	Netherlands
CenturyLink Communications Iceland ehf	Iceland
Lumen Technologies Bulgaria EOOD	Bulgaria
Lumen Technologies Poland SP. Z o.o.	Poland
CenturyLink Communications Croatia Usluge d.o.o.	Croatia
CenturyLink Communications Sweden AB	Sweden
Lumen Technologies Norge AS	Norway
Lumen Technologies France S.A.S.*	France
CenturyLink Communications Hungary Kft.	Hungary
Lumen Technologies Italia S.R.L.	Italy
Lumen Technologies Switzerland AG	Switzerland
Lumen Technologies Iberia SA	Spain
CenturyLink Communications España S.A Sucursal em Portugal	Portuguese Branch
Lumen Teknoloji Hizmetleri Limited Şirketi	Turkey
Lumen Technologies Germany GmbH	Germany
Lumen Technologies NL B.V.	Netherlands
Level 3 Communications Japan KK	Japan
Lumen Technologies NL B.V.	Greek Branch
CenturyLink Telekomunikacijske Storitve doo	Slovenia
Lumen Technologies Israel Ltd.	Israel
Level 3 Communications Limited	United Kingdom
CenturyLink Communications Finland Oy	Finland
Lumen Technologies Belgium SA	Belgium
CenturyLink Communications RS d.o.o. Beograd-Vračar	Serbia
Lumen Technologies EMEA Ireland Limited	Ireland
Lumen Technologies CDN Ireland Limited	Ireland
CenturyLink Communications CZ s.r.o	Czech Republic
Lumen Technologies Luxembourg S.à r.l.	Luxembourg
CenturyLink Communications Estonia OÜ	Estonia
Lumen Technologies OOO	Russia
Group Lumen South Africa (PTY) Ltd	South Africa
CenturyLink Communications Slovakia spol. S.r.o.	Slovakia
Level 3 Europe B.V.	Netherlands

Subsidiary	State of incorporation or formation
Lumen Technologies Romania S.R.L.	Romania
CenturyLink Community Giving Foundation, Inc.	Colorado

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the registration statement (No. 333-227251) on Form S-3, the registration statements (Nos. 333-245036, 333-225154, 333-221267, 333-174571, and 333-150157) on Form S-8, and the registration statement (No. 333-215121) on Form S-4 of our reports dated February 24, 2022, with respect to the consolidated financial statements of Lumen Technologies, Inc. and the effectiveness of internal control over financial reporting.

/s/ KPMG LLP

Denver, Colorado
February 24, 2022

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Jeff K. Storey, Chief Executive Officer, certify that:

1. I have reviewed this Annual Report on Form 10-K of Lumen Technologies, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's Board of Directors:
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2022

/s/ Jeff K. Storey
 Jeff K. Storey
 Chief Executive Officer

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Indraneel Dev, Chief Financial Officer, certify that:

1. I have reviewed this Annual Report on Form 10-K of Lumen Technologies, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's Board of Directors:
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2022

/s/ Indraneel Dev

Indraneel Dev
Executive Vice President and Chief
Financial Officer

**Certification Pursuant to
18 U.S.C. Section 1350,
as Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

I, Jeff K. Storey, Chief Executive Officer of Lumen Technologies, Inc. ("Lumen Technologies"), certify that, to my knowledge, the Annual Report on Form 10-K for the year ended December 31, 2021 of Lumen Technologies fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934 and that the information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of Lumen Technologies as of the dates and for the periods covered by such report.

A signed original of this statement has been provided to Lumen Technologies and will be retained by Lumen Technologies and furnished to the Securities and Exchange Commission or its staff upon request.

Date: February 24, 2022

/s/ Jeff K. Storey
Jeff K. Storey
Chief Executive Officer

**Certification Pursuant to
18 U.S.C. Section 1350,
as Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

I, Indraneel Dev, Chief Financial Officer of Lumen Technologies, Inc. ("Lumen Technologies"), certify that, to my knowledge, the Annual Report on Form 10-K for the year ended December 31, 2021 of Lumen Technologies fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934 and that the information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of Lumen Technologies as of the dates and for the periods covered by such report.

A signed original of this statement has been provided to Lumen Technologies and will be retained by Lumen Technologies and furnished to the Securities and Exchange Commission or its staff upon request.

Date: February 24, 2022

/s/ Indraneel Dev

Indraneel Dev
Executive Vice President and Chief
Financial Officer