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

FORM 10-Q

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

For the quarterly period ended June 30, 2019
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 number 333-191132-02

APX Group Holdings, Inc.
(Exact name of Registrant as specified in its charter)

Delaware	**46-1304852**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**
4931 North 300 West Provo, UT	**84604**
(Address of Principal Executive Offices)	**(Zip Code)**

Registrant's Telephone Number, Including Area Code: (801) 377-9111

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered

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 ☒

(Note: From January 1, 2018, the registrant has been a voluntary filer not subject to the filing requirements of Section 13 or 15(d) of the Exchange Act; as a voluntary filer the registrant filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter period that the registrant would have been required to file such reports) as if it were subject to such filing requirements.)

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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

As of August 6, 2019 , there were 100 shares of the issuer’s common stock, par value $0.01 per share, issued and outstanding.

APX Group Holdings Inc.

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BASIS OF PRESENTATION AND GLOSSARY

As used in this Quarterly Report on Form 10-Q, unless otherwise noted or the context otherwise requires:

- references to "Vivint," "we," "us," "our" and "the Company" are to APX Group Holdings, Inc. and its consolidated subsidiaries;
- references to "Sponsor" are to certain investment funds affiliated with The Blackstone Group L.P.;
- references to the "Merger" are to the acquisition of APX Group and two of its affiliates, Vivint Solar, Inc. and 2GIG Technologies, Inc., on November 16, 2012, by an investor group comprised of certain investment funds affiliated with our Sponsor, and certain co-investors and management investors; and
- the terms "subscriber" and "customer" are used interchangeably.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q includes forward-looking statements regarding, among other things, our plans, strategies and prospects, both business and financial. These statements are based on the beliefs and assumptions of our management. Although we believe that our plans, intentions and expectations reflected in or suggested by these forward-looking statements are reasonable, we cannot assure you that we will achieve or realize these plans, intentions or expectations. Forward-looking statements are inherently subject to risks, uncertainties and assumptions. Generally, statements that are not historical facts, including statements concerning our possible or assumed future actions, business strategies, events or results of operations, are forward-looking statements. These statements may be preceded by, followed by or include the words "believes," "estimates," "expects," "projects," "forecasts," "may," "will," "should," "seeks," "plans," "scheduled," "anticipates" or "intends" or similar expressions. Forward-looking statements contained in this Quarterly Report include, but are not limited to, statements about our ability to:

- accelerate adoption of our smart home solution;
- establish and grow through new subscriber acquisition channels;
- increase brand awareness;
- meet customer expectations and address key friction points for smart home adoption and use;
- expand our ecosystem with third-party and proprietary devices;
- reduce customer attrition;
- lower net customer acquisition costs;
- improve unit economics and grow subscription revenues per subscriber over time;
- increase new subscriber originations, customer usage, and customer satisfaction;
- develop, design, and sell our own Smart Home Services that are differentiated from those of our competitors;
- attract, train and retain an effective sales force and other key personnel;
- upgrade and maintain our information technology systems;
- acquire and protect intellectual property;
- meet future liquidity requirements and comply with restrictive covenants related to our long-term indebtedness;
- enhance our future operating and financial results;
- comply with laws and regulations applicable to our business; and
- successfully defend litigation brought against us.

Forward-looking statements are not guarantees of performance. You should not put undue reliance on these statements which speak only as of the date hereof. You should understand that the following important factors could affect our future results and could cause those results or other outcomes to differ materially from those expressed or implied in our forward-looking statements:

- risks of the smart home and security industry, including risks of and publicity surrounding the sales, subscriber origination and retention process;
- the highly competitive nature of the smart home and security industry and product introductions and promotional activity by our competitors;
- litigation, complaints, product liability claims and/or adverse publicity;
- the impact of changes in consumer spending patterns, consumer preferences, local, regional, and national economic conditions, crime, weather, demographic trends and employee availability;
- increases and/or decreases in utility and other energy costs, increased costs related to utility or governmental requirements;
- cost increases or shortages in smart home and security technology products or components;
- the introduction of unsuccessful new Smart Home Services;
- privacy and data protection laws, privacy or data breaches, or the loss of data;
- the impact to our business, results of operations, financial condition, regulatory compliance and customer experience of the Vivint Flex Pay plan (as described in Note 1 - Basis of Presentation in the unaudited condensed consolidated financial statements) and our ability to successfully compete in retail sales channels; and
- risks related to our exposure to variable rates of interest with respect to our revolving credit facility and term loan facility.

In addition, the origination and retention of new subscribers will depend on various factors, including, but not limited to, market availability, subscriber interest, the availability of suitable components, the negotiation of acceptable contract terms with subscribers, local permitting, licensing and regulatory compliance, and our ability to manage anticipated expansion and to hire, train and retain personnel, the financial viability of subscribers and general economic conditions.

These and other factors that could cause actual results to differ from those implied by the forward-looking statements in this Quarterly Report are more fully described in the “Risk Factors” section of the Company’s Annual Report on Form 10-K/A for the fiscal year ended December 31, 2018 , as filed with the Securities and Exchange Commission (the “SEC”) (the “Form 10-K/A”) and the Company’s Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2019, as such risk factors may be updated from time to time in our periodic filings with the SEC, and are accessible on the SEC’s website at *www.sec.gov* . The risks described herein or in the “Risk Factors” sections of the Form 10-K/A and Form 10-Q are not exhaustive. Other sections of this Quarterly Report describe additional factors that could adversely affect our business, financial condition or results of operations. New risk factors emerge from time to time and it is not possible for us to predict all such risk factors, nor can we assess the impact of all such risk factors on our business or the extent to which any factor or combination of factors may cause actual results to differ materially from those contained in any forward-looking statements. All forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the foregoing cautionary statements. We undertake no obligations to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Quarterly Report, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to unduly rely upon these statements.

WEBSITE AND SOCIAL MEDIA DISCLOSURE

We use our website (www.vivint.com), our company blog (blog.vivint.com), corporate Twitter and Instagram accounts (@VivintHome), our corporate Facebook account (VivintHome), and our corporate Linkedin account as channels of distribution of Company information. The information we post through these channels may be deemed material. Accordingly, investors should monitor these channels, in addition to following our press releases, SEC filings and public conference calls and webcasts. In addition, you may automatically receive e-mail alerts and other information about the Company when you enroll your e-mail address by visiting the “Email Alerts” section of our website at www.investors.vivint.com . The contents of our website and social media channels are not, however, a part of this report.

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PART I. FINANCIAL INFORMATION

ITEM 1. UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

APX Group Holdings, Inc. and Subsidiaries
Condensed Consolidated Balance Sheets (unaudited)
(in thousands, except share and per-share amounts)

	June 30, 2019	December 31, 2018
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 3,133	$ 12,773
Accounts and notes receivable, net	71,390	48,724
Inventories	139,350	50,552
Prepaid expenses and other current assets	16,988	11,449
Total current assets	230,861	123,498
Property, plant and equipment, net	61,600	73,401
Capitalized contract costs, net	1,170,687	1,115,775
Deferred financing costs, net	1,572	2,058
Intangible assets, net	217,778	255,085
Goodwill	836,289	834,855
Operating lease right-of-use assets	71,557	—
Long-term notes receivables and other assets, net	122,631	119,819
Total assets	$ 2,712,975	$ 2,524,491
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current Liabilities:		
Accounts payable	$ 143,072	$ 66,646
Accrued payroll and commissions	69,548	65,479
Accrued expenses and other current liabilities	138,049	136,715
Deferred revenue	220,105	186,953
Current portion of operating lease liabilities	12,058	—
Current portion of finance lease liabilities	6,984	7,743
Total current liabilities	589,816	463,536
Notes payable, net	2,948,549	2,961,947
Notes payable, net - related party	82,200	75,148
Revolving credit facility	134,000	—
Finance lease liabilities, net of current portion	3,397	5,571
Deferred revenue, net of current portion	383,266	323,585
Operating lease liabilities	69,975	—
Other long-term obligations	99,736	90,209
Deferred income tax liabilities	1,139	1,096
Total liabilities	4,312,078	3,921,092
Commitments and contingencies (See Note 11)		
Stockholders' deficit:		
Common stock, $0.01 par value, 100 shares authorized; 100 shares issued and outstanding	—	—
Additional paid-in capital	737,725	736,333
Accumulated deficit	(2,309,065)	(2,104,097)
Accumulated other comprehensive loss	(27,763)	(28,837)
Total stockholders' deficit	(1,599,103)	(1,396,601)
Total liabilities and stockholders' deficit	$ 2,712,975	$ 2,524,491

See accompanying notes to unaudited condensed consolidated financial statements

APX Group Holdings, Inc. and Subsidiaries
Condensed Consolidated Statements of Operations (unaudited)
(in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	**2018**	**2019**	**2018**
Revenues:				
Recurring and other revenue	$ 281,053	$ 254,967	$ 557,302	$ 501,564
Costs and expenses:				
Operating expenses (exclusive of depreciation and amortization shown separately below)	92,013	89,321	175,089	173,081
Selling expenses (exclusive of amortization of deferred commissions of $44,756, $40,167, $88,542 and $78,470, respectively, which are included in depreciation and amortization shown separately below)	57,926	65,659	101,517	124,902
General and administrative expenses	47,439	49,206	93,778	100,173
Depreciation and amortization	134,504	126,873	265,725	251,131
Restructuring expenses	—	4,141	—	4,141
Total costs and expenses	331,882	335,200	636,109	653,428
Loss from operations	(50,829)	(80,233)	(78,807)	(151,864)
Other expenses (income):				
Interest expense	65,817	60,327	129,565	119,117
Interest income	—	—	(23)	(31)
Other (income) expenses, net	(198)	4,731	(2,444)	(40,509)
Loss before income taxes	(116,448)	(145,291)	(205,905)	(230,441)
Income tax benefit	(552)	(906)	(853)	(1,339)
Net loss	$ (115,896)	$ (144,385)	$ (205,052)	$ (229,102)

See accompanying notes to unaudited condensed consolidated financial statements

APX Group Holdings, Inc. and Subsidiaries
Condensed Consolidated Statements of Comprehensive Loss (unaudited)
(in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net loss	$ (115,896)	$ (144,385)	$ (205,052)	$ (229,102)
Other comprehensive income (loss), net of tax effects:				
Foreign currency translation adjustment	504	(417)	1,074	(1,076)
Total other comprehensive income (loss)	504	(417)	1,074	(1,076)
Comprehensive loss	$ (115,392)	$ (144,802)	$ (203,978)	$ (230,178)

See accompanying notes to unaudited condensed consolidated financial statements

APX Group Holdings, Inc. and Subsidiaries
Condensed Consolidated Statements of Changes in Equity (Deficit)
(In thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Common Stock				
Balance, beginning of period	$ —	$ —	$ —	$ —
Balance, end of period	—	—	—	—
Additional paid-in capital				
Balance, beginning of period	737,072	731,585	736,333	732,346
Stock-based compensation	977	337	1,834	542
Return of capital to Vivint Smart Home, Inc.	(324)	(1,083)	(442)	(2,049)
Balance, end of period	737,725	730,839	737,725	730,839
Accumulated deficit				
Balance, beginning of period	(2,193,169)	(1,726,540)	(2,104,097)	(1,358,571)
Net Loss	(115,896)	(144,385)	(205,052)	(229,102)
ASU 2014-09 adoption	—	—	—	(282,572)
ASU 2016-01 adoption	—	—	—	(680)
ASU 2016-02 adoption	—	—	84	—
Balance, end of period	(2,309,065)	(1,870,925)	(2,309,065)	(1,870,925)
Accumulated other comprehensive loss				
Balance, beginning of period	(28,267)	(27,280)	(28,837)	(27,301)
Foreign currency translation adjustment	504	(417)	1,074	(1,076)
ASU 2016-01 adoption	—	—	—	680
Balance, end of period	(27,763)	(27,697)	(27,763)	(27,697)
Total stockholders' deficit	$ (1,599,103)	$ (1,167,783)	$ (1,599,103)	$ (1,167,783)

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APX Group Holdings, Inc. and Subsidiaries
Condensed Consolidated Statements of Cash Flows (unaudited)
(in thousands)

	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
Cash flows from operating activities:		
Net loss	$ (205,052)	$ (229,102)
Adjustments to reconcile net loss to net cash used in operating activities:		
Amortization of capitalized contract costs	212,276	193,302
Amortization of customer relationships	37,255	42,134
Depreciation and amortization of property, plant and equipment and other intangible assets	16,194	15,695
Amortization of deferred financing costs and bond premiums and discounts	2,339	2,671
Gain on fair value changes of equity securities	(2,254)	(740)
Loss (gain) on sale or disposal of assets	441	(50,193)
Loss on early extinguishment of debt	806	—
Stock-based compensation	1,834	542
Provision for doubtful accounts	11,636	8,409
Changes in operating assets and liabilities:		
Accounts and notes receivable, net	(29,845)	(21,069)
Inventories	(88,674)	11,641
Prepaid expenses and other current assets	(5,534)	(1,753)
Capitalized contract costs, net	(264,554)	(266,251)
Long-term notes receivables, other assets, net and right-of-use assets	(1,938)	(20,359)
Accounts payable	66,534	4,214
Accrued payroll and commissions, accrued expenses, other current and long-term liabilities, and current and long-term operating lease liabilities	26,279	65,525
Deferred revenue	91,719	114,345
Net cash used in operating activities	(130,990)	(130,989)
Cash flows from investing activities:		
Capital expenditures	(4,653)	(12,193)
Proceeds from the sale of intangible assets	—	53,693
Proceeds from the sale of capital assets	19	225
Acquisition of intangible assets	(668)	(1,022)
Proceeds from sales of equity securities	5,430	—
Net cash provided by investing activities	128	40,703
Cash flows from financing activities:		
Proceeds from notes payable	225,000	—
Repayment of notes payable	(229,050)	—
Borrowings from revolving credit facility	160,000	179,000
Repayments on revolving credit facility	(26,000)	(79,000)
Repayments of finance lease obligations	(4,263)	(6,955)
Deferred financing costs	(4,036)	—
Return of capital	(441)	(2,049)
Net cash provided by financing activities	121,210	90,996
Effect of exchange rate changes on cash	12	(62)
Net (decrease) increase in cash and cash equivalents	(9,640)	648
Cash and cash equivalents:		
Beginning of period	12,773	3,872
End of period	$ 3,133	$ 4,520
Supplemental non-cash investing and financing activities:		
Finance lease additions	$ 1,567	$ 4,137
Intangible assets acquisitions included within accounts payable, accrued expenses and other current liabilities and other long-term obligations	$ 2,186	$ 513

Capital expenditures included within accounts payable	$	1,853	$	2,482

See accompanying notes to unaudited condensed consolidated financial statements

APX Group Holdings, Inc. and Subsidiaries
Notes to Condensed Consolidated Financial Statements (unaudited)

1 . Basis of Presentation and Significant Accounting Policies

Unaudited Interim Financial Statements

The accompanying interim unaudited condensed consolidated financial statements included in this Quarterly Report on Form 10-Q have been prepared by APX Group Holdings, Inc. and subsidiaries (the "Company") without audit. The accompanying consolidated financial statements include the accounts of APX Group Holdings, Inc. and its subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation. Certain information and footnote disclosures normally included in consolidated financial statements prepared in accordance with U.S. generally accepted accounting principles ("GAAP") have been condensed or omitted pursuant to such rules and regulations. The information as of December 31, 2018 included in the unaudited condensed consolidated balance sheets was derived from the Company's audited consolidated financial statements. The unaudited condensed consolidated financial statements included in this Quarterly Report on Form 10-Q were prepared on the same basis as the audited consolidated financial statements and, in the opinion of management, reflect all adjustments (all of which are considered of a normal recurring nature) considered necessary to present fairly the Company's financial position, results of operations and cash flows for the periods and dates presented. The results of operations for the three and six months ended June 30, 2019 are not necessarily indicative of the results that may be expected for the year ending December 31, 2019 .

These unaudited condensed consolidated financial statements and notes should be read in conjunction with the Company's audited consolidated financial statements and related notes as set forth in the Company's Annual Report on Form 10-K/A for the fiscal year ended December 31, 2018 , as filed with the Securities and Exchange Commission ("SEC") on March 8, 2019, which is available on the SEC's website at www.sec.gov.

Basis of Presentation

The unaudited condensed consolidated financial statements of the Company are presented for APX Group Holdings, Inc. ("Holdings") and its wholly-owned subsidiaries. The Company has prepared the accompanying unaudited condensed consolidated financial statements pursuant to GAAP. Preparing financial statements requires the Company to make estimates and assumptions that affect the amounts that are reported in the consolidated financial statements and accompanying disclosures. Although these estimates are based on the Company's best knowledge of current events and actions that the Company may undertake in the future, actual results may be different from the Company's estimates. The results of operations presented herein are not necessarily indicative of the Company's results for any future period.

Vivint Flex Pay

The Vivint Flex Pay plan ("Vivint Flex Pay") became the Company's primary sales model beginning in March 2017. Under Vivint Flex Pay, customers pay separately for the products (including control panel, security peripheral equipment, smart home equipment, and related installation) ("Products") and Vivint's smart home and security services ("Services"). The customer has the following three ways to pay for the Products: (1) qualified customers in the United States may finance the purchase of Products through third-party financing providers ("Consumer Financing Program"), (2) the Company offers to some customers not eligible for the Consumer Financing Program, but who qualify under the Company's underwriting criteria, the option to enter into a retail installment contract ("RIC") directly with Vivint, or (3) customers may purchase the Products at the outset of the service contract by check, automatic clearing house payments ("ACH"), credit or debit card.

Although customers pay separately for Products and Services under the Vivint Flex Pay plan, the Company has determined that the sale of Products and Services are one single performance obligation. As a result, all forms of transactions under Vivint Flex Pay create deferred revenue for the gross amount of Products sold. Gross deferred revenues are reduced by imputed interest on the RICs and the present value of expected payments due to the third-party financing provider under the Consumer Financing Program.

Under the Consumer Financing Program, qualified customers are eligible for loans provided by third-party financing providers up to $4,000 . The annual percentage rates on these loans range between 0% and 9.99% , and are either installment or revolving loans with a 42 or 60 month term. Loan terms are determined based on the customer's credit quality.

For certain third-party provider loans, the Company pays a monthly fee based on either the average daily outstanding balance of the loans or the number of outstanding loans, depending on the third-party financing provider. Additionally, the

Company shares liability for credit losses depending on the credit quality of the customer. Because of the nature of these provisions, the Company records a derivative liability at its fair value when the third-party financing provider originates loans to customers, which reduces the amount of estimated revenue recognized on the provision of the services. The derivative liability is reduced as payments are made by the Company to the third-party financing provider. Subsequent changes to the fair value of the derivative liability are realized through other expenses (income), net in the Condensed Consolidated Statement of Operations. (See Note 8).

For separate third-party loans , the Company receives net proceeds (net of fees and expected losses) for which the Company has no further obligation to the third-party. The Company records these net proceeds to deferred revenue.

Retail Installment Contract Receivables

For subscribers that enter into a RIC to finance the purchase of Products and related installation, the Company records a receivable for the amount financed. The RIC receivables are recorded at their present value, net of the imputed interest discount. At the time of installation, the Company records a long-term note receivable within long-term notes receivables and other assets, net on the condensed consolidated balance sheets for the present value of the receivables that are expected to be collected beyond 12 months of the reporting date. The unbilled receivable amounts that are expected to be collected within 12 months of the reporting date are included as a short-term notes receivable within accounts and notes receivable, net on the condensed consolidated balance sheets. The billed amounts of notes receivables are included in accounts receivable within accounts and notes receivable, net on the condensed consolidated balance sheets.

The Company imputes the interest on the RIC receivable using a risk adjusted market interest rate and records it as an adjustment to deferred revenue and as an adjustment to the face amount of the related receivable. The imputed interest discount considers a number of factors, including collection experience, aging of the remaining RIC receivable portfolios, credit quality of the subscriber base and other qualitative considerations, including macro-economic factors. The imputed interest income is recognized over the term of the RIC contract as recurring and other revenue on the condensed consolidated statement of operations.

When the Company determines that there are RIC receivables that have become uncollectible, it records an adjustment to the imputed interest discount and reduces the related note receivable balance. Account balances are written-off if collection efforts are unsuccessful and future collection is unlikely based on the length of time from the day accounts become past due.

Accounts Receivable

Accounts receivable consists primarily of amounts due from subscribers for recurring monthly monitoring Services and the billed portion of RIC receivables. The accounts receivable are recorded at invoiced amounts and are non-interest bearing and are included within accounts and notes receivable, net on the condensed consolidated balance sheets. Accounts receivable totaled $31.8 million and $16.5 million at June 30, 2019 and December 31, 2018 , respectively net of the allowance for doubtful accounts of $6.6 million and $5.6 million at June 30, 2019 and December 31, 2018 , respectively. The Company estimates this allowance based on historical collection experience and subscriber attrition rates. When the Company determines that there are accounts receivable that are uncollectible, they are charged off against the allowance for doubtful accounts. The provision for doubtful accounts is included in general and administrative expenses in the accompanying unaudited condensed consolidated statements of operations and totaled $5.7 million and $4.4 million for the three months ended June 30, 2019 and 2018 , respectively, and $11.6 million and $8.4 million for the six months ended June 30, 2019 and 2018 , respectively.

The changes in the Company’s allowance for accounts receivable were as follows (in thousands):

	Six Months Ended June 30, 2019	Twelve Months Ended December 31, 2018
Beginning balance	$ 5,594	$ 5,356
Provision for doubtful accounts	11,636	19,405
Write-offs and adjustments	(10,593)	(19,167)
Balance at end of period	$ 6,637	$ 5,594

Revenue Recognition

The Company offers its customers smart home services combining Products, including a proprietary control panel, door and window sensors, door locks, security cameras and smoke alarms; installation; and a proprietary back-end cloud platform software and Services. These together create an integrated system that allows the Company's customers to monitor, control and protect their home ("Smart Home Services"). The Company's customers are buying this integrated system that provides them with these Smart Home Services. The number and type of Products purchased by a customer depends on their desired functionality. Because the Products and Services included in the customer's contract are integrated and highly interdependent, and because they must work together to deliver the Smart Home Services, the Company has concluded that installed Products, related installation and Services contracted for by the customer are generally not distinct within the context of the contract and, therefore, constitute a single, combined performance obligation. Revenues for this single, combined performance obligation are recognized on a straight-line basis over the customer's contract term. The Company has determined that certain contracts that do not require a long-term commitment for monitoring services by the customer contain a material right to renew the contract, because the customer does not have to purchase Products upon renewal. Proceeds allocated to the material right are recognized over the period of benefit, which is generally three years.

The majority of the Company's subscription contracts are between three and five years in length and are non-cancelable. These contracts with customers generally convert into month-to-month agreements at the end of the initial term, and some customer contracts are month-to-month from inception. Payment for recurring monitoring and other Smart Home Services is generally due in advance on a monthly basis.

Sales of Products and other one-time fees such as service fees or installation fees are invoiced to the customer at the time of sale. Revenues for wireless internet service provided by Vivint Wireless Inc. ("Wireless Internet" or "Wireless") and any Products or Services that are considered separate performance obligations are recognized when those Products or Services are delivered. Taxes collected from customers and remitted to governmental authorities are not included in revenue. Payments received or amounts billed in advance of revenue recognition are reported as deferred revenue.

Deferred Revenue

The Company's deferred revenues primarily consist of amounts for sales (including upfront proceeds) of Smart Home Services. Deferred revenues are recognized over the term of the related performance obligation, which is generally three to five years .

Capitalized Contract Costs

Capitalized contract costs represent the costs directly related and incremental to the origination of new contracts, modification of existing contracts or to the fulfillment of the related subscriber contracts. These include commissions, other compensation and related costs incurred directly for the origination and installation of new or upgraded customer contracts, as well as the cost of Products installed in the customer home at the commencement or modification of the contract. These costs are deferred and amortized on a straight-line basis over the expected period of benefit that the Company has determined to be five years . Amortization of capitalized contract costs is included in "Depreciation and Amortization" on the consolidated statements of operations. These deferred costs are periodically reviewed for impairment. Contract costs not directly related and incremental to the origination of new contracts, modification of existing contracts or to the fulfillment of the related subscriber contracts are expensed as incurred. These costs include those associated with housing, marketing and recruiting, non-direct lead generation costs, certain portions of sales commissions and residuals, overhead and other costs considered not directly and specifically tied to the origination of a particular subscriber.

On the condensed consolidated statement of cash flows, capitalized contract costs are classified as operating activities and reported as "Capitalized contract costs – deferred contract costs" as these assets represent deferred costs associated with subscriber contracts.

Cash and Cash Equivalents

Cash and cash equivalents consists of highly liquid investments with remaining maturities when purchased of three months or less.

Inventories

Inventories, which are comprised of smart home and security system Products and parts, are stated at the lower of cost or net realizable value with cost determined under the first-in, first-out ("FIFO") method. The Company adjusts the inventory balance based on anticipated obsolescence, usage and historical write-offs.

Property, Plant and Equipment and Long-lived Assets

Property, plant and equipment are stated at cost and depreciated on the straight-line method over the estimated useful lives of the assets or the lease term for assets under finance leases, whichever is shorter. Intangible assets with definite lives are amortized over the remaining estimated economic life of the underlying technology or relationships, which ranges from 2 to 10 years . Definite-lived intangible assets are amortized on the straight-line method over the estimated useful life of the asset or in a pattern in which the economic benefits of the intangible asset are consumed. Amortization expense associated with leased assets is included with depreciation expense. Routine repairs and maintenance are charged to expense as incurred.

The Company reviews long-lived assets, including property, plant and equipment, capitalized contract costs, and definite-lived intangibles for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable. The Company considers whether or not indicators of impairment exist on a regular basis and as part of each quarterly and annual financial statement close process. Factors the Company considers in determining whether or not indicators of impairment exist include market factors and patterns of customer attrition. If indicators of impairment are identified, the Company estimates the fair value of the assets. An impairment loss is recognized if the carrying amount of a long-lived asset is not recoverable and exceeds its fair value.

The Company conducts an indefinite-lived intangible impairment analysis annually as of October 1, and as necessary if changes in facts and circumstances indicate that the fair value of the Company’s indefinite-lived intangibles may be less than the carrying amount. When indicators of impairment do not exist and certain accounting criteria are met, the Company is able to evaluate indefinite-lived intangible impairment using a qualitative approach. When necessary, the Company’s quantitative impairment test consists of two steps. The first step requires that the Company compare the estimated fair value of its indefinite-lived intangibles to the carrying value. If the fair value is greater than the carrying value, the intangibles are not considered to be impaired and no further testing is required. If the fair value is less than the carrying value, an impairment loss in an amount equal to the difference is recorded.

During the three and six months ended June 30, 2019 and 2018 , no impairments to long-lived assets or intangibles were recorded.

The Company’s depreciation and amortization included in the consolidated statements of operations consisted of the following (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Amortization of capitalized contract costs	$ 107,245	$ 97,937	$ 212,275	$ 193,302
Amortization of definite-lived intangibles	20,194	22,732	40,466	45,452
Depreciation of property, plant and equipment	7,065	6,204	12,984	12,377
Total depreciation and amortization	$ 134,504	$ 126,873	$ 265,725	$ 251,131

Leases

Effective January 1, 2019 the Company accounts for leases under Topic 842 (see *Recently Adopted Accounting Standards* below). Under Topic 842, the Company determines if an arrangement is a lease at inception. Lease right-of-use (“ROU”) assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Lease ROU assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. In determining the present value of lease payments, the Company uses the implicit rate when available. When implicit rates are not available, the Company uses an incremental borrowing rate based on the information available at commencement date. The lease ROU asset also includes any lease payments made and is reduced by lease incentives. Lease expense for lease payments is recognized on a straight-line basis over the lease term. The Company does not record lease ROU assets and liabilities for leases with terms of 12 months or less.

Leases are classified as either operating or finance at lease inception. Operating lease assets and liabilities and finance lease liabilities are stated separately on the condensed consolidated balance sheets. Finance lease assets are included in property, plant and equipment, net on the condensed consolidated balance sheets.

The Company has lease agreements with lease and non-lease components. For facility type leases, the Company separates the lease and non-lease components. Generally, the Company accounts for the lease and non-lease components as a single lease component for all other class of leases.

Prior to the adoption of Topic 842, the Company's leases were classified as either operating or capital leases. Capital lease liabilities were stated separately on the condensed consolidated balance sheets and capital lease assets were included in property, plant and equipment, net on the condensed consolidated balance sheets. Operating leases were not recognized in the balance sheet. Capital lease balances are presented on the same lines as finance lease balances for comparative prior periods in the unaudited condensed consolidated financial statements. See *Recently Adopted Accounting Standards* below and note 12 "Leases" for additional information related to the impact of adopting Topic 842.

Long-term Investments

The Company’s long-term investments are composed of equity securities in certain companies. As of June 30, 2019 and December 31, 2018 , the Company's equity investments totaled $0.5 million and $3.9 million , respectively.

Management determines the appropriate fair value measurement of its investments at the time of purchase and reevaluates the fair value measurement at each balance sheet date. Equity securities are classified as either short-term or long-term, based on the nature of each security and its availability for use in current operations. The Company’s equity securities are carried at fair value, with gains and losses reported in other income or loss within the statement of operations.

The Company's equity investments without readily determinable fair values totaled $0.5 million as of June 30, 2019 and December 31, 2018 , respectively. The Company performs impairment analyses of its investments without readily determinable fair values when events occur or circumstances change that would, more likely than not, reduce the fair value of the investment below its carrying value. When indicators of impairment do not exist, the Company evaluates impairment using a qualitative approach. Additionally, increases or decreases in the carrying amount resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer are adjusted through the statement of operations as needed.

Deferred Financing Costs

Certain costs incurred in connection with obtaining debt financing are deferred and amortized utilizing the straight-line method, which approximates the effective-interest method, over the life of the related financing. Deferred financing costs associated with obtaining APX Group, Inc.’s (“APX”) revolving credit facility are amortized over the amended maturity dates discussed in Note 3 . Deferred financing costs included in the accompanying unaudited condensed consolidated balance sheets within deferred financing costs, net at June 30, 2019 and December 31, 2018 were $1.6 million and $2.1 million , net of accumulated amortization of $10.1 million and $9.6 million , respectively. Deferred financing costs included in the accompanying unaudited condensed consolidated balance sheets within notes payable, net at June 30, 2019 and December 31, 2018 were $31.5 million and $32.4 million , net of accumulated amortization of $59.1 million and $54.6 million , respectively. Amortization expense on deferred financing costs recognized and included in interest expense in the accompanying unaudited condensed consolidated statements of operations, totaled $2.4 million and $2.7 million for the three months ended June 30, 2019 and 2018 , respectively, and $4.9 million and $5.3 million for the six months ended June 30, 2019 and 2018 , respectively (See Note 3).

Residual Income Plans

The Company has a program that allows certain third-party sales channel partners to receive additional compensation based on the performance of the underlying contracts they create (the “Channel Partner Plan”). The Company also has a residual sales compensation plan (the “Residual Plan”) under which the Company's sales personnel (each, a “Plan Participant”) receive compensation based on the performance of the underlying contracts they create.

For both the Channel Partner Plan and Residual Plan, the Company calculates the present value of the expected future residual payments and records a liability for this amount in the period the subscriber account is originated. These costs are recorded to capitalized contract costs. The Company monitors actual payments and customer attrition on a periodic basis and, when necessary, makes adjustments to the liability. The amount included in accrued payroll and commissions $5.4 million and $4.9 million at June 30, 2019 and December 31, 2018 , respectively, and the amount included in other long-term obligations was $28.7 million and $17.6 million at June 30, 2019 and December 31, 2018 , respectively.

Stock-Based Compensation

The Company measures compensation cost based on the grant-date fair value of the award and recognizes that cost over the requisite service period of the awards (See Note 10).

Advertising Expense

Advertising costs are expensed as incurred. Advertising costs were $17.3 million and $8.6 million for the three months ended June 30, 2019 and 2018 , respectively, and $30.0 million and $21.7 million for the six months ended June 30, 2019 and 2018 , respectively

Income Taxes

The Company accounts for income taxes based on the asset and liability method. Under the asset and liability method, deferred tax assets and deferred tax liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Valuation allowances are established when necessary to reduce deferred tax assets when it is determined that it is more likely than not that some portion, or all, of the deferred tax asset will not be realized.

The Company recognizes the effect of an uncertain income tax position on the income tax return at the largest amount that is more likely than not to be sustained upon audit by the relevant taxing authority. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. The Company's policy for recording interest and penalties is to record such items as a component of the provision for income taxes.

Changes in tax laws and rates could also affect recorded deferred tax assets and liabilities in the future. The Company records the effect of a tax rate or law change on the Company's deferred tax assets and liabilities in the period of enactment. Future tax rate or law changes could have a material effect on the Company's results of operations, financial condition, or cash flows.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentration of credit risk consist principally of receivables and cash. At times during the year, the Company maintains cash balances in excess of insured limits. The Company is not dependent on any single customer or geographic location. The loss of a customer would not adversely impact the Company's operating results or financial position.

Concentrations of Supply Risk

As of June 30, 2019 , approximately 85% of the Company's installed panels were SkyControl panels and 15% were 2GIG Go!Control panels and 1% were other panels. During 2018 the Company transitioned to a new panel supplier. The loss of the Company's panel supplier could potentially impact its operating results or financial position.

Fair Value Measurement

Fair value is based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Assets and liabilities subject to on-going fair value measurement are categorized and disclosed into one of three categories depending on observable or unobservable inputs employed in the measurement. These two types of inputs have created the following fair value hierarchy:

Level 1: Quoted prices in active markets that are accessible at the measurement date for assets and liabilities.

Level 2: Observable prices that are based on inputs not quoted in active markets, but corroborated by market data.

Level 3: Unobservable inputs are used when little or no market data is available.

This hierarchy requires the Company to minimize the use of unobservable inputs and to use observable market data, if available, when determining fair value. The Company recognizes transfers between levels of the hierarchy based on the fair values of the respective financial measurements at the end of the reporting period in which the transfer occurred. There were no transfers between levels of the fair value hierarchy during the six months ended June 30, 2019 and 2018 .

The carrying amounts of the Company's accounts receivable, accounts payable and accrued and other liabilities approximate their fair values due to their short maturities.

Goodwill

The Company conducts a goodwill impairment analysis annually in the fourth fiscal quarter, as of October 1, and as necessary if changes in facts and circumstances indicate that the fair value of the Company's reporting units may be less than their carrying amounts. When indicators of impairment do not exist and certain accounting criteria are met, the Company is able to evaluate goodwill impairment using a qualitative approach. When necessary, the Company's quantitative goodwill impairment test consists of two steps. The first step requires that the Company compare the estimated fair value of its reporting units to the carrying value of the reporting unit's net assets, including goodwill. If the fair value of the reporting unit is greater than the carrying value of its net assets, goodwill is not considered to be impaired and no further testing is required. If the fair value of the reporting unit is less than the carrying value of its net assets, the Company would be required to complete the second step of the test by analyzing the fair value of its goodwill. If the carrying value of the goodwill exceeds its fair value, an impairment charge is recorded. The Company's reporting units are determined based on its current reporting structure, which as of December 31, 2018 and June 30, 2019 consisted of two reporting units. As of June 30, 2019 , there were no changes in facts and circumstances since the most recent annual impairment analysis to indicate impairment existed.

Foreign Currency Translation and Other Comprehensive Income

The functional currency of Vivint Canada, Inc. is the Canadian dollar. Accordingly, Vivint Canada, Inc. assets and liabilities are translated from their respective functional currencies into U.S. dollars at period-end rates and Vivint Canada, Inc. revenue and expenses are translated at the weighted-average exchange rates for the period. Adjustments resulting from this translation process are classified as other comprehensive income (loss) and shown as a separate component of equity.

When intercompany foreign currency transactions between entities included in the consolidated financial statements are of a long term investment nature (i.e., those for which settlement is not planned or anticipated in the foreseeable future) foreign currency translation adjustments resulting from those transactions are included in stockholders' deficit as accumulated other comprehensive loss or income. When intercompany transactions are deemed to be of a short term nature, translation adjustments are required to be included in the condensed consolidated statement of operations. The Company has determined that settlement of Vivint Canada, Inc. intercompany balances is anticipated and therefore such balances are deemed to be of a short term nature. Translation activity included in the statement of operations in other (income) expenses, net related to intercompany balances was as follows: (in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	**2018**	**2019**	**2018**
Translation (gain) loss	$ (1,155)	$ 1,592	$ (2,855)	$ 3,633

Letters of Credit

As of June 30, 2019 and December 31, 2018 , the Company had $13.9 million and $13.8 million , respectively, of letters of credit issued in the ordinary course of business, all of which are undrawn.

Restructuring and Asset Impairment Charges

Restructuring and asset impairment charges represent expenses incurred in relation to activities to exit or disposal of portions of the Company's business that do not qualify as discontinued operations. Liabilities associated with restructuring are measured at their fair value when the liability is incurred. Expenses for related termination benefits are recognized at the date the Company notifies the employee, unless the employee must provide future service, in which case the benefits are expensed ratably over the future service period. Liabilities related to termination of a contract are measured and recognized at fair value when the contract does not have any future economic benefit to the entity and the fair value of the liability is determined based on the present value of the remaining obligation. The Company expenses all other costs related to an exit or disposal activity as incurred (See Note 15).

Recent Accounting Pronouncements

In June 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update ("ASU") 2016-13, "Financial Instruments—Credit Losses (Topic 326)" which modifies the measurement of expected credit losses of certain financial instruments. This update is effective for fiscal years, and interim periods within those years, beginning after December 15, 2019 and must be applied using a modified-retrospective approach, with early adoption permitted. The Company is evaluating the adoption of ASU 2016-13 and plans to provide additional information about its expected impact at a future date.

Recently Adopted Accounting Standards

In February 2016, the FASB issued ASU 2016-02, “Leases (Topic 842)” to increase transparency and comparability among organizations as it relates to lease assets and lease liabilities. The update requires that lease assets and lease liabilities be recognized on the balance sheet, and that key information about leasing arrangements be disclosed. Prior to this update, GAAP did not require operating leases to be recognized as lease assets and lease liabilities on the balance sheet.

The Company adopted ASU 2016-02 as of January 1, 2019, utilizing the modified retrospective approach and using certain practical expedients. The adoption of the standard resulted in recording ROU assets of $75.5 million and lease liabilities of $85.9 million as of January 1, 2019. The ROU assets are lower than the lease liabilities as existing deferred rent and lease incentive liabilities were recorded against the ROU assets at adoption in accordance with the standard. The standard did not materially affect the Company's condensed consolidated statements of operations or its condensed consolidated statements of cash flows. The standard also resulted in a reassessment that a sale would have occurred at January 1, 2019 for the Company's build-to-suit building. As a result, the Company classifies the leasing arrangement as an operating lease. The recognition of the sale-leaseback transaction resulted in an immaterial amount recorded to opening equity. See Note 6 for additional information on the sale-leaseback transaction. See Note 12 "Leases" for additional information related to the impact of adopting this standard.

2 . Revenue and Capitalized Contract Costs

Customers are typically invoiced for Smart Home Services in advance or at the time the Company delivers the related Smart Home Services. The majority of customers pay at the time of invoice via credit card, debit card or ACH. Deferred revenue relates to the advance consideration received from customers, which precedes the Company's satisfaction of the associated performance obligation. The Company's deferred revenues primarily result from customer payments received in advance for recurring monthly monitoring and other Smart Home Services, or other one-time fees, because these performance obligations are satisfied over time.

During the six months ended June 30, 2019 and 2018 , the Company recognized revenues of $135.1 million and $92.1 million , respectively, that were included in the deferred revenue balance as of December 31, 2018 and 2017 , respectively.

Transaction Price Allocated to the Remaining Performance Obligations

As of June 30, 2019 , approximately $2.4 billion of revenue is expected to be recognized from remaining performance obligations for subscription contracts. The Company expects to recognize approximately 61% of the revenue related to these remaining performance obligations over the next 24 months, with the remaining balance recognized over an additional 36 months.

Timing of Revenue Recognition

The Company considers Products, related installation, and its proprietary back-end cloud platform software and services an integrated system that allows the Company's customers to monitor, control and protect their homes. These Smart Home Services are accounted for as a single performance obligation that is recognized over the customer's contract term, which is generally three to five years .

Capitalized Contract Costs

Capitalized contract costs generally include commissions, other compensation and related costs paid directly for the generation and installation of new or modified customer contracts, as well as the cost of Products installed in the customer home at the commencement or modification of the contract. The Company defers and amortizes these costs for new or modified subscriber contracts on a straight-line basis over the expected period of benefit of five years .

3 . Long-Term Debt

The Company's debt at June 30, 2019 and December 31, 2018 consisted of the following (in thousands):

	June 30, 2019			
	Outstanding Principal	Unamortized Premium (Discount)	Unamortized Deferred Financing Costs (1)	Net Carrying Amount
Senior Secured Revolving Credit Facilities	$ 134,000	$ —	$ —	$ 134,000
8.750% Senior Notes due 2020	454,299	1,125	(2,659)	452,765
8.875% Senior Secured Notes Due 2022	270,000	(1,889)	(527)	267,584
7.875% Senior Secured Notes Due 2022	900,000	17,865	(11,165)	906,700
7.625% Senior Notes Due 2023	400,000	—	(3,502)	396,498
8.500% Senior Secured Notes Due 2024	225,000	—	(4,881)	220,119
Senior Secured Term Loan - noncurrent	795,825	—	(8,742)	787,083
Total Long-Term Debt	3,179,124	17,101	(31,476)	3,164,749
Senior Secured Term Loan - current	8,100	—	—	8,100
Total Debt	$ 3,187,224	$ 17,101	$ (31,476)	$ 3,172,849

	December 31, 2018			
	Outstanding Principal	Unamortized Premium (Discount)	Unamortized Deferred Financing Costs (1)	Net Carrying Amount
8.75% Senior Notes due 2020	$ 679,299	$ 2,230	$ (5,380)	$ 676,149
8.875% Senior Secured Notes due 2022	270,000	(2,122)	(602)	267,276
7.875% Senior Secured Notes due 2022	900,000	20,178	(12,799)	907,379
7.625% Senior Notes Due 2023	400,000	—	(3,922)	396,078
Senior Secured Term Loan - noncurrent	799,875	—	(9,662)	790,213
Total Long-Term Debt	3,049,174	20,286	(32,365)	3,037,095
Senior Secured Term Loan - current	8,100	—	—	8,100
Total Debt	$ 3,057,274	$ 20,286	$ (32,365)	$ 3,045,195

(1) Unamortized deferred financing costs related to the revolving credit facilities included in deferred financing costs, net on the condensed consolidated balance sheets at June 30, 2019 and December 31, 2018 were $1.6 million and $2.1 million , respectively.

Notes Payable

2020 Notes

As of June 30, 2019 , APX had $454.3 million outstanding aggregate principal amount of 8.75% senior notes due 2020 (the "2020 notes") with a maturity date of December 1, 2020.

2022 Private Placement Notes

As of June 30, 2019 , APX had $270.0 million outstanding aggregate principal amount of 8.875% senior secured notes due 2022 (the "2022 private placement notes"). The 2022 private placement notes will mature on December 1, 2022, unless on September 1, 2020 (the 91 st day prior to the maturity of the 2020 notes) more than an aggregate principal amount of $190.0 million of such 2020 notes remain outstanding or have not been refinanced as permitted under the note purchase agreement for the 2022 private placement notes, in which case the 2022 private placement notes will mature on September 1, 2020. The 2022 private placement notes are secured, on a pari passu basis, by the collateral securing obligations under the 2022 private placement notes, the 2022 notes (as defined below), the 2024 notes (as defined below) and the revolving credit facilities and the Term Loan (as defined below), in all cases, subject to certain exceptions and permitted liens.

2022 Notes

As of June 30, 2019 , APX had $900.0 million outstanding aggregate principal amount of 7.875% senior secured notes due 2022 (the “2022 notes”). The 2022 notes will mature on December 1, 2022, or on such earlier date when any outstanding pari passu lien indebtedness matures as a result of the operation of any “Springing Maturity” provision set forth in the agreements governing such pari passu lien indebtedness. The 2022 notes are secured, on a pari passu basis, by the collateral securing obligations under the 2022 private placement notes, the 2024 notes (as defined below), the revolving credit facilities and the Term Loan, in all cases, subject to certain exceptions and permitted liens.

2023 Notes

As of June 30, 2019 , APX had $400.0 million outstanding aggregate principal amount of the 7.625% senior notes due 2023 (the “2023 notes”) with a maturity date of September 1, 2023.

2024 Notes

In May 2019, APX issued $225.0 million outstanding aggregate principal amount of 8.50% senior secured notes due 2024 (the “2024 notes” and, together with the 2020 notes, the 2022 notes, the 2022 private placement notes and the 2023 notes the “Notes”). The net proceeds from the 2024 notes offering were used to redeem $225.0 million aggregate principal amount of our 2020 notes, and to pay the related accrued interest and to pay all fees and expenses related thereto. The 2024 notes will mature on November 1, 2024, or on such earlier date as may result from the operation of certain springing maturity provisions set forth in the indenture governing the 2024 notes. The 2024 notes are secured, on a pari passu basis, by the collateral securing obligations under the 2022 private placement notes, the 2022 notes, the revolving credit facilities and the Term Loan, in all cases, subject to certain exceptions and permitted liens.

Interest accrues at the rate of 8.75% per annum for the 2020 notes, 8.875% per annum for the 2022 private placement notes, 7.875% per annum for the 2022 notes, 7.625% per annum for the 2023 notes and 8.50% per annum for the 2024 notes. Interest on the 2020 notes, 2022 private placement notes and 2022 notes is payable semiannually in arrears on June 1 and December 1 of each year. Interest on the 2023 notes is payable semiannually in arrears on March 1 and September 1 of each year. Interest on the 2024 notes is payable semiannually in arrears on May 1 and November 1 each year. APX may redeem the Notes at the prices and on the terms specified in the applicable indenture, or the note purchase agreement.

Term Loan

In September 2018, APX entered into a credit agreement (the “September 2018 issuance”) for total term loans of $810.0 million (the “Term Loan”). The Company is required to make quarterly amortization payments under the Term Loan in an amount equal to 0.25% of the aggregate principal amount of Term Loan outstanding on the closing date thereof. The remaining principal amount outstanding under the Term Loan will be due and payable in full on March 31, 2024, or earlier if certain springing maturity conditions apply. The net proceeds from the Term Loan were used in-part to redeem in full the entire $269.5 million outstanding aggregate principal amount of the 2019 notes and pay the related accrued interest and redemption premium, to repurchase approximately $250.7 million aggregate principal amount of the outstanding 2020 notes, to repay the outstanding borrowings under the revolving credit facility and to pay fees and expenses related to the Term Loan and the transactions described above.

Borrowings under the Term Loan bear interest at a rate per annum equal to an applicable margin plus, at the Company's option, either (1) the base rate determined by reference to the highest of (a) the federal funds rate plus 0.50% , (b) the prime rate of Bank of America, N.A. and (c) the LIBOR rate determined by reference to the costs of funds for U.S. dollar deposits for an interest period of one month, plus 1.00% or (2) the LIBOR rate determined by reference to the London interbank offered rate for dollars for the interest period relevant to such borrowing. The applicable margin for base rate-based borrowings is 4.0% per annum and the applicable margin for LIBOR rate-based borrowings is 5.0% per annum. APX may prepay the Term Loan at the prices and on the terms specified in the credit agreement covering the Term Loan.

Debt Modifications and Extinguishments

The Company performs analyses on a creditor-by-creditor basis for debt modifications and extinguishments to determine if repurchased debt was substantially different than debt issued to determine the appropriate accounting treatment of associated issuance costs. As a result of these analyses, the following amounts of other expense and loss on extinguishment and deferred financing costs were recorded (in thousands):

	Original premium extinguished	Previously deferred financing costs extinguished	Total other expense and loss on extinguishment	New deferred financing costs
Three and six months ended June 30, 2019				
May 2019 issuance	$ (588)	$ 1,395	$ 807	$ 4,956

Deferred financing costs are amortized to interest expense over the life of the issued debt. The Company had no debt issuances or related modification or extinguishment costs during the three and six months ended June 30, 2018.

The following table presents deferred financing activity for the six months ended June 30, 2019 and year ended December 31, 2018 (in thousands):

	Unamortized Deferred Financing Costs				
	Balance December 31, 2018	Additions	Early Extinguishment	Amortized	Balance June 30, 2019
Revolving Credit Facility	$ 2,058	$ —	$ —	$ (486)	$ 1,572
2020 Notes	5,380	—	(1,395)	(1,326)	2,659
2022 Private Placement Notes	602	—	—	(75)	527
2022 Notes	12,799	—	—	(1,634)	11,165
2023 Notes	3,922	—	—	(420)	3,502
2024 Notes	—	4,956	—	(75)	4,881
Term Loan	9,662		—	(920)	8,742
Total Deferred Financing Costs	$ 34,423	$ 4,956	$ (1,395)	$ (4,936)	$ 33,048

	Unamortized Deferred Financing Costs				
	Balance December 31, 2017	Additions	Early Extinguishment	Amortized	Balance December 31, 2018
Revolving Credit Facility	$ 3,099	$ —	$ —	$ (1,041)	$ 2,058
2019 Notes	2,877	—	(1,877)	(1,000)	—
2020 Notes	11,209	—	(2,330)	(3,499)	5,380
2022 Private Placement Notes	752	—	—	(150)	602
2022 Notes	16,067	—	—	(3,268)	12,799
2023 Notes	4,762	—	—	(840)	3,922
Term Loan	—	10,275	—	(613)	9,662
Total Deferred Financing Costs	$ 38,766	$ 10,275	$ (4,207)	$ (10,411)	$ 34,423

Revolving Credit Facility

On November 16, 2012, APX entered into a $200.0 million senior secured revolving credit facility, with a five year maturity. On March 6, 2015, APX amended and restated the credit agreement governing the revolving credit facility to provide for, among other things, (1) an increase in the aggregate commitments previously available to APX thereunder from $200.0 million to $289.4 million (“Revolving Commitments”) and (2) the extension of the maturity date with respect to certain of the previously available commitments. On August 10, 2017, APX further amended and restated the credit agreement governing the revolving credit facility to provide for, among other things, (1) an increase in the aggregate commitments previously available to the Company from $289.4 million to $324.3 million and (2) the extension of the maturity date with respect to certain of the previously available commitments.

Borrowings under the amended and restated revolving credit facility bear interest at a rate per annum equal to an applicable margin plus, at APX’s option, either (1) the base rate determined by reference to the highest of (a) the Federal Funds rate plus 0.50% , (b) the prime rate of Bank of America, N.A. and (c) the LIBOR rate determined by reference to the costs of funds for U.S. dollar deposits for an interest period of one month, plus 1.00% or (2) the LIBOR rate determined by reference to the London interbank offered rate for dollars for the interest period relevant to such borrowing. The applicable margin for base rate-based borrowings (1)(a) under the Series A Revolving Commitments of approximately $267.0 million is and, when in effect, the Series D Revolving Commitments of approximately $15.4 million was 2.0% per annum and (b) under the Series B Revolving Commitments of approximately $21.2 million was 3.0% and (2)(a) the applicable margin for LIBOR rate-based borrowings (a) under the Series A Revolving Commitments is, and, when in effect, the Series D Revolving Commitments is currently 3.0% per annum and (b) under the Series B Revolving Commitments is currently 4.0% . The applicable margin for borrowings under the revolving credit facility is subject to one step-down of 25 basis points based on APX meeting a consolidated first lien net leverage ratio test at the end of each fiscal quarter. Outstanding borrowings under the amended and restated revolving credit facility are allocated on a pro-rata basis between each Series based on the total Revolving Commitments.

In addition to paying interest on outstanding principal under the revolving credit facility, APX is required to pay a quarterly commitment fee (which will be subject to one interest rate step-down of 12.5 basis points, based on APX meeting a consolidated first lien net leverage ratio test) to the lenders under the revolving credit facility in respect of the unutilized commitments thereunder. APX also pays customary letter of credit and agency fees.

APX is not required to make any scheduled amortization payments under the revolving credit facility. The Series D Revolving Commitments of $15.4 million expired effective April 1, 2019 and the principal amount outstanding under the revolving credit facility will be due and payable in full with respect to the extended commitments under the Series A Revolving Credit Facility and Series B Revolving Credit Facility on March 31, 2021 .

As of June 30, 2019 there was $134.0 million of outstanding borrowings under the revolving credit facility. As of December 31, 2018 , there were no outstanding borrowings under the revolving credit facility. As of June 30, 2019 the Company had $140.3 million of availability under the revolving credit facility (after giving effect to $13.9 million of letters of credit outstanding and $134.0 million of borrowings).

Guarantees

All of the obligations under the credit agreement governing the revolving credit facility, the credit agreement governing the Term Loan and the debt agreements governing the Notes are guaranteed by APX Group Holdings, Inc. and each of APX Group, Inc.'s existing and future material wholly-owned U.S. restricted subsidiaries. However, such subsidiaries shall only be required to guarantee the obligations under the debt agreements governing the Notes for so long as such entities guarantee the obligations under the revolving credit facility, the credit agreement governing the Term Loan or the Company's other indebtedness.

4 . Retail Installment Contract Receivables

Certain subscribers have the option to purchase Products under a RIC, payable over either 42 or 60 months. Short-term RIC receivables are recorded in accounts and notes receivable, net and long-term RIC receivables are recorded in long-term notes receivables and other assets, net in the condensed consolidated unaudited balance sheets.

The following table summarizes the RIC receivables (in thousands):

	June 30, 2019	December 31, 2018
RIC receivables, gross	$ 186,077	$ 175,250
Deferred interest	(31,652)	(34,163)
RIC receivables, net of deferred interest	$ 154,425	$ 141,087
Classified on the condensed consolidated unaudited balance sheets as:		
Accounts and notes receivable, net	$ 39,620	$ 32,185
Long-term notes receivables and other assets, net	114,805	108,902
RIC receivables, net	$ 154,425	$ 141,087

The changes in the Company's deferred interest for the RIC receivables were as follows (in thousands):

	Six months ended June 30, 2019	Twelve months ended December 31, 2018
Deferred interest, beginning of period	$ 34,163	$ 36,048
Write-offs, net of recoveries	(12,500)	(26,360)
Change in deferred interest on short-term and long-term RIC receivables	9,989	24,475
Deferred interest, end of period	$ 31,652	$ 34,163

The amount of RIC imputed interest income recognized in recurring and other revenue was $3.1 million and $3.5 million during the three months ended June 30, 2019 and 2018 , respectively, and $6.6 million and $6.8 million during the six months ended June 30, 2019 and 2018 , respectively.

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5 . Balance Sheet Components

The following table presents material balance sheet component balances (in thousands):

	June 30, 2019	December 31, 2018
Prepaid expenses and other current assets		
Prepaid expenses	$ 14,112	$ 7,183
Deposits	1,793	904
Other	1,083	3,362
Total prepaid expenses and other current assets	$ 16,988	$ 11,449
Capitalized contract costs		
Capitalized contract costs	$ 2,632,597	$ 2,361,795
Accumulated amortization	(1,461,910)	(1,246,020)
Capitalized contract costs, net	$ 1,170,687	$ 1,115,775
Long-term notes receivables and other assets		
RIC receivables, gross	$ 146,457	$ 143,065
RIC deferred interest	(31,652)	(34,164)
Security deposits	6,985	6,586
Investments	541	3,865
Other	300	467
Total long-term notes receivables and other assets, net	$ 122,631	$ 119,819
Accrued payroll and commissions		
Accrued commissions	$ 42,611	$ 28,726
Accrued payroll	26,937	36,753
Total accrued payroll and commissions	$ 69,548	$ 65,479
Accrued expenses and other current liabilities		
Accrued interest payable	$ 25,764	$ 28,885
Current portion of derivative liability	70,468	67,710
Service warranty accrual	8,835	8,813
Current portion of notes payable	8,100	8,100
Loss contingencies	1,831	3,131
Other	23,051	20,076
Total accrued expenses and other current liabilities	$ 138,049	$ 136,715

6 . Property Plant and Equipment

Property, plant and equipment consisted of the following (in thousands):

	June 30, 2019	December 31, 2018	Estimated Useful Lives
Vehicles	$ 44,620	$ 45,050	3 - 5 years
Computer equipment and software	58,489	53,891	3 - 5 years
Leasehold improvements	27,977	26,401	2 - 15 years
Office furniture, fixtures and equipment	20,416	19,532	7 years
Build-to-suit lease building	—	8,247	10.5 years
Construction in process	3,076	2,975	
Property, plant and equipment, gross	154,578	156,096	
Accumulated depreciation and amortization	(92,978)	(82,695)	
Property, plant and equipment, net	$ 61,600	$ 73,401	

Property, plant and equipment, net includes approximately $21.6 million and $26.2 million of assets under finance or capital lease obligations at June 30, 2019 and December 31, 2018 , respectively, net of accumulated amortization of $23.7 million and $22.2 million , respectively. Depreciation and amortization expense on all property, plant and equipment was $7.1 million and $6.2 million for the three months ended June 30, 2019 and 2018 , respectively and $13.0 million and $12.4 million during the six months ended June 30, 2019 and 2018 , respectively. Amortization expense relates to assets under finance or capital leases and is included in depreciation and amortization expense.

As a result of implementing ASU 2016-02, effective January 1, 2019 the Company's build-to-suit leasing arrangement was considered a sale-leaseback and is classified as an operating lease. This resulted in a reduction to property, plant and equipment, net of $6.1 million and a reduction of $6.6 million related the financing lease obligation within accrued expenses and other current liabilities and other long-term obligations. See Note 12 "Leases" for additional information related to the impact of adopting ASU 2016-02.

7 . Goodwill and Intangible Assets

Goodwill

As of June 30, 2019 and December 31, 2018 , the Company had a goodwill balance of $836.3 million and $834.9 million , respectively. The change in the carrying amount of goodwill during the six months ended June 30, 2019 was the result of foreign currency translation adjustments as well as a $0.4 million addition associated with the acquisition of CrowdStorage (defined below).

Intangible assets, net

The following table presents intangible asset balances (in thousands):

	June 30, 2019			December 31, 2018			
	Gross Carrying Amount	**Accumulated Amortization**	**Net Carrying Amount**	**Gross Carrying Amount**	**Accumulated Amortization**	**Net Carrying Amount**	**Estimated Useful Lives**
Definite-lived intangible assets:							
Customer contracts	$ 966,909	$ (757,039)	$ 209,870	$ 964,100	$ (717,648)	$ 246,452	10 years
2GIG 2.0 technology	17,000	(15,913)	1,087	17,000	(15,292)	1,708	8 years
Other technology	4,725	(2,133)	2,592	2,917	(1,667)	1,250	5 - 7 years
Space Monkey technology	7,100	(6,283)	817	7,100	(5,756)	1,344	6 years
Patents	12,526	(9,737)	2,789	12,123	(8,415)	3,708	5 years
Total definite-lived intangible assets:	$ 1,008,260	$ (791,105)	$ 217,155	$ 1,003,240	$ (748,778)	$ 254,462	
Indefinite-lived intangible assets:							
IP addresses	564	—	564	564	—	564	
Domain names	59	—	59	59	—	59	
Total Indefinite-lived intangible assets	623	—	623	623	—	623	
Total intangible assets, net	$ 1,008,883	$ (791,105)	$ 217,778	$ 1,003,863	$ (748,778)	$ 255,085	

During the year ended December 31, 2016, Vivint Wireless entered into leasing agreements with Nextlink Wireless, LLC ("Nextlink") for designated radio frequency spectrum in 40 mid-sized metropolitan markets. The lease term was for seven years, with an option to become the licensor of record with the Federal Communications Commission ("FCC") with respect to the applicable spectrum licenses at the end of this term for a nominal fee. The Company acquired $31.3 million of spectrum licenses, measured using the present value of the lease payments, and recorded an intangible asset and a corresponding liability within other long-term obligations. While licenses are issued for only a fixed time, such licenses are subject to renewal by the FCC.

In January 2018, Vivint Wireless and Verizon consummated the transactions contemplated by a termination agreement to which the parties agreed, among other things, to terminate the spectrum leases between Vivint Wireless and Nextlink, a subsidiary of Verizon, in exchange for a cash payment by Verizon to Vivint Wireless. The calculation of the gain recorded included cash proceeds of $55.0 million , extinguishment of the spectrum license liability of $27.9 million , offset by the write-off of the spectrum license asset in the amount of $31.3 million and regulatory costs associated with the sale of $1.2 million for a total net gain on sale of $50.4 million which is included in other income, net in the condensed consolidated statement of operations.

In May 2019, the Company acquired majority ownership interest in CrowdStorage, Inc. ("CrowdStorage"), a distributed cloud storage solution company. The Company determined that CrowdStorage was a variable interest entity and the Company was the primary beneficiary, because CrowdStorage was dependent on the Company for ongoing financial support. As part of this acquisition, the Company recognized a definite-lived intangible asset of $1.8 million , included within the other technology asset class in the above table. The financial position and results of operations of CrowdStorage are consolidated by the Company and the non-controlling interest associated with the minority interest holders was immaterial as of, and for, the three and six months ended June 30, 2019 .

Amortization expense related to intangible assets was approximately $20.2 million and $22.7 million for the three months ended June 30, 2019 and 2018 , respectively, and $40.5 million and $45.5 million for the six months ended June 30, 2019 and 2018 , respectively.

As of June 30, 2019 , the remaining weighted-average amortization period for definite-lived intangible assets was 3.4 years . Estimated future amortization expense of intangible assets, excluding approximately $0.3 million in patents currently in process, is as follows as of June 30, 2019 (in thousands):

2019 - Remaining Period	$	39,926
2020		69,207
2021		58,850
2022		48,868
2023		51
Thereafter		3
Total estimated amortization expense	$	216,905

8 . Financial Instruments

Cash, Cash Equivalents and Equity Securities

Cash equivalents and equity securities with readily available determinable fair values ("Corporate Securities") are classified as level 1 assets, as they have readily available market prices in an active market.

The following tables set forth the Company's cash and cash equivalents and Corporate Securities' adjusted cost, gross unrealized gains, gross unrealized losses and fair value by significant investment category recorded as cash and cash equivalents or long-term notes receivables and other assets, net as of June 30, 2019 and December 31, 2018 (in thousands):

	June 30, 2019					
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Long-Term Notes Receivables and Other Assets, net
Cash	$ 3,041	$ —	$ —	$ 3,041	$ 3,041	$ —
Level 1:						
Money market funds	92	—	—	92	92	—
Total	$ 3,133	$ —	$ —	$ 3,133	$ 3,133	$ —

	December 31, 2018					
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Long-Term Notes Receivables and Other Assets, net
Cash	$ 6,681	$ —	$ —	$ 6,681	$ 6,681	$ —
Level 1:						
Money market funds	6,092	—	—	6,092	6,092	—
Corporate securities	3,485	—	(304)	3,181	—	3,181
Subtotal	9,577	—	(304)	9,273	6,092	3,181
Total	$ 16,258	$ —	$ (304)	$ 15,954	$ 12,773	$ 3,181

The Company sold its Corporate Securities in June 2019 and realized a gain of $2.3 million . During the three and six months ended June 30, 2018 , the Company recorded unrealized gains of $0.4 million and $0.7 million , respectively, associated with the change in fair value of the Corporate Securities.

The carrying amounts of the Company's accounts and notes receivable, accounts payable and accrued and other liabilities approximate their fair values.

Long-Term Debt

Components of long-term debt including the associated interest rates and related fair values are as follows (in thousands, except interest rates):

Issuance	June 30, 2019 Face Value	June 30, 2019 Estimated Fair Value	December 31, 2018 Face Value	December 31, 2018 Estimated Fair Value	Stated Interest Rate
2020 Notes	$ 454,299	$ 431,675	$ 679,299	$ 643,568	8.750%
2022 Private Placement Notes	270,000	258,876	270,000	257,073	8.875%
2022 Notes	900,000	862,920	900,000	855,000	7.875%
2023 Notes	400,000	326,320	400,000	326,000	7.625%
2024 Notes	225,000	215,033	—	—	8.500%
Term Loan	803,925	805,950	807,975	807,975	N/A
Total	$ 3,053,224	$ 2,900,774	$ 3,057,274	$ 2,889,616	

The Notes are fixed-rate debt considered Level 2 fair value measurements as the values were determined using observable market inputs, such as current interest rates, prices observable from less active markets, as well as prices observable from comparable securities. The Term Loan is floating-rate debt and approximates the carrying value as interest accrues at floating rates based on market rates.

Derivative Financial Instruments

Under the Consumer Financing Program, the Company pays a monthly fee to third-party financing providers based on the either the average daily outstanding balance of the loans or the number of outstanding loans depending on third-party financing provider. The Company also shares the liability for credit losses, depending on the credit quality of the customer. Because of the nature of certain provisions under the Consumer Financing Program, the Company records a derivative liability that is not designated as a hedging instrument and is adjusted to fair value, measured using the present value of the estimated future payments. Changes to the fair value are recorded through other income, net in the Consolidated Statement of Operations. The following represent the contractual obligations with the third-party financing providers under the Consumer Financing Program that are components of the derivative:

- The Company pays either a monthly fee based on the average daily outstanding balance of the loans, or the number of outstanding loans, depending on the third-party financing provider
- The Company shares the liability for credit losses depending on the credit quality of the customer
- The Company pays transactional fees associated with customer payment processing

The derivative is classified as a Level 3 instrument. The derivative positions are valued using a discounted cash flow model, with inputs consisting of available market data, such as market yield discount rates, as well as unobservable internally derived assumptions, such as collateral prepayment rates, collateral default rates and loss severity rates. These derivatives are priced quarterly using a credit valuation adjustment methodology. In summary, the fair value represents an estimate of the present value of the cash flows the Company will be obligated to pay to the third-party financing provider for each component of the derivative.

The following table summarizes the fair value and the notional amount of the Company's outstanding derivative instrument as of June 30, 2019 and December 31, 2018 (in thousands):

	June 30, 2019	December 31, 2018
Consumer Financing Program Contractual Obligations:		
Fair value	$ 136,254	$ 117,620
Notional amount	465,864	368,708
Classified on the condensed consolidated unaudited balance sheets as:		
Accrued expenses and other current liabilities	70,468	67,710
Other long-term obligations	65,786	49,910
Total Consumer Financing Program Contractual Obligation	$ 136,254	$ 117,620

Changes in Level 3 Fair Value Measurements

The following table summarizes the change in the fair value of the Level 3 outstanding derivative liability instrument for the six months ended June 30, 2019 and the twelve months ended December 31, 2018 (in thousands):

	Six months ended June 30, 2019	Twelve months ended December 31, 2018
Balance, beginning of period	$ 117,620	$ 46,496
Additions	47,115	93,095
Settlements	(29,908)	(34,587)
Losses included in earnings	1,427	12,616
Balance, end of period	$ 136,254	$ 117,620

9 . Income Taxes

In order to determine the quarterly provision for income taxes, the Company uses an estimated annual effective tax rate, which is based on expected annual income and statutory tax rates in the various jurisdictions in which the Company operates. Certain significant or unusual items are separately recognized in the quarter during which they occur and can be a source of variability in the effective tax rates from quarter to quarter.

The Company's effective income tax benefit rate for the six months ended June 30, 2019 and 2018 was approximately 0.41% and 0.58% , respectively. Income tax expense for the six months ended June 30, 2019 was affected by year to date projected loss in Canada and estimated minimum state taxes in the US. Both the 2019 and 2018 effective tax rates differ from the statutory rate primarily due to the combination of not benefiting from expected pre-tax US losses, a result of changes to the valuation allowance, and recognizing current state income tax expense for minimum state taxes.

Significant judgment is required in determining the Company's provision for income taxes, recording valuation allowances against deferred tax assets, and evaluating the Company's uncertain tax positions. In evaluating the ability to realize its deferred tax assets, in full or in part, the Company considers all available positive and negative evidence, including past operating results, forecasted future earnings, and prudent and feasible tax planning strategies. Due to historical net losses incurred and the uncertainty of realizing the deferred tax assets, for all the periods presented, the Company has maintained a domestic valuation allowance against the deferred tax assets that remain after offset by domestic deferred tax liabilities, and the company currently anticipates recording a valuation allowance against net foreign deferred tax assets by the end of the current year.

10 . Stock-Based Compensation and Equity

313 Incentive Units

The Company’s indirect parent, 313 Acquisition LLC (“313”), which is majority owned by Blackstone, has authorized the award of profits interests, representing the right to share a portion of the value appreciation on the initial capital contributions to 313 (“Incentive Units”). As of June 30, 2019 , 85,366,126 Incentive Units had been awarded, and were outstanding, to current and former members of senior management and a board member, of which 42,169,456 were outstanding to the Company’s Chief Executive Officer and President. In June 2018, the Incentive Units and SARs (defined below) vesting terms were modified (“Modification”). Prior to the Modification, the Incentive Units were subject to time-based and performance-based vesting conditions, with (1) one-third subject to ratable time-based vesting over a five year period from the applicable vesting reference date and (2) two-thirds subject to the achievement of certain investment return thresholds by The Blackstone Group, L.P. and its affiliates (“Blackstone”). Pursuant to the Modification the Incentive Units are subject to time-based and performance-based vesting conditions, with (1) one-third subject to ratable time-based vesting over a five year period from the applicable vesting reference date, (2) one-third subject to the achievement of certain investment return thresholds by Blackstone and (3) one-third subject to ratable time-based vesting over a five year period from June 2018 for those granted prior to the modification or the applicable vesting reference date for those granted on or following the Modification. The Company has not recorded any expense related to the performance-based portion of the awards, as the achievement of the vesting condition is not yet deemed probable. The fair value of stock-based awards is measured at the grant date, or the Modification date, and is recognized as expense over the employee’s requisite service period. The grant date fair value was primarily determined using a Monte Carlo simulation valuation approach with the following assumptions: expected volatility varies from 55% to 125% ; expected exercise term between 3.96 and 6.00 years ; and risk-free rates between 0.62% and 2.61% .

Vivint Stock Appreciation Rights

The Company’s subsidiary, Vivint Group, Inc. (“Vivint Group”), has awarded Stock Appreciation Rights (“SARs”) to various levels of key employees and board members, pursuant to an omnibus incentive plan. The purpose of the SARs is to attract and retain personnel and provide an opportunity to acquire an equity interest of Vivint Group and/or its direct or indirect parents. Prior to the Modification in June 2018, the SARs were subject to time-based and performance-based vesting conditions, with (1) one-third subject to ratable time-based vesting over a five year period from the applicable vesting reference date and (2) two-thirds subject to the achievement of certain investment return thresholds by Blackstone. Pursuant to the Modification the Incentive Units are subject to time-based and performance-based vesting conditions, with (1) one-third subject to ratable time-based vesting over a five year period from the applicable vesting reference date, (2) one-third subject to the achievement of certain investment return thresholds by Blackstone and (3) one-third subject to ratable time-based vesting over a five year period from June 2018 for those granted prior to the Modification or the applicable vesting reference date for those granted on or following the Modification. The Company has not recorded any expense related to the performance-based portion of the awards, as the achievement of the vesting condition is not yet deemed probable. In connection with this plan, 46,429,415 SARs were outstanding as of June 30, 2019 . In addition, 53,621,891 SARs have been set aside for funding incentive compensation pools pursuant to long-term sales and installation employee incentive plans established by the Company.

The fair value of the Vivint Group awards is measured at the grant date, or the Modification date, and is recognized as expense over the employee’s requisite service period. The fair value is determined using a Black-Scholes option valuation model with the following assumptions: expected volatility varies from 55% to 125% , expected dividends of 0% ; expected exercise term between 6.00 and 6.47 years ; and risk-free rates between 0.61% and 2.61% . Due to the lack of historical exercise data, the Company used the simplified method in determining the estimated exercise term, for all Vivint Group awards.

Restricted Stock Units

In March 2019 and June 2018, the Company’s subsidiary, Vivint Group, awarded 236,111 and 360,000 Restricted Stock Units (“RSUs”), respectively, to certain board members, pursuant to an omnibus incentive plan. The purpose of the RSUs is to compensate board members for their board service and align their interests of those of the Company's shareholders. The RSUs are subject to a three year time-based ratable vesting period.

Stock-based compensation expense in connection with all stock-based awards is presented as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Operating expenses	$ 52	$ 26	$ 95	$ 44
Selling expenses	82	81	169	126
General and administrative expenses	843	231	1,570	372
Total stock-based compensation	$ 977	$ 338	$ 1,834	$ 542

The increases in total stock-based compensation for the three and six months ended June 30, 2019 was primarily due to the Modification in June 2018.

11 . Commitments and Contingencies

Indemnification

Subject to certain limitations, the Company is obligated to indemnify its current and former directors, officers and employees with respect to certain litigation matters and investigations that arise in connection with their service to the Company. These obligations arise under the terms of its certificate of incorporation, its bylaws, applicable contracts, and Delaware and California law. The obligation to indemnify generally means that the Company is required to pay or reimburse these individuals' reasonable legal expenses and possibly damages and other liabilities incurred in connection with these matters.

Legal

The Company is named from time to time as a party to lawsuits arising in the ordinary course of business related to its sales, marketing, and the provision of its services and equipment claims. Actions filed against the Company include commercial, intellectual property, customer, and labor and employment related claims, including complaints of alleged wrongful termination and potential class action lawsuits regarding alleged violations of federal and state wage and hour and other laws. In general, litigation can be expensive and disruptive to normal business operations. Moreover, the results of legal proceedings are difficult to predict and the costs incurred in litigation can be substantial. The Company believes the amounts provided in its financial statements are adequate in light of the probable and estimated liabilities. Factors that the Company considers in the determination of the likelihood of a loss and the estimate of the range of that loss in respect of legal matters include the merits of a particular matter, the nature of the matter, the length of time the matter has been pending, the procedural posture of the matter, how the Company intends to defend the matter, the likelihood of settling the matter and the anticipated range of a possible settlement. Because such matters are subject to many uncertainties, the ultimate outcomes are not predictable and there can be no assurances that the actual amounts required to satisfy alleged liabilities from the matters described above will not exceed the amounts reflected in the Company's financial statements or that the matters will not have a material adverse effect on the Company's results of operations, financial condition or cash flows.

The Company regularly reviews outstanding legal claims and actions to determine if reserves for expected negative outcomes of such claims and actions are necessary. The Company had reserves for all such matters of approximately $1.8 million and $3.1 million as of June 30, 2019 and December 31, 2018 , respectively. In conjunction with one of the settlements, the Company is obligated to pay certain future royalties, based on sales of future Products.

Operating Leases

The Company leases office and warehouse space and an aircraft under operating leases with related and unrelated parties expiring in various years through 2028 . The leases require the Company to pay additional rent for increases in operating expenses and real estate taxes and contain renewal options. Total rent expense for all operating leases for the three and six months ended June 30, 2018 was $4.4 million and $8.8 million , respectively.

Capital Leases

The Company also enters into certain capital leases with expiration dates through July 2022 . On an ongoing basis, the Company enters into vehicle lease agreements under a Fleet Lease Agreement. The lease agreements are typically 36 month leases for each vehicle and the average remaining life for the fleet is 8 months , as of June 30, 2019 . As of December 31, 2018 , the capital lease obligation balance was $13.3 million .

See Note 12 "Leases" for additional information related to the impact of adopting Topic 842.

12 . Leases

The Company has operating leases for corporate offices, warehouse facilities, research and development and other operating facilities, an aircraft, and other operating assets. The Company has finance leases for vehicles, office equipment and other warehouse equipment. The leases have remaining terms of 1 year to 9 years , some of which include options to extend the leases for up to 10 years , and some of which include options to terminate the leases within 1 year .

The components of lease expense were as follows (in thousands):

	Three Months Ended June 30,	Six Months Ended June 30,
	2019	2019
Operating lease cost	$ 4,341	$ 8,589
Finance lease cost:		
Amortization of right-of-use assets	$ 1,357	$ 2,732
Interest on lease liabilities	240	394
Total finance lease cost	$ 1,597	$ 3,126

Supplemental cash flow information related to leases was as follows (in thousands):

	Six Months Ended June 30,
	2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	$ (8,742)
Operating cash flows from finance leases	(394)
Financing cash flows from finance leases	(4,263)
Right-of-use assets obtained in exchange for lease obligations:	
Operating leases	$ 1,690
Finance leases	1,295

Supplemental balance sheet information related to leases was as follows (in thousands, except lease term and discount rate):

		June 30, 2019
Operating Leases		
Operating lease right-of-use assets	$	71,557
Current operating lease liabilities	$	12,058
Operating lease liabilities		69,975
Total operating lease liabilities	$	82,033
Finance Leases		
Property, plant and equipment, gross	$	45,315
Accumulated depreciation		(23,697)
Property, plant and equipment, net	$	21,618
Current finance lease liabilities	$	6,984
Finance lease liabilities		3,397
Total finance lease liabilities	$	10,381
Weighted Average Remaining Lease Term		
Operating leases		6 years
Finance leases		1.4 years
Weighted Average Discount Rate		
Operating leases		7%
Finance leases		4%

Maturities of lease liabilities were as follows (in thousands):

		Operating Leases		Finance Leases
Year Ending December 31,				
2019 (excluding the six months ended June 30, 2019)	$	9,010	$	4,218
2020		16,955		5,517
2021		16,069		719
2022		14,728		261
2023		14,622		1
Thereafter		32,422		—
Total lease payments		103,806		10,716
Less imputed interest		(21,773)		(335)
Total	$	82,033	$	10,381

13 . Related Party Transactions

Transactions with Vivint Solar

The Company is a party to a number of agreements with its sister company, Vivint Solar, Inc. (“Solar”). Some of those agreements related to Solar’s use of certain of the Company’s information technology and infrastructure services; however, Solar stopped using such services in July 2017. In August 2017, the Company entered into a sales dealer agreement with Solar, pursuant to which each company will act as a non-exclusive dealer for the other party to market, promote and sell each other’s products. The agreement has an initial term of two years and replaces substantially all of the activities being undertaken under the parties’ former marketing and customer relations agreement. The Company and Solar also agreed to extend the term of the non-solicitation provisions under an existing non-competition agreement to match the term of the sales dealer agreement. Net expenses charged to Solar in connection with these agreements was $4.2 million and $3.7 million during the three months ended June 30, 2019 and 2018 , respectively, and $6.6 million and $4.7 million during the six months ended June 30, 2019 and 2018 , respectively. The balance due from Solar in connection with these agreements and other expenses paid on Solar’s behalf was immaterial at June 30, 2019 and December 31, 2018 , respectively, and is included in prepaid expenses and other current assets in the accompanying condensed consolidated balance sheets.

Other Related-party Transactions

Prepaid expenses and other current assets at June 30, 2019 and December 31, 2018 included a receivable for $0.3 million and $1.8 million , respectively, from certain members of management in regards to their personal use of the corporate jet.

The Company incurred additional expenses of $0.3 million and $0.6 million during the three months ended June 30, 2019 and 2018 , respectively, and $0.7 million and $1.2 million during the six months ended June 30, 2019 and 2018 , respectively for other related-party transactions including contributions to the charitable organization Vivint Gives Back, legal fees, and other services. Accrued expenses and other current liabilities included on the Company's balance sheets at June 30, 2019 and December 31, 2018 associated with these related-party transactions was immaterial.

On November 16, 2012, the Company was acquired by an investor group comprised of certain investment funds affiliated with Blackstone Capital Partners VI L.P., and certain co-investors and management investors through certain mergers and related reorganization transactions (collectively, the “Merger”). In connection with the Merger, the Company engaged Blackstone Management Partners L.L.C. (“BMP”) to provide monitoring, advisory and consulting services on an ongoing basis. In consideration for these services, the Company agreed to pay an annual monitoring fee equal to the greater of (i) a minimum base fee of $2.7 million , subject to adjustments if the Company engages in a business combination or disposition that is deemed significant and (ii) the amount of the monitoring fee paid in respect of the immediately preceding fiscal year, without regard to any post-fiscal year “true-up” adjustments as determined by the agreement. The Company incurred expenses for such services of approximately $1.0 million and $1.0 million during the three months ended June 30, 2019 and 2018 , respectively, and $2.0 million and $2.1 million during the six months ended June 30, 2019 and 2018 , respectively. Accrued expenses and other current liabilities at June 30, 2019 and December 31, 2018 , included a liability to BMP in regards to the monitoring fee for $2.0 million and $4.8 million , respectively.

Under the support and services agreement, the Company also engaged BMP to arrange for Blackstone’s portfolio operations group to provide support services customarily provided by Blackstone’s portfolio operations group to Blackstone’s private equity portfolio companies of a type and amount determined by such portfolio services group to be warranted and appropriate. BMP will invoice the Company for such services based on the time spent by the relevant personnel providing such services during the applicable period but in no event shall the Company be obligated to pay more than $1.5 million during any calendar year. During the three and six months ended June 30, 2019 and 2018 the Company incurred no costs associated with such services.

An affiliate of Blackstone participated as one of the arrangers in the Term Loan in September 2018 and as one of the intial purchasers in connection with the offering of the 2024 Notes in May 2019 and received approximately $1.2 million of total fees associated with these transactions.

In September 2018, GSO Capital Partners, an affiliate of Blackstone, participated as a lender in the Term Loan. As of June 30, 2019 and December 31, 2018 , GSO Capital Partners held $82.2 million and $75.1 million , respectively, of outstanding aggregate principal of the Term Loan.

In September 2018, Vivint Smart Home, Inc. contributed $4.7 million to the Company as a capital contribution.

From time to time, the Company does business with a number of other companies affiliated with Blackstone.

Transactions involving related parties cannot be presumed to be carried out at an arm's-length basis.

14 . Employee Benefit Plan

The Company offers eligible employees the opportunity to contribute a percentage of their earned income into company-sponsored 401(k) plans.

Since January 2018, participants in the 401(k) plans have been eligible for the Company's matching program. Under this matching program, the Company matches an employee’s contributions to the 401(k) savings plan dollar-for-dollar up to 1% of such employee’s eligible earnings and $0.50 for every $1.00 for the next 5% of such employee’s eligible earnings. The maximum match available under the 401(k) plan is 3.5% of the employee’s eligible earnings. For employees who have been employed by the Company for less than two years, matching contributions vest on the second anniversary of their date of hire. The Company's matching contributions to employees who have been employed by the Company for two years or more are fully vested.

Matching contributions that were made to the plans totaled $1.5 million and $1.4 million during the three months ended June 30, 2019 and 2018 , respectively and $3.4 million and $3.0 million during the six months ended June 30, 2019 and 2018 , respectively.

15 . Restructuring and Asset Impairment Charges

In July 2018, the Company announced a number of cost reduction initiatives that are expected to reduce certain of the Company's General and Administrative, Customer Service, and Sales Support fixed costs. The Company completed the majority of these cost reduction initiatives in the second and third quarters of 2018, with the remainder by the end of 2018. In addition to resulting in meaningful cost reductions, the Company's initiatives are expected to streamline operations, focus engineering and innovation and provide a better focus on driving customer satisfaction.

As part of these initiatives, the Company and Best Buy agreed in principle to end the co-branded Best Buy Smart Home by Vivint arrangement, which resulted in the elimination of in-store sales positions. In addition, the Company eliminated other general and administrative positions.

The following table presents accrued restructuring activity for the six months ended June 30, 2019 and the twelve months ended December 31, 2018 (in thousands):

	Contract termination costs	Employee severance and termination benefits	Total
Accrued restructuring balance as of December 31, 2017	$ 558	$ —	$ 558
Restructuring expenses	—	4,683	4,683
Cash payments	(91)	(4,341)	(4,432)
Accrued restructuring balance as of December 31, 2018	467	342	809
Cash payments	(46)	(313)	(359)
Accrued restructuring balance as of June 30, 2019	$ 421	$ 29	$ 450

Contract termination costs represent ongoing contractual commitments related to the 2015 restructuring of the Company's Wireless Internet Business. Additional charges may be incurred in the future for facility-related or other restructuring activities as the Company continues to align resources to meet the needs of the business.

16 . Segment Reporting and Business Concentrations

For the three and six months ended June 30, 2019 and 2018 , the Company conducted business through one operating segment, Vivint. The Company primarily operated in two geographic regions: United States and Canada. Revenues disaggregated by geographic region were as follows (in thousands):

	United States	Canada	Total
Revenue from external customers			
Three months ended June 30, 2019	$ 263,007	$ 18,046	$ 281,053
Three months ended June 30, 2018	237,513	17,454	254,967
Six months ended June 30, 2019	521,443	35,859	557,302
Six months ended June 30, 2018	466,055	35,509	501,564

17 . Guarantor and Non-Guarantor Supplemental Financial Information

The Notes were issued by APX and are fully and unconditionally guaranteed, jointly and severally by Holdings and each of APX’s existing and future material wholly-owned U.S. restricted subsidiaries. APX’s existing and future foreign subsidiaries are not expected to guarantee the Notes.

Presented below is the condensed consolidating financial information of APX, subsidiaries of APX that are guarantors (the “Guarantor Subsidiaries”), and APX’s subsidiaries that are not guarantors (the “Non-Guarantor Subsidiaries”) as of June 30, 2019 and December 31, 2018 and for the three and six months ended June 30, 2019 and 2018 . The unaudited condensed consolidating financial information reflects the investments of APX in the Guarantor Subsidiaries and the Non-Guarantor Subsidiaries using the equity method of accounting.

Supplemental Condensed Consolidating Balance Sheet
June 30, 2019
(in thousands)
(unaudited)

	Parent	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Assets						
Current assets	$ —	$ 2,713	$ 408,215	$ 135,703	$ (315,770)	$ 230,861
Property, plant and equipment, net	—	—	61,215	385	—	61,600
Capitalized contract costs, net	—	—	1,101,598	69,089	—	1,170,687
Deferred financing costs, net	—	1,572	—	—	—	1,572
Investment in subsidiaries	—	1,595,121	—	—	(1,595,121)	—
Intercompany receivable	—	—	6,303	—	(6,303)	—
Intangible assets, net	—	—	201,538	16,240	—	217,778
Goodwill	—	—	810,129	26,160	—	836,289
Operating lease right-of-use assets	—	—	71,345	212	—	71,557
Long-term notes receivables and other assets	—	106	101,695	20,936	(106)	122,631
Total Assets	$ —	$ 1,599,512	$ 2,762,038	$ 268,725	$ (1,917,300)	$ 2,712,975
Liabilities and Stockholders' (Deficit) Equity						
Current liabilities	$ —	$ 33,866	$ 662,048	$ 209,672	$ (315,770)	$ 589,816
Intercompany payable	—	—	—	6,303	(6,303)	—
Notes payable and revolving credit facility, net of current portion	—	3,164,749	—	—	—	3,164,749
Finance lease obligations, net of current portion	—	—	3,397	—	—	3,397
Deferred revenue, net of current portion	—	—	363,958	19,308	—	383,266
Operating lease liabilities	—	—	69,894	81	—	69,975
Other long-term obligations	—	—	98,859	877	—	99,736
Accumulated losses of investee, net	1,599,103				(1,599,103)	—
Deferred income tax liability	—	—	106	1,139	(106)	1,139
Total (deficit) equity	(1,599,103)	(1,599,103)	1,563,776	31,345	3,982	(1,599,103)
Total liabilities and stockholders' (deficit) equity	$ —	$ 1,599,512	$ 2,762,038	$ 268,725	$ (1,917,300)	$ 2,712,975

Supplemental Condensed Consolidating Balance Sheet
December 31, 2018
(in thousands)

	Parent	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Assets						
Current assets	$ —	$ 12,951	$ 269,770	$ 103,451	$ (262,674)	$ 123,498
Property, plant and equipment, net	—	—	72,937	464	—	73,401
Capitalized contract costs, net	—	—	1,047,532	68,243	—	1,115,775
Deferred financing costs, net	—	2,058	—	—	—	2,058
Investment in subsidiaries	—	1,662,367	—	—	(1,662,367)	—
Intercompany receivable	—	—	6,303	—	(6,303)	—
Intangible assets, net	—	—	236,677	18,408	—	255,085
Goodwill	—	—	809,678	25,177	—	834,855
Long-term notes receivables and other assets	—	106	102,695	17,124	(106)	119,819
Total Assets	$ —	$ 1,677,482	$ 2,545,592	$ 232,867	$ (1,931,450)	$ 2,524,491
Liabilities and Stockholders' (Deficit) Equity						
Current liabilities	$ —	$ 36,988	$ 507,063	$ 182,159	$ (262,674)	$ 463,536
Intercompany payable	—	—	—	6,303	(6,303)	—
Notes payable and revolving credit facility, net of current portion	—	3,037,095	—	—	—	3,037,095
Capital lease obligations, net of current portion	—	—	5,570	1	—	5,571
Deferred revenue, net of current portion	—	—	306,653	16,932	—	323,585
Accumulated Losses of Investee, net	1,396,601				(1,396,601)	—
Other long-term obligations	—	—	90,209	—	—	90,209
Deferred income tax liability	—	—	106	1,096	(106)	1,096
Total (deficit) equity	(1,396,601)	(1,396,601)	1,635,991	26,376	(265,766)	(1,396,601)
Total liabilities and stockholders' (deficit) equity	$ —	$ 1,677,482	$ 2,545,592	$ 232,867	$ (1,931,450)	$ 2,524,491

Supplemental Condensed Consolidating Statements of Operations and Comprehensive Loss
For the Three Months Ended June 30, 2019
(in thousands)
(unaudited)

	Parent	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	$ —	$ —	$ 268,055	$ 13,590	$ (592)	$ 281,053
Costs and expenses	—	—	319,266	13,208	(592)	331,882
(Loss) income from operations	—	—	(51,211)	382	—	(50,829)
Loss from subsidiaries	(115,896)	(49,954)	—	—	165,850	—
Other expense (income), net	—	65,942	807	(1,130)	—	65,619
(Loss) income before income tax expenses	(115,896)	(115,896)	(52,018)	1,512	165,850	(116,448)
Income tax benefit	—	—	(288)	(264)	—	(552)
Net (loss) income	(115,896)	(115,896)	(51,730)	1,776	165,850	(115,896)
Other comprehensive loss, net of tax effects:						
Net (loss) income	(115,896)	(115,896)	(51,730)	1,776	165,850	(115,896)
Other comprehensive income from subsidiaries	504	504	—	—	(1,008)	—
Foreign currency translation adjustment	—	—	—	504	—	504
Total other comprehensive income	504	504	—	504	(1,008)	504
Comprehensive (loss) income	$ (115,392)	$ (115,392)	$ (51,730)	$ 2,280	$ 164,842	$ (115,392)

Supplemental Condensed Consolidating Statements of Operations and Comprehensive Loss
For the Three Months Ended June 30, 2018
(in thousands)
(unaudited)

	Parent	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	$ —	$ —	$ 244,000	$ 11,613	$ (646)	$ 254,967
Costs and expenses	—	—	321,835	14,011	(646)	335,200
Loss from operations	—	—	(77,835)	(2,398)	—	(80,233)
Loss from subsidiaries	(144,385)	(84,923)	—	—	229,308	—
Other expense, net	—	59,462	4,006	1,590	—	65,058
Loss before income tax expenses	(144,385)	(144,385)	(81,841)	(3,988)	229,308	(145,291)
Income tax benefit	—	—	(70)	(836)	—	(906)
Net loss	(144,385)	(144,385)	(81,771)	(3,152)	229,308	(144,385)
Other comprehensive loss, net of tax effects:						
Net loss	(144,385)	(144,385)	(81,771)	(3,152)	229,308	(144,385)
Other comprehensive loss from subsidiaries	(417)	(417)	—	—	834	—
Foreign currency translation adjustment	—	—	—	(417)	—	(417)
Total other comprehensive loss	(417)	(417)	—	(417)	834	(417)
Comprehensive loss	$ (144,802)	$ (144,802)	$ (81,771)	$ (3,569)	$ 230,142	$ (144,802)

Supplemental Condensed Consolidating Statements of Operations and Comprehensive Loss
For the Six Months Ended June 30, 2019
(in thousands)
(unaudited)

	Parent	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	$ —	$ —	$ 531,594	$ 26,502	$ (794)	$ 557,302
Costs and expenses	—	—	610,775	26,128	(794)	636,109
(Loss) income from operations	—	—	(79,181)	374	—	(78,807)
Loss from subsidiaries	(205,052)	(75,935)	—	—	280,987	—
Other expense (income), net	—	129,117	755	(2,774)	—	127,098
(Loss) income before income tax expenses	(205,052)	(205,052)	(79,936)	3,148	280,987	(205,905)
Income tax benefit	—	—	(106)	(747)	—	(853)
Net (loss) income	(205,052)	(205,052)	(79,830)	3,895	280,987	(205,052)
Other comprehensive loss, net of tax effects:						
Net (loss) income	(205,052)	(205,052)	(79,830)	3,895	280,987	(205,052)
Other comprehensive income from subsidiaries	1,074	1,074	—	—	(2,148)	—
Foreign currency translation adjustment	—	—	—	1,074	—	1,074
Total other comprehensive income	1,074	1,074	—	1,074	(2,148)	1,074
Comprehensive (loss) income	$ (203,978)	$ (203,978)	$ (79,830)	$ 4,969	$ 278,839	$ (203,978)

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Supplemental Condensed Consolidating Statements of Operations and Comprehensive Loss
For the Six Months Ended June 30, 2018
(in thousands)
(unaudited)

	Parent	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	$ —	$ —	$ 477,788	$ 25,078	$ (1,302)	$ 501,564
Costs and expenses	—	—	627,056	27,674	(1,302)	653,428
Loss from operations	—	—	(149,268)	(2,596)	—	(151,864)
Loss from subsidiaries	(229,102)	(111,243)	—	—	340,345	—
Other expense (income), net	—	117,859	(42,964)	3,682	—	78,577
Loss before income tax expenses	(229,102)	(229,102)	(106,304)	(6,278)	340,345	(230,441)
Income tax expense (benefit)	—	—	102	(1,441)	—	(1,339)
Net loss	(229,102)	(229,102)	(106,406)	(4,837)	340,345	(229,102)
Other comprehensive loss, net of tax effects:						
Net loss	(229,102)	(229,102)	(106,406)	(4,837)	340,345	(229,102)
Other comprehensive loss from subsidiaries	(1,076)	(1,076)	—	—	2,152	—
Foreign currency translation adjustment	—	—	—	(1,076)	—	(1,076)
Total other comprehensive income	—	—	—	(1,076)	—	(1,076)
Comprehensive loss	$ (229,102)	$ (229,102)	$ (106,406)	$ (5,913)	$ 340,345	$ (230,178)

Supplemental Condensed Consolidating Statements of Cash Flows
For the Six Months Ended June 30, 2019
(in thousands)
(unaudited)

	Parent	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows from operating activities:						
Net cash used in operating activities	$ —	$ —	$ (130,577)	$ (413)	$ —	$ (130,990)
Cash flows from investing activities:						
Capital expenditures	—	—	(4,653)	—	—	(4,653)
Proceeds from sale of capital assets	—	—	19	—	—	19
Proceeds from sales of equity securities	—	—	5,430	—	—	5,430
Investment in subsidiary	(441)	(135,039)	—	—	135,480	—
Acquisition of intangible assets	—	—	(668)	—	—	(668)
Net cash (used in) provided by investing activities	(441)	(135,039)	128	—	135,480	128
Cash flows from financing activities:						
Proceeds from notes payable	—	225,000	—	—	—	225,000
Repayment on notes payable	—	(229,050)	—	—	—	(229,050)
Borrowings from revolving credit facility	—	160,000	—	—	—	160,000
Repayments on revolving credit facility	—	(26,000)	—	—	—	(26,000)
Proceeds from capital contribution	—	—	134,598	—	(134,598)	—
Repayments of finance lease obligations	—	—	(4,119)	(144)	—	(4,263)
Deferred financing costs	—	(4,036)	—	—	—	(4,036)
Return of capital	441	441	(441)	—	(882)	(441)
Net cash provided by (used in) financing activities	441	126,355	130,038	(144)	(135,480)	121,210
Effect of exchange rate changes on cash	—	—	—	12	—	12
Net decrease in cash and cash equivalents	—	(8,684)	(411)	(545)	—	(9,640)
Cash and cash equivalents:						
Beginning of period	—	11,130	682	961	—	12,773
End of period	$ —	$ 2,446	$ 271	$ 416	$ —	$ 3,133

Supplemental Condensed Consolidating Statements of Cash Flows
For the Six Months Ended June 30, 2018
(in thousands)
(unaudited)

	Parent	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows from operating activities:						
Net cash used in operating activities	$ —	$ —	$ (130,919)	$ (70)	$ —	$ (130,989)
Cash flows from investing activities:						
Capital expenditures	—	—	(12,193)	—	—	(12,193)
Investment in subsidiary	2,049	(98,251)	—	—	96,202	—
Acquisition of intangible assets	—	—	(1,022)	—	—	(1,022)
Proceeds from sale of intangibles	—	—	53,693	—	—	53,693
Proceeds from sale of capital assets	—	—	225	—	—	225
Net cash provided by (used in) investing activities	2,049	(98,251)	40,703	—	96,202	40,703
Cash flows from financing activities:						
Borrowings from revolving credit facility	—	179,000	—	—	—	179,000
Repayments on revolving credit facility	—	(79,000)	—	—	—	(79,000)
Proceeds from capital contributions	—	—	100,300	—	(100,300)	—
Repayments of capital lease obligations	—	—	(6,768)	(187)	—	(6,955)
Return of capital	(2,049)	(2,049)	(2,049)	—	4,098	(2,049)
Net cash (used in) provided by financing activities	(2,049)	97,951	91,483	(187)	(96,202)	90,996
Effect of exchange rate changes on cash	—	—	—	(62)	—	(62)
Net (decrease) increase in cash and cash equivalents	—	(300)	1,267	(319)	—	648
Cash and cash equivalents:						
Beginning of period	—	3,661	(572)	783	—	3,872
End of period	$ —	$ 3,361	$ 695	$ 464	$ —	$ 4,520

18 . Subsequent Events

On July 31, 2019, in an effort to deliver additional cost savings and cash-flow improvements, the Company completed a spin-off of its wireless internet business. In connection with the spin-off, the equity interests of Vivint Wireless, Inc. were distributed to the shareholders of Vivint Smart Home, Inc. pro rata based on their respective holdings.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Introduction

The following discussion and analysis provides information which management believes is relevant to an assessment and understanding of the Company's consolidated results of operations and financial condition. The discussion should be read in conjunction with the consolidated financial statements and notes thereto contained herein and in the Annual Report on Form 10-K/A for the year ended December 31, 2018 . This discussion contains forward-looking statements and involves numerous risks and uncertainties, including, but not limited to, those described in the "Risk Factors" sections of the Annual Report on Form 10-K/A for the year ended December 31, 2018 and the Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2019. Actual results may differ materially from those contained in any forward-looking statements. Unless the context otherwise requires, references to "we", "us", "our", and "the Company" are intended to mean the business and operations of APX Group Holdings, Inc. and its consolidated subsidiaries. The unaudited condensed consolidated financial statements for the three and six months ended June 30, 2019 and 2018 , respectively, present the financial position and results of operations of APX Group Holdings, Inc. and its wholly-owned subsidiaries.

Business Overview

We are a smart home technology company. Our purpose-built platform has all the components required to deliver on the promise of a true smart home experience. Our smart home platform is comprised of the following five pillars: (1) our Smart Home Operating System, (2) our AI-driven smart home automation and assistance software, Vivint Assist, (3) our portfolio of proprietary, internally developed smart devices, (4) our curated yet extensible partner-neutral ecosystem, and (5) our people delivering tech-enabled premium services, including consultative selling, professional installation, and support.

We were founded by our CEO Todd Pedersen in 1999 and have grown to become one of the largest smart home solutions providers in North America with over 1.5 million subscribers as of June 30, 2019 , managing over 21 million devices and processing over 1.5 billion home-related events on a daily basis. Our nationwide sales and service footprint covers 98% of U.S. zip codes.

Our culture and our history are characterized by a spirit of continuous innovation, resulting in the development of cutting-edge proprietary smart home devices and tech-enabled services for the smart home. Consistent with our Vivint brand name, which represents 'to live intelligently', our solution allows subscribers to live intelligently and to enjoy the benefits of a smart home. Our approach has focused on putting the subscriber experience first, which we do by presenting our subscribers with the right combination of technology and support, delivered by people who care.

Our go-to-market strategy is based on directly educating consumers about the value and benefits of a smart home experience. We reach consumers through a variety of efficient customer acquisition channels, including our direct-to-home, inside sales, and retail partnership programs. We continue to scale these efforts through our proprietary operations technology, by launching new and innovative Products and Services, and by building out our consultative sales channels. We continue to strengthen our relationships with existing subscribers by offering them the ability to use Vivint Flex Pay to finance an upgrade of their existing system and to add new devices and features to their smart homes as our portfolio of offerings expands.

Key Performance Measures

In evaluating our results, we review several key performance measures discussed below. We believe that the presentation of such metrics is useful to our investors and lenders because they are used to measure the value of companies such as ours with recurring revenue streams. All key performance measures defined below exclude our wireless internet business and sales channel pilot programs.

Total Subscribers

Total subscribers is the aggregate number of active smart home and security subscribers at the end of a given period.

Total Monthly Revenue

Total monthly revenue, or Total MR, is the average monthly total revenue recognized during the period.

Average Monthly Revenue per User

Average monthly revenue per user, or AMRU, is Total MR divided by average monthly Total Subscribers during a given period.

Total Monthly Service Revenue

Total monthly service revenue, or MSR, is the contracted recurring monthly service billings to our smart home and security subscribers, based on the Total Subscribers number as of the end of a given period.

Average Monthly Service Revenue per User

Average monthly service revenue per user, or AMSRU, is Total MSR divided by Total Subscribers at the end of a given period.

Attrition Rate

Attrition rate is the aggregate number of canceled smart home and security subscribers during the prior 12 month period divided by the monthly weighted average number of Total Subscribers based on the Total Subscribers at the beginning and end of each month of a given period. Subscribers are considered canceled when they terminate in accordance with the terms of their contract, are terminated by us or if payment from such subscribers is deemed uncollectible (when at least four monthly billings become past due). If a sale of a service contract to third parties occurs, or a subscriber relocates but continues their service, we do not consider this as a cancellation. If a subscriber transfers their service contract to a new subscriber, we do not consider this as a cancellation.

Average Subscriber Lifetime

Average subscriber lifetime, in number of months, is 100% divided by our expected long-term annualized attrition rate (which is currently estimated at 13%) multiplied by 12 months.

Net Service Cost per Subscriber

Net service cost per subscriber is the average monthly service costs incurred during the period (both period and capitalized service costs), including monitoring, customer service, field service and other service support costs, less total non-recurring Smart Home Services billings for the period divided by average monthly Total Subscribers for the same period.

Net Service Margin

Net service margin is the monthly average MSR for the period, less total average net service costs for the period divided by the monthly average MSR for the period.

New Subscribers

New subscribers is the aggregate number of net new smart home and security subscribers originated during a given period. This metric excludes new subscribers acquired by the transfer of a service contract from one subscriber to another.

Net Subscriber Acquisition Costs per New Subscriber

Net subscriber acquisition costs per New Subscriber is the net cash cost to create new smart home and security subscribers during a given 12 month period divided by New Subscribers for that period. These costs include commissions, Products, installation, marketing, sales support and other allocations (general and administrative and overhead); less upfront payment received from the sale of Products associated with the initial installation, and installation fees. These costs exclude capitalized contract costs and upfront proceeds associated with contract modifications.

Total Bookings

Total bookings is total monthly Service revenue for New Subscribers multiplied by Average Subscriber Lifetime, plus total Product revenue to be recognized over the contract term from New Subscribers during the prior 12 month period.

Total Monthly Service Revenue for New Subscribers

Total Monthly Service Revenue for New Subscribers is the contracted recurring monthly service billings to our New Subscribers during the prior 12 month period.

Average Monthly Service Revenue per New Subscriber

Average Monthly Service Revenue per New Subscriber is Total Monthly Service Revenue for New Subscribers divided by New Subscribers during the prior 12 month period.

Lifetime Service Revenue per New Subscriber

Lifetime service revenue per new subscriber is Total Monthly Service Revenue for New Subscribers divided by New Subscribers during the prior 12 month period, multiplied by Average Subscriber Lifetime.

Lifetime Service Revenue Multiple

Lifetime service revenue multiple is Lifetime Service Revenue per New Subscriber divided by Net Subscriber Acquisition Costs per New Subscriber.

Total Subscriber Lifetime Backlog

Total subscriber lifetime backlog is total unrecognized Product revenue plus total Service revenue expected to be recognized over the remaining subscriber lifetime for Total Subscribers.

Recent Developments

2024 Notes Offering

On May 10, 2019, APX issued $225 million aggregate principal amount of 8.50% Senior Secured Notes due 2024 (“2024 notes”) in a private placement. APX used the net proceeds from the 2024 notes offering to redeem $225 million aggregate principal amount of its 2020 notes, and to pay the related accrued interest and to pay all fees and expenses related thereto. The indenture governing the 2024 notes contains covenants similar to those applicable to the 2022 notes.

Wireless Internet Business

On July 31, 2019, in an effort to deliver additional cost savings and cash-flow improvements, we completed a spin-off of our wireless internet business. In connection with the spin-off, the equity interests of Vivint Wireless, Inc. were distributed to the shareholders of Vivint Smart Home, Inc. pro rata based on their respective holdings.

Revolving Credit Facility Commitments

Effective April 1, 2019, revolving commitments of $15.4 million previously available under our revolving credit facility terminated, thereby reducing the aggregate commitments available under the credit agreement to $288.2 million.

Critical Accounting Policies and Estimates

In preparing our unaudited Condensed Consolidated Financial Statements, we make assumptions, judgments and estimates that can have a significant impact on our revenue, loss from operations and net loss, as well as on the value of certain assets and liabilities on our unaudited Condensed Consolidated Balance Sheets. We base our assumptions, judgments and estimates on historical experience and various other factors that we believe to be reasonable under the circumstances. Actual results could differ materially from these estimates under different assumptions or conditions. At least quarterly, we evaluate our assumptions, judgments and estimates and make changes accordingly. Historically, our assumptions, judgments and estimates relative to our critical accounting estimates have not differed materially from actual results. We believe that the assumptions, judgments and estimates involved in the accounting for revenue recognition, deferred revenue, capitalized contract costs, derivatives, retail installment contract receivables, allowance for doubtful accounts, loss contingencies, valuation of intangible assets, fair value and income taxes have the greatest potential impact on our unaudited Condensed Consolidated Financial Statements; therefore, we consider these to be our critical accounting estimates. For information on our significant accounting policies, see Note 1 to our accompanying unaudited Condensed Consolidated Financial Statements.

Revenue Recognition

We offer our customers smart home services combining Products, including a proprietary control panel, door and window sensors, door locks, security cameras and smoke alarms; installation; and a proprietary back-end cloud platform software and Services. These together create an integrated system that allows our customers to monitor, control and protect their home. Our customers are buying this integrated system that provides them with these Smart Home Services. The number and type of Products purchased by a customer depends on their desired functionality. Because the Products and Services included in the customer’s contract are integrated and highly interdependent, and because they must work together to deliver the Smart Home Services, we have concluded that installed Products, related installation and Services contracted for by the customer are generally not distinct within the context of the contract and, therefore, constitute a single, combined performance obligation. Revenues for this single, combined performance obligation are recognized on a straight-line basis over the customer’s contract term. We have determined that certain contracts that do not require a long-term commitment for monitoring services by the customer contain a material right to renew the contract, because the customer does not have to purchase Products upon renewal. Proceeds allocated to the material right are recognized over the period of benefit, which is generally three years.

The majority of our subscription contracts are between three and five years in length and are non-cancelable. These contracts with customers generally convert into month-to-month agreements at the end of the initial term, and some customer contracts are month-to-month from inception. Payment for recurring monitoring and other Smart Home Services is generally due in advance on a monthly basis.

Sales of Products and other one-time fees such as service fees or installation fees are invoiced to the customer at the time of sale. Revenues for wireless internet service provided by Vivint Wireless Inc. and any Products or Services that are considered separate performance obligations are recognized when those Products or Services are delivered. Taxes collected from customers and remitted to governmental authorities are not included in revenue. Payments received or amounts billed in advance of revenue recognition are reported as deferred revenue.

We consider Products, related installation, and our proprietary back-end cloud platform software and services an integrated system that allows our customers to monitor, control and protect their homes. These Smart Home Services are accounted for as a single performance obligation that is recognized over the customer’s contract term, which is generally three to five years .

Deferred Revenue

Our deferred revenues primarily consist of amounts for sales (including upfront proceeds) of Smart Home Services. Deferred revenues are recognized over the term of the related performance obligation, which is generally three to five years .

Capitalized Contract Costs

Capitalized contract costs represent the costs directly related and incremental to the origination of new contracts, modification of existing contracts or to the fulfillment of the related subscriber contracts. These include commissions, other compensation and related costs incurred directly for the origination and installation of new or upgraded customer contracts, as well as the cost of Products installed in the customer home at the commencement or modification of the contract. These costs are deferred and amortized on a straight-line basis over the expected period of benefit that we have determined to be five years . Amortization of capitalized contract costs is included in “Depreciation and Amortization” on the consolidated statements of operations. These deferred costs are periodically reviewed for impairment. Contract costs not directly related and incremental to the origination of new contracts, modification of existing contracts or to the fulfillment of the related subscriber contracts are expensed as incurred. These costs include those associated with housing, marketing and recruiting, non-direct lead generation costs, certain portions of sales commissions and residuals, overhead and other costs considered not directly and specifically tied to the origination of a particular subscriber. We defer and amortize these costs for new or modified subscriber contracts on a straight-line basis over the expected period of benefit of five years .

On the accompanying unaudited condensed consolidated statement of cash flows, capitalized contract costs are classified as operating activities and reported as “Capitalized contract costs – deferred contract costs” as these assets represent deferred costs associated with subscriber contracts.

Consumer Financing Program

Vivint Flex Pay became our primary sales model beginning in March 2017. Under Vivint Flex Pay, customers pay separately for the products (including control panel, security peripheral equipment, smart home equipment, and related installation) (“Products”) and Vivint's smart home and security services (“Services”). The customer has the following three ways to pay for the Products: (1) qualified customers in the United States may finance the purchase of Products through a third-party financing provider (“Consumer Financing Program”), (2) we offer to some customers not eligible for the Consumer Financing Program, but who qualify under our underwriting criteria, the option to enter into a retail installment contract (“RIC”) directly with us, or (3) customers may purchase the Products at the outset of the service contract by check, automatic clearing house payments (“ACH”), credit or debit card.

Under the Consumer Financing Program, qualified customers are eligible for loans provided by third-party financing providers up to $4,000 . The annual percentage rates on these loans range between 0% and 9.99% , and are either installment loans or revolving loans with a 42 or 60 month term. Loan terms are determined by the customer's credit quality.

For certain third-party provider loans, we pay a monthly fee based on either the average daily outstanding balance of the loans or the number of outstanding loans, depending on the third-party financing provider. Additionally, we share in the liability for credit losses depending on the credit quality of the customer. Because of the nature of these provisions, we record a derivative liability at its fair value when the third-party financing provider originates loans to customers, which reduces the amount of estimated revenue recognized on the provision of the services. The derivative liability represents the estimated remaining amounts to be paid to the third-party provider by us related to outstanding loans, including the monthly fees based on either the outstanding loan balances or the number of outstanding loans, shared liabilities for credit losses and customer payment processing fees. The derivative liability is reduced as payments are made by us to the third-party financing provider. Subsequent changes to the fair value of the derivative liability are realized through other expenses (income), net in the Condensed Consolidated Statement of Operations.

For separate third-party loans , we receive net proceeds (net of fees and expected losses) for which we have no further obligation to the third-party. We record these net proceeds to deferred revenue.

Retail Installment Contract Receivables

For subscribers that enter into a RIC to finance the purchase of Products and related installation, we record a receivable for the amount financed. The RIC receivables are recorded at their present value, net of the imputed interest discount. At the time of installation, we record a long-term note receivable within long-term notes receivables and other assets, net on the condensed consolidated balance sheets for the present value of the receivables that are expected to be collected beyond 12 months of the reporting date. The unbilled receivable amounts that are expected to be collected within 12 months of the reporting date are included as a short-term notes receivable within accounts and notes receivable, net on the condensed consolidated balance sheets. The billed amounts of notes receivables are included in accounts receivable within accounts and notes receivable, net on the condensed consolidated balance sheets.

We impute the interest on the RIC receivable using a risk adjusted market interest rate and record it as an adjustment to deferred revenue and as an adjustment to the face amount of the related receivable. The imputed interest discount considers a number of factors, including collection experience, aging of the remaining RIC receivable portfolios, credit quality of the subscriber base and other qualitative considerations, including macro-economic factors. The imputed interest income is recognized over the term of the RIC contract as recurring and other revenue on the condensed consolidated statement of operations.

When we determine that there are RIC receivables that have become uncollectible, we record an adjustment to the imputed interest discount and reduce the related note receivable balance. Account balances are written-off if collection efforts are unsuccessful and future collection is unlikely based on the length of time from the day accounts become past due.

Accounts Receivable

Accounts receivable consists primarily of amounts due from subscribers for recurring monthly monitoring Services and the billed portion of RIC receivables. The accounts receivable are recorded at invoiced amounts and are non-interest bearing and are included within accounts and notes receivable, net on the condensed consolidated balance sheets. We estimate this allowance based on historical collection experience and subscriber attrition rates. When we determine that there are accounts receivable that are uncollectible, they are charged off against the allowance for doubtful accounts. The provision for doubtful accounts is included in general and administrative expenses in the accompanying unaudited condensed consolidated statements of operations .

Loss Contingencies

We record accruals for various contingencies including legal proceedings and other claims that arise in the normal course of business. The accruals are based on judgment, the probability of losses and, where applicable, the consideration of opinions of legal counsel. We record an accrual when a loss is deemed probable to occur and is reasonably estimable. Factors that we consider in the determination of the likelihood of a loss and the estimate of the range of that loss in respect of legal matters include the merits of a particular matter, the nature of the litigation, the length of time the matter has been pending, the procedural posture of the matter, whether we intend to defend the matter, the likelihood of settling for an insignificant amount and the likelihood of the plaintiff accepting an amount in this range. However, the outcome of such legal matters is inherently unpredictable and subject to significant uncertainties.

Goodwill and Intangible Assets

Purchase accounting requires that all assets and liabilities acquired in a transaction be recorded at fair value on the acquisition date, including identifiable intangible assets separate from goodwill. For significant acquisitions, we obtain independent appraisals and valuations of the intangible (and certain tangible) assets acquired and certain assumed obligations as well as equity. Identifiable intangible assets include customer relationships and other purchased and internally developed technology. Goodwill represents the excess of cost over the fair value of net assets acquired.

The estimated fair values and useful lives of identified intangible assets are based on many factors, including estimates and assumptions of future operating performance and cash flows of the acquired business, estimates of cost avoidance, the nature of the business acquired, the specific characteristics of the identified intangible assets and our historical experience and that of the acquired business. The estimates and assumptions used to determine the fair values and useful lives of identified intangible assets could change due to numerous factors, including product demand, market conditions, regulations affecting the business model of our operations, technological developments, economic conditions and competition.

We conduct a goodwill impairment analysis annually in the fourth fiscal quarter, as of October 1, and as necessary if changes in facts and circumstances indicate that the fair value of our reporting units may be less than their carrying amounts. When indicators of impairment do not exist and certain accounting criteria are met, we are able to evaluate goodwill impairment using a qualitative approach. When necessary, our quantitative goodwill impairment test consists of two steps. The first step requires that we compare the estimated fair value of our reporting units to the carrying value of the reporting unit's net assets, including goodwill. If the fair value of the reporting unit is greater than the carrying value of its net assets, goodwill is not considered to be impaired and no further testing is required. If the fair value of the reporting unit is less than the carrying value of its net assets, we would be required to complete the second step of the test by analyzing the fair value of its goodwill. If the carrying value of the goodwill exceeds its fair value, an impairment charge is recorded. Our reporting units are determined based on our current reporting structure, which as of December 31, 2018 and June 30, 2019 consisted of two reporting units. As of June 30, 2019 , there were no changes in facts and circumstances since the most recent annual impairment analysis to indicate impairment existed.

Property, Plant and Equipment and Long-lived Assets

Property, plant and equipment are stated at cost and depreciated on the straight-line method over the estimated useful lives of the assets or the lease term for assets under finance leases, whichever is shorter. Intangible assets with definite lives are amortized over the remaining estimated economic life of the underlying technology or relationships, which ranges from two to ten years . Definite-lived intangible assets are amortized on the straight-line method over the estimated useful life of the asset or in a pattern in which the economic benefits of the intangible asset are consumed. Amortization expense associated with leased assets is included with depreciation expense. Routine repairs and maintenance are charged to expense as incurred.

We review long-lived assets, including property, plant and equipment, capitalized contract costs, and definite-lived intangibles for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable. We consider whether or not indicators of impairment exist on a regular basis and as part of each quarterly and annual financial statement close process. Factors we consider in determining whether or not indicators of impairment exist include market factors and patterns of customer attrition. If indicators of impairment are identified, we estimate the fair value of the assets. An impairment loss is recognized if the carrying amount of a long-lived asset is not recoverable and exceeds its fair value.

We conduct an indefinite-lived intangible impairment analysis annually as of October 1, and as necessary if changes in facts and circumstances indicate that the fair value of our indefinite-lived intangibles may be less than the carrying amount. When indicators of impairment do not exist and certain accounting criteria are met, we are able to evaluate indefinite-lived intangible impairment using a qualitative approach. When necessary, our quantitative impairment test consists of two steps. The first step requires that we compare the estimated fair value of our indefinite-lived intangibles to the carrying value. If the fair value is greater than the carrying value, the intangibles are not considered to be impaired and no further testing is required. If the fair value is less than the carrying value, an impairment loss in an amount equal to the difference is recorded.

Income Taxes

We account for income taxes based on the asset and liability method. Under the asset and liability method, deferred tax assets and deferred tax liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Valuation allowances are established when necessary to reduce deferred tax assets when it is determined that it is more likely than not that some portion, or all, of the deferred tax asset will not be realized.

We recognize the effect of an uncertain income tax position on the income tax return at the largest amount that is more likely than not to be sustained upon audit by the relevant taxing authority. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. Our policy for recording interest and penalties is to record such items as a component of the provision for income taxes.

Changes in tax laws and rates could also affect recorded deferred tax assets and liabilities in the future. We record the effect of a tax rate or law change on our deferred tax assets and liabilities in the period of enactment. Future tax rate or law changes could have a material effect on our results of operations, financial condition, or cash flows.

Recent Accounting Pronouncements

See Note 1 to our accompanying unaudited Condensed Consolidated Financial Statements.

Key Factors Affecting Operating Results

Our future operating results and cash flows are dependent upon a number of opportunities, challenges and other factors, including our ability to efficiently grow our subscriber base, expand our Product and Service offerings to generate increased revenue per user, provide high quality Products and subscriber service to maximize subscriber lifetime value and improve the leverage of our business model.

Key factors affecting our operating results include the following:

Subscriber Lifetime

Our ability to retain subscribers has a significant impact on our financial results, including revenues, operating income, and operating cash flows. Because we operate a business built on recurring revenues, subscriber lifetime is a key determinant of our operating success. Our Average Subscriber Lifetime is 92 months (approximately 8 years) as of June 30, 2019 . If our expected long-term annualized attrition rate increased by 1% to 14%, Average Subscriber Lifetime would decrease to approximately 86 months. Conversely, if our expected attrition decreased by 1% to 12%, our Average Subscriber Lifetime would increase to approximately 100 months. A portion of the subscriber base can be expected to cancel its service every year. Subscribers may choose not to renew or may terminate their contracts for a variety of reasons, including, but not limited to, relocation, cost, switching to a competitor's service or service issues. We analyze our retention by tracking the number of subscribers who remain as a percentage of the monthly average number of subscribers at the end of each 12 month period. We caution investors that not all companies, investors and analysts in our industry define retention in this manner.

The table below presents our smart home and security subscriber data for the twelve months ended June 30, 2019 and June 30, 2018 :

	Twelve months ended June 30, 2019	Twelve months ended June 30, 2018
Beginning balance of subscribers	1,393,635	1,215,056
New subscribers	308,314	320,983
Attrition	(194,285)	(142,404)
Ending balance of subscribers	1,507,664	1,393,635
Monthly average subscribers	1,446,630	1,295,429
Attrition rate	13.4%	11.0%

Historically, we have experienced an increased level of subscriber cancellations in the months surrounding the expiration of such subscribers' initial contract term. Attrition in any twelve month period may be impacted by the number of subscriber contracts reaching the end of their initial term in such period. Attrition in the twelve months ended June 30, 2019 and June 30, 2018 , reflects the effect of the 2013 60-month, 2014 60-month and 2015 42-month contracts reaching the end of their initial contract term. We believe this trend in cancellations at the end of the initial contract term is comparable to other companies within our industry.

Our subscribers are the foundation of our recurring revenue-based model. Our operating results are affected by the level of our net acquisition costs to generate those subscribers and the value of Products and Services purchased by them. A reduction in net subscriber acquisition costs or an increase in the total value of Products or Services purchased by a new subscriber increases the life-time value of that subscriber, which in turn, improves our operating results and cash flows over time.

The net upfront cost of adding incremental subscribers is a key factor impacting our ability to scale. Vivint Flex Pay has made it more affordable to accelerate the growth in New Subscribers. Prior to Vivint Flex Pay, we recovered the cost of equipment installed in subscribers' homes over time through their monthly service billings. From the introduction of Vivint Flex Pay in early 2017 through June 30, 2019 , 25% of subscribers have financed their equipment purchases through RICs, which we fund through our balance sheet. We expect the percentage of subscriber contracts financed through RICs to continue decreasing over time. In addition, since the introduction of Vivint Flex Pay in 2017, 100% of new subscribers have either opted to use this program to finance their equipment costs or paid for their equipment themselves at the time of contract origination. This has greatly reduced our net cost per acquisition, as well as the balance sheet impact of acquiring subscribers. Moving forward, we will continue to explore ways to grow our subscriber base in a cost-effective manner through our existing sales and marketing channels, through the growth of our financing programs, as well as through strategic partnerships and new channels, as these opportunities arise.

We believe the Vivint Flex Pay program will result in higher retention, more revenue per user, and thus greater subscriber lifetime values. Existing subscribers are also able to use Vivint Flex Pay to upgrade their systems or to add new Products and Services, which we believe further increases subscriber lifetime value. This positively impacts our operating performance, and we anticipate that adding additional financing partners to the Vivint Flex Pay program, both in the United States and Canada, will generate additional revenue growth and a subsequent increase in subscriber lifetime value.

Sales and Marketing Efficiency

Our continued ability to attract and sign new subscribers in a cost-effective manner across the United States and Canada will be a key determinant of our future operating performance. Because our direct-to-home and inside sales channels are currently our primary means of subscriber acquisition, we have invested heavily in scaling these teams. There is a lag in the productivity of new hires, which we anticipate will improve over the course of their tenure, impacting our subscriber acquisition rates and overall operating success. These Smart Home Pros are instrumental to subscriber growth in the regions we cover, and their continued productivity is vital to our future success.

Generating subscriber growth through these investments in our sales teams depends, in part, on our ability to launch cost-effective marketing campaigns, both online and offline. This is particularly true for our NIS channel, because NIS fields inbound requests from subscribers who find us using online search and submitting our on-site contact form. Our marketing campaigns attract potential subscribers and successfully build awareness of our brand across all our sales channels. We also believe that building brand awareness is important to countering the competition we face from other companies in the geographies we serve, particularly in those markets where our direct-to-home sales representatives are present. We expect to scale our retail channel through several pilot programs. Similar to the delay between the hiring of a Smart Home Pro and the resulting revenue generation, we anticipate that our retail efforts will take time to reach capacity. Once they do, we hope to accelerate subscriber acquisition and revenue growth by scaling this channel, while maintaining our unit economics.

Expansion of Platform Monetization

As smart home technology develops, we will continue expanding the breadth and depth of our offerings to reflect the growing needs of our subscriber base and focus on expanding our platform through the addition of new smart home experiences and use cases. As a result of our investments to date, our smart home platform is active in over 1.5 million households. We will continue to develop our Smart Home Operating System to include new complex automation capabilities, use case scenarios, and comprehensive device integrations. Our platform supports over 20 million connected devices, as of June 30, 2019 .

With each new Product, Service, or feature we add to our platform, we create an opportunity to generate revenue, either through sales to our existing subscribers or through the acquisition of new subscribers. As a result, we anticipate that offering a broader range of smart home experiences will allow us to grow revenue, because it improves our ability to offer tailored service packages to subscribers with different needs. This is the rationale behind our addition of Carguard, a service that expands our smart home experience beyond the four walls of the home. We believe this expansion of our Product and Service offerings will allow us to build our subscriber base, while maintaining or improving margins.

Whether we upsell existing subscribers or acquire new ones, expansion of our platform and corresponding monetization strategies directly impacts our revenue growth and our average revenue per user, and therefore, our operating results.

Subscribers who contract for a smart home are signing up for our combined proprietary smart home devices and tech-enabled service offerings. At the time of signing, subscribers choose the subscription-based service that matches their smart home needs. Because our revenue and operating margins are determined by which package a subscriber signs up for, ensuring that new subscribers choose the appropriate service offering is a major determinant of our operating success. Additionally, because we cover 98% of US zip codes, our service costs greatly impact our operating margins. Over time, as our organization grows, we achieve economies of scale on our service costs. While we anticipate that our service costs per subscriber will decline over time, an unanticipated increase in service costs could negatively impact our profitability moving forward.

Investment in Future Projects

To date, we have made significant investments in the development of our organization, and expect to leverage these investments to continue expanding our Product and Service offerings over time, including integration with third party products to drive future revenue. Our ability to expand our smart home platform and to monetize the platform as it develops will significantly impact our operating performance and profitability in the future.

We believe that the smart home of the future will be an ecosystem in which businesses will seek to deliver products and services to subscribers in a way that addresses the individual subscriber’s lifestyle and needs. As the smart home becomes the setting for the delivery of a wide range of these products and services, including healthcare, entertainment, home maintenance, elder care, beauty, and consumer goods, we hope to become the hub of this ecosystem and the strategic partner of choice for the businesses delivering these products and services.

Our success in connecting with business partners who integrate with our Smart Home Operating System in order to reach and interact with our subscriber base will be a key determinant of our continued operating success. We expect that additional partnerships will generate incremental revenue, because we will share in the revenue generated by each partner-provided product or service sale that occurs as a result of integration with our smart home platform. If we are able to continue expanding our curated set of partnerships with influential companies, as we already have with Google, Amazon, and Philips, we believe that this will help us to increase our revenue and resulting profitability.

Our ability to introduce a full suite of high-quality innovative new offerings that further expands our existing smart home platform will affect our ability to retain, grow and further monetize our subscriber base. Furthermore, we believe that by vertically integrating the development and design of our Products and Services with our existing sales and subscriber service activities allows us to more quickly respond to market needs, and better understand our subscribers’ interactions and engagement with our Products and Services. This provides critical data that we expect to enable us to continue improving the power, usability and intelligence of these Products and Services. We expect to continue investing in technologies that will make our platform more valuable and engaging for subscribers.

Basis of Presentation

We conduct business through one operating segment, Vivint. We primarily operate in two geographic regions: United States and Canada. See Note 16 in the accompanying unaudited condensed consolidated financial statements for more information about our geographic segments.

Components of Results of Operations

Total Revenues

Recurring and other revenue. Our revenues are generated through the sale and installation of our Smart Home Services contracted for by our subscribers. Recurring Smart Home Services for our subscriber contracts are billed directly to the subscriber in advance, generally monthly, pursuant to the terms of subscriber contracts and recognized ratably over the service period. Revenues from Products are deferred and generally recognized on a straight-line basis over the customer contract term, the amount of which is dependent on the total sales price of Products sold. Imputed interest associated with RIC receivables is recognized over the initial term of the RIC. The amount of revenue from Services is dependent upon which of our service offerings is included in the subscriber contracts. Our smart home and video offerings generally provide higher service revenue than our base smart home service offering. Historically, we have generally offered contracts to subscribers that range in length from 36 to 60 months that are subject to automatic monthly renewal after the expiration of the initial term. In addition, to a lesser extent, we have contracts that are offered as month-to-month at the time of origination. At the end of each monthly period, the portion of recurring fees related to services not yet provided are deferred and recognized as these services are provided.

Total Costs and Expenses

Operating expenses. Operating expenses primarily consists of labor associated with monitoring and servicing subscribers and labor and expenses associated with Products used in service repairs. We also incur equipment costs associated with excess and obsolete inventory and rework costs related to Products removed from subscribers' homes. In addition, a portion of general and administrative expenses, comprised of certain human resources, facilities and information technology costs are allocated to operating expenses. This allocation is primarily based on employee headcount and facility square footage occupied. Because our full-time smart home professionals (“SHPs”) perform most subscriber installations related to customer moves, customer upgrades or generated through our inside sales channels, the costs incurred within field service associated with these installations are allocated to capitalized contract costs. We generally expect our operating expenses to increase in absolute dollars as the total number of subscribers we service continues to grow, but to remain relatively constant in the near to intermediate term as a percentage of our revenue.

Selling expenses. Selling expenses are primarily comprised of costs associated with housing for our direct-to-home sales representatives, advertising and lead generation, marketing and recruiting, certain portions of sales commissions (residuals), overhead (including allocation of certain general and administrative expenses) and other costs not directly tied to a specific subscriber origination. These costs are expensed as incurred. We generally expect our selling expenses to increase in absolute dollars as the total number of subscriber originations continues to grow, but to remain relatively constant in the near to intermediate term as a percentage of our revenue.

General and administrative expenses. General and administrative expenses consist largely of finance, legal, research and development ("R&D"), human resources, information technology and executive management expenses, including stock-based compensation expense. Stock-based compensation expense is recorded within various components of our costs and expenses. General and administrative expenses also include the provision for doubtful accounts. We allocate approximately one-third of our gross general and administrative expenses, excluding the provision for doubtful accounts, into operating and selling expenses in order to reflect the overall costs of those components of the business. We generally expect our general and administrative expenses to increase in absolute dollars to support the overall growth in our business, but to decrease in the near to intermediate term as a percentage of our revenue.

Depreciation and amortization. Depreciation and amortization consists of depreciation from property, plant and equipment, amortization of equipment leased under finance leases, capitalized contract costs and intangible assets. We generally expect our depreciation and amortization expenses to increase in absolute dollars as we grow our business and increase the number of new subscribers originated on an annual basis, but to remain relatively constant in the near to intermediate term as a percentage of our revenue.

Restructuring Expenses. Restructuring expenses are comprised of costs incurred in relation to activities to exit or dispose of portions of our business that do not qualify as discontinued operations. Expenses for related termination benefits are recognized at the date we notify the employee, unless the employee must provide future service, in which case the benefits are expensed ratably over the future service period. Liabilities related to termination of a contract are measured and recognized at fair value when the contract does not have any future economic benefit to the entity and the fair value of the liability is determined based on the present value of the remaining obligation.

Results of operations

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
	(in thousands)			
Total revenues	$ 281,053	$ 254,967	$ 557,302	$ 501,564
Total costs and expenses	331,882	335,200	636,109	653,428
Loss from operations	(50,829)	(80,233)	(78,807)	(151,864)
Other expenses	65,619	65,058	127,098	78,577
Loss before taxes	(116,448)	(145,291)	(205,905)	(230,441)
Income tax benefit	(552)	(906)	(853)	(1,339)
Net loss	$ (115,896)	$ (144,385)	$ (205,052)	$ (229,102)

Key operating metrics

	As of June 30,	
	2019	2018
Total Subscribers (in thousands)	1,507.7	1,393.6
Total MSR (in thousands)	$ 79,345	$ 73,326
AMSRU	$ 52.63	$ 52.61
Net subscriber acquisition costs per new subscriber	$ 1,064	$ 1,375
Average subscriber lifetime (months)	92	91
Total bookings (in millions)	$ 1,655	$ 1,695
Lifetime service revenue per new subscriber	$ 4,408	$ 4,253
Lifetime service revenue multiple	4.14x	3.09x
Total subscriber lifetime backlog (in millions)	$ 5,676	$ 5,006

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Total MR (in thousands)	$ 93,684	$ 84,989	$ 92,884	$ 83,594
AMRU	$ 63.35	$ 62.49	$ 63.56	$ 62.73
Net service cost per subscriber	$ 13.13	$ 16.71	$ 13.48	$ 16.87
Net service margin	75%	69%	75%	69%

Three Months Ended June 30, 2019 Compared to the Three Months Ended June 30, 2018

Revenues

The following table provides our revenue for the three month periods ended June 30, 2019 and June 30, 2018 (in thousands, except for percentage):

	Three Months Ended June 30,		
	2019	2018	% Change
Recurring and other revenue	$ 281,053	$ 254,967	10%

Recurring and other revenue for the three months ended June 30, 2019 increased $26.1 million , or 10% , as compared to the three months ended June 30, 2018 . Approximately $22.7 million of this increase was due to an increase in Total Subscribers of approximately 8% and approximately $4.1 million of the increase was due to an increase in AMRU. When compared to the three months ended June 30, 2018 , currency translation negatively affected total revenues by $0.7 million , as computed on a constant foreign currency basis.

Costs and Expenses

The following table provides the significant components of our costs and expenses for the three month periods ended June 30, 2019 and June 30, 2018 (in thousands, except for percentages):

	Three Months Ended June 30,		
	2019	2018	% Change
Operating expenses	$ 92,013	$ 89,321	3 %
Selling expenses	57,926	65,659	(12)%
General and administrative	47,439	49,206	(4)%
Depreciation and amortization	134,504	126,873	6 %
Total costs and expenses	$ 331,882	$ 335,200	(1)%

Operating expenses for the three months ended June 30, 2019 increased $2.7 million , or 3% , as compared to the three months ended June 30, 2018 . The primary drivers of the increase were higher personnel and related support costs of $1.2 million , third-party contracted servicing costs of $0.8 million , an increase of $0.5 million for postage and shipping related costs and customer payment processing costs of $0.5 million . These cost increases were partially offset by a decrease of $1.2 million in costs associated with our retail channel and other sales pilots.

Selling expenses, excluding capitalized contract costs, decreased by $7.7 million , or 12% , for the three months ended June 30, 2019 as compared to the three months ended June 30, 2018 . The primary drivers of the decrease were a $6.5 million decrease in personnel and related support costs and $2.8 million in lower costs associated with our retail channel and other sales pilots. These cost decreases were partially offset by an increase of $2.8 million in marketing costs primarily associated with lead generation.

General and administrative expenses decreased $1.8 million , or 4% , for the three months ended June 30, 2019 as compared to the three months ended June 30, 2018 . The primary drivers of the decrease were a reduction in personnel and related support costs of $2.3 million and a reduction in research and development related costs of $1.5 million . The decreases were partially offset by an increase in bad debt of $1.3 million and an increase in legal services of $0.6 million .

Depreciation and amortization for the three months ended June 30, 2019 increased $7.6 million , or 6% , as compared to the three months ended June 30, 2018 , primarily due to increased amortization of capitalized contract costs related to new subscribers.

Other Expenses, net

The following table provides the significant components of our other expenses, net for the three month periods ended June 30, 2019 and June 30, 2018 (in thousands, except for percentages):

	Three Months Ended June 30,		
	2019	2018	% Change
Interest expense	$ 65,817	$ 60,327	9%
Other (income) loss, net	(198)	4,731	NM
Total other expenses, net	$ 65,619	$ 65,058	1%

Interest expense increased $5.5 million , or 9% , for the three months ended June 30, 2019 , as compared with the three months ended June 30, 2018 , due to higher balances on our total debt.

Other (income) loss, net was net income of $0.2 million for the three months ended June 30, 2019 , as compared to net loss of $4.7 million for the three months ended June 30, 2018 . The other net income during the three months ended June 30, 2019 was primarily due to a foreign currency exchange gain of $1.2 million , offset by a loss on debt extinguishment of $0.8 million . The other net loss during the three months ended June 30, 2018 was primarily due to a loss on our derivative instrument of $3.4 million and a foreign currency exchange loss of $1.6 million.

Income Taxes

The following table provides the significant components of our income tax benefit for the three month periods ended June 30, 2019 and June 30, 2018 (in thousands, except for percentages):

	Three Months Ended June 30,		
	2019	2018	% Change
Income tax benefit	$ (552)	$ (906)	NM

Income tax benefit decreased $0.4 million for the three months ended June 30, 2019 , as compared to the three months ended June 30, 2018 . The income tax benefit for both the three months ended June 30, 2019 and 2018 resulted primarily from losses in our Canadian subsidiary.

Six Months Ended June 30, 2019 Compared to the Six Months Ended June 30, 2018

Revenues

The following table provides the significant components of our revenue for the six month periods ended June 30, 2019 and June 30, 2018 (in thousands, except for percentages):

	Six Months Ended June 30,		
	2019	2018	% Change
Recurring and other revenue	$ 557,302	$ 501,564	11%

Recurring and other revenue increased $55.7 million , or 11% for the six months ended June 30, 2019 as compared to the six months ended June 30, 2018 . Approximately $49.1 million of this increase was due to an increase in Total Subscribers of approximately 8% and approximately $8.2 million of the increase was due to an increase in AMRU. When compared to the six months ended June 30, 2018 , currency translation negatively affected total revenues by $1.6 million , as computed on a constant foreign currency basis.

Costs and Expenses

The following table provides the significant components of our costs and expenses for the six month periods ended June 30, 2019 and June 30, 2018 (in thousands, except for percentages):

	Six Months Ended June 30,		
	2019	2018	% Change
Operating expenses	$ 175,089	$ 173,081	1 %
Selling expenses	101,517	124,902	(19)%
General and administrative	93,778	100,173	(6)%
Depreciation and amortization	265,725	251,131	6 %
Restructuring expenses	—	4,141	NM
Total costs and expenses	$ 636,109	$ 653,428	(3)%

Operating expenses for the six months ended June 30, 2019 increased $2.0 million , or 1% , as compared to the six months ended June 30, 2018 . The primary drivers of the increase were higher personnel and related support costs of $3.0 million , facilities and equipment costs of $2.3 million , information technology costs of $1.2 million , postage and shipping related costs of $1.2 million and customer payment processing costs of $1.1 million . These increases were partially offset by decreases of $3.6 million in costs associated with our retail channel and other sales pilots, equipment costs of $2.3 million and contracted services of $1.3 million .

Selling expenses, excluding capitalized contract costs, decreased by $23.4 million , or 19% , for the six months ended June 30, 2019 as compared to the six months ended June 30, 2018 . The primary drivers of the decrease were $13.7 million in lower costs associated with our retail channel and other sales pilots and a decrease in personnel and related support costs of $9.7 million . These cost decreases were partially offset by an increase of $1.7 million in marketing costs primarily associated with lead generation.

General and administrative expenses decreased $6.4 million , or 6% , for the six months ended June 30, 2019 as compared to the six months ended June 30, 2018 . The primary drivers of the decrease were a reduction in personnel and related support costs of $3.6 million , lower research and development costs of $2.1 million , a reduction in professional and legal contracted services costs of $1.6 million , lower marketing related cost of $1.4 million and lower information technology costs of $0.7 million . The decreases were partially offset by a $3.2 million increase in bad debt.

Depreciation and amortization for the six months ended June 30, 2019 increased $14.6 million , or 6% , as compared to the six months ended June 30, 2018 , primarily due to increased amortization of capitalized contract costs related to new subscribers.

Restructuring expenses for the six months ended June 30, 2018 related to employee severance and termination benefits expenses (See Note 15 to the accompanying unaudited condensed consolidated financial statements).

Other Expenses, net

The following table provides the significant components of our other expenses, net for the six month periods ended June 30, 2019 and June 30, 2018 (in thousands, except for percentages):

	Six Months Ended June 30,		
	2019	2018	% Change
Interest expense	$ 129,565	$ 119,117	9%
Interest income	(23)	(31)	NM
Other income, net	(2,444)	(40,509)	NM
Total other expenses, net	$ 127,098	$ 78,577	62%

Interest expense increased $10.4 million , or 9% , for the six months ended June 30, 2019 , as compared with the six months ended June 30, 2018 , due to higher balances on our outstanding notes and revolving credit facility.

Other income, net decreased $38.1 million for the six months ended June 30, 2019 , as compared to the six months ended June 30, 2018 . The other income during the six months ended June 30, 2019 was primarily due to a foreign currency exchange gain of $2.9 million and a gain on corporate equity securities of $2.3 million , offset by a loss on our derivative instrument of $1.4 million . The other income during the six months ended June 30, 2018 was primarily due to the $50.4 million gain associated with the sale of our Spectrum intangible assets (see Note 7 to our accompanying unaudited Condensed Consolidated Financial Statements for further information), offset by a loss on our derivative instrument of $6.9 million and a foreign currency exchange loss of $3.6 million.

See Note 3 to our accompanying unaudited Condensed Consolidated Financial Statements for further information on our long-term debt related to other expenses, net.

Income Taxes

The following table provides the significant components of our income tax benefit for the six month periods ended June 30, 2019 and June 30, 2018 (in thousands, except for percentages):

	Six Months Ended June 30,		
	2019	2018	% Change
Income tax benefit	$ (853)	$ (1,339)	NM

Income tax benefit decreased $0.5 million for the six months ended June 30, 2019 , as compared to the six months ended June 30, 2018 . The income tax benefit for both the six months ended June 30, 2019 and 2018 resulted primarily from losses in our Canadian subsidiary.

Liquidity and Capital Resources

Our primary source of liquidity has historically been cash from operations, proceeds from issuances of debt securities , borrowings under our credit facilities and, to a lesser extent, capital contributions. As of June 30, 2019 , we had $3.1 million of cash and cash equivalents and $140.3 million of availability under our revolving credit facility (after giving effect to $13.9 million of letters of credit outstanding and $134.0 million of borrowings).

As market conditions warrant, we and our equity holders, including the Sponsor, its affiliates and members of our management, may from time to time, seek to purchase our outstanding debt securities or loans in privately negotiated or open market transactions, by tender offer or otherwise. Subject to any applicable limitations contained in the agreements governing our indebtedness, any purchases made by us may be funded by the use of cash on our balance sheet or the incurrence of new secured or unsecured debt, including additional borrowings under our revolving credit facility. The amounts involved in any such purchase transactions, individually or in the aggregate, may be material. Any such purchases may be with respect to a substantial amount of a particular class or series of debt, with the attendant reduction in the trading liquidity of such class or series. In addition, any such purchases made at prices below the "adjusted issue price" (as defined for U.S. federal income tax purposes) may result in taxable cancellation of indebtedness income to us, which amounts may be material, and in related adverse tax consequences to us. Depending on conditions in the credit and capital markets and other factors, we will, from time to time, consider various financing transactions, the proceeds of which could be used to refinance our indebtedness or for other purposes. For examples:

- In September 2018, we borrowed $810 million under the 2024 Term Loan B (the "2024 Term Loan B"). We used a portion of the net proceeds from the borrowings under the 2024 Term Loan B to redeem in full the entire $269.5 million outstanding aggregate principal amount of the 6.375% senior secured notes due 2019 (the "2019 notes") and pay the related accrued interest and redemption premium, to repurchase approximately $250.7 million aggregate principal amount of the 2020 notes, and to pay fees and expenses related to the 2024 Term Loan B Agreement.

- In May 2019, we issued $225 million aggregate principal amount of 2024 notes. We used the net proceeds from the 2024 notes offering to redeem $225 million aggregate principal amount of our 2020 notes, and to pay the related accrued interest and to pay all fees and expenses related thereto.

Cash Flow and Liquidity Analysis

Our cash flows provided by operating activities include recurring monthly billings, cash received from the sale of Products to our subscribers that either pay-in-full at the time of installation or finance their purchase of Products under the Consumer Financing Program and other fees received from the subscribers we service. Cash used in operating activities includes the cash costs to monitor and service our subscribers, a portion of subscriber acquisition costs and general and administrative costs. Historically, we financed subscriber acquisition costs through our operating cash flows, the issuance of debt, and to a lesser extent, through the issuance of equity and sale of contracts to third parties. Currently, the upfront proceeds under Vivint Flex Pay, and those that are paid-in-full at the time of the sale of Products, offset a portion of the upfront investment associated with subscriber acquisition costs.

Sales from our direct-to-home channel are seasonal in nature. We make investments in the recruitment of our direct-to-home sales representatives, inventory and other support costs for the April through August sales period prior to each sales season. We experience increases in capitalized contract costs, as well as costs to support the sales force throughout North America, prior to and during this time period. The incremental inventory purchased to support the direct-to-home sales season is generally consumed prior to the end of the calendar year in which it is purchased.

The following table provides a summary of cash flow data (in thousands, except for percentages):

	Six Months Ended June 30,		
	2019	2018	% Change
Net cash used in operating activities	$ (130,990)	$ (130,989)	— %
Net cash provided by investing activities	128	40,703	(100)%
Net cash provided by financing activities	121,210	90,996	33 %

Cash Flows from Operating Activities

We generally reinvest the cash flows from our recurring monthly billings and cash received from the sale of Products associated with the initial installation into our business, primarily to (1) maintain and grow our subscriber base, (2) expand our infrastructure to support this growth, (3) enhance our existing Smart Home Services offerings, (4) develop new Smart Home Services offerings and (5) expand into new sales channels. These investments are focused on generating new subscribers, increasing the revenue from our existing subscriber base, enhancing the overall quality of service provided to our subscribers, and increasing the productivity and efficiency of our workforce and back-office functions necessary to scale our business.

For the six months ended June 30, 2019 , net cash used in operating activities was $131.0 million . This cash used was primarily from a net loss of $205.1 million , adjusted for:

- $269.9 million in non-cash amortization, depreciation, and stock-based compensation
- a provision for doubtful accounts of $11.6 million , and
- a $2.3 million gain on equity securities.

Cash used in operating activities resulting from changes in operating assets and liabilities, including:

- a $264.6 million increase in capitalized contract costs,
- a $88.7 million increase in inventories to support our direct-to-home summer selling season,
- a $29.8 million increase in accounts receivable driven primarily by the increase in RIC billings under Vivint Flex Pay and the growth in the number of our Total Subscribers,
- a $1.9 million increase in long-term notes receivables, other assets, net and right-of-use assets primarily due to amortization of right-of-use lease assets and a decrease in notes receivables associated with RICs, and
- a $5.5 million increase in prepaid expenses and other current assets.

These uses of operating cash were partially offset by the following changes in operating assets and liabilities:

- a $91.7 million increase in deferred revenue due primarily to the growth in deferred revenues associated with the sale of Products under the Vivint Flex Pay plan and the increased subscriber base,
- a $66.5 million increase in accounts payable due primarily to increased inventory purchases, and
- a $26.3 million increase in accrued payroll and commissions, accrued expenses, other current and long-term liabilities, and current and long-term operating lease liabilities due primarily to an increase in the derivative liability associated with the Consumer Financing Program of $18.7 million, an increase in accrued payroll and commissions of $14.0 million. These decreases were offset partially by the net decrease in the right-of-use liabilities associated with operating leases of $4.0 million.

For the six months ended June 30, 2018, net cash used in operating activities was $131.0 million. This cash used was primarily from a net loss of $229.1 million, adjusted for:

- a $50.2 million gain associated with sale of our spectrum intangible assets,
- $254.3 million in non-cash amortization, depreciation, and stock-based compensation, and
- a provision for doubtful accounts of $8.4 million.

Cash used in operating activities resulting from changes in operating assets and liabilities, including:

- a $266.3 million increase in capitalized contract costs (formerly subscriber acquisition costs),
- a $4.2 million increase in accounts payable due primarily to increased inventory purchases,
- a $20.4 million increase in other assets primarily due to increase in notes receivables associated with RICs,
- a $21.1 million increase in accounts receivable driven primarily by the recognition of RIC billings under Vivint Flex Pay and the growth in the number of our Total Subscribers, and
- a $1.8 million increase in prepaid expenses and other current assets.

These uses of operating cash were partially offset by the following changes in operating assets and liabilities:

- a $65.5 million increase in accrued expenses and other liabilities due primarily to increases in the derivative liability associated with the Consumer Financing Program introduced in early 2017, and an increase in accrued commissions during the six months ended June 30, 2018,
- a $114.3 million increase in deferred revenue due to the increased subscriber base and the generation of deferred revenues associated with the sale of Products under the Vivint Flex Pay plan, offset by a reduction in deferred revenue of $19.6 million associated with accelerated revenue recognition from the implementation of Topic 606, and
- a $11.6 million decrease in inventories partially from decreased Products on hand to support our strategic partnership with Best Buy at the end of 2017.

Net cash interest paid for the six months ended June 30, 2019 and 2018 related to our indebtedness (excluding finance or capital leases) totaled $130.3 million and $116.6 million , respectively. Our net cash used in operating activities for the six months ended June 30, 2019 and 2018 , before these interest payments, was $0.7 million and $14.4 million , respectively. Accordingly, our net cash provided by operating activities for each of the six months ended June 30, 2019 and 2018 was insufficient to cover these interest payments.

Cash Flows from Investing Activities

Historically, our investing activities have primarily consisted of capital expenditures, business combinations and technology acquisitions. Capital expenditures primarily consist of periodic additions to property, plant and equipment to support the growth in our business.

For the six months ended June 30, 2019 , net cash provided by investing activities was $0.1 million primarily associated with the sale of equity securities of $5.4 million , offset by capital expenditures of $4.7 million and acquisition of intangible assets of $0.7 million .

For the six months ended June 30, 2018, net cash provided by investing activities was $40.7 million, consisting of net proceeds of $53.7 million from the sale of our spectrum intangible assets, offset by capital expenditures of $12.2 million and acquisition of intangible assets of $1.0 million.

Cash Flows from Financing Activities

Historically, our cash flows provided by financing activities primarily related to the issuance of debt and, to a lesser extent, from capital contributions from our parent, Vivint Smart Home, Inc. (“Parent”), all to fund the portion of upfront costs associated with generating new subscribers that are not covered through our operating cash flows or through our Vivint Flex Pay program. Uses of cash for financing activities are generally associated with the return of capital to our stockholders, the repayment of debt and the payment of financing costs associated with the issuance of debt.

For the six months ended June 30, 2019 , net cash provided by financing activities was $121.2 million , consisting primarily of $160.0 million in borrowings on our revolving credit facility and proceeds from the issuance of $225.0 million aggregate principal amount of 2024 notes. These cash proceeds were offset by $229.1 million of repayments on existing notes and $4.3 million of repayments under our finance lease obligations.

For the six months ended June 30, 2018, net cash provided by financing activities was $91.0 million, consisting primarily of $179.0 million in borrowings on our revolving credit facility. This was partially offset by $79.0 million of repayments on our revolving credit facility, $7.0 million of repayments under our capital lease obligations and $2.0 million in returns of capital.

Long-Term Debt

We are a highly leveraged company with significant debt service requirements. As of June 30, 2019 , we had $3.2 billion of total debt outstanding, consisting of $454.3 million of outstanding 2020 notes, $270.0 million of outstanding 2022 private placement notes, $900.0 million of outstanding 2022 notes, $400.0 million of outstanding 2023 notes, $225.0 million of outstanding 2024 notes, $803.9 million of outstanding 2024 Term Loan B and $134.0 million of borrowings under the revolving credit facility (with $140.3 million of additional availability under the revolving credit facility after giving effect to $13.9 million of letters of credit outstanding).

2020 Notes

As of June 30, 2019 , APX had $454.3 million outstanding aggregate principal amount of its 2020 notes. Interest on the 2020 notes is payable semi-annually in arrears on each June 1 and December 1. The 2020 notes mature on December 1, 2020.

We may, at our option, redeem at any time and from time to time some or all of the 2020 notes at par plus any accrued and unpaid interest to the date of redemption.

2022 Private Placement Notes

As of June 30, 2019 , APX had $270.0 million outstanding aggregate principal amount of its 2022 private placement notes. Interest on the 2022 private placement notes is payable semi-annually in arrears on June 1 and December 1 of each year.

From and after December 1, 2018, we may, at our option, redeem at any time and from time to time some or all of the 2022 private placement notes at 104.5%, declining to par from and after December 1, 2019, in each case, plus any accrued and unpaid interest to the date of redemption.

The 2022 private placement notes mature on December 1, 2022 unless on September 1, 2020 (i.e. the 91st day prior to the maturity of the 2020 notes) more than an aggregate principal amount of $190 million of the 2020 notes remain outstanding or have not been refinanced as permitted under the terms of the 2022 private placement notes, in which case the private placement notes mature on September 1, 2020.

2022 Notes

As of June 30, 2019 , APX had $900.0 million outstanding aggregate principal amount of its 2022 notes. Interest on the 2022 notes is payable semi-annually in arrears on June 1 and December 1 of each year.

From and after December 1, 2018, we may, at our option, redeem at any time and from time to time some or all of the 2022 notes at 103.938%, declining to par from and after December 1, 2020, in each case, plus any accrued and unpaid interest to the date of redemption.

The 2022 notes mature on December 1, 2022, or on such earlier date when any outstanding pari passu lien indebtedness matures as a result of the operation of any springing maturity provisions set forth in the agreements governing such pari passu lien indebtedness.

2023 Notes

As of June 30, 2019 , APX had $400.0 million outstanding aggregate principal amount of its 2023 notes. Interest on the 2023 notes is payable semi-annually in arrears on September 1 and March 1 of each year. The 2023 notes mature on September 1, 2023.

We may, at our option, redeem at any time and from time to time prior to September 1, 2019, some or all of the 2023 notes at 100% of their principal amount thereof plus accrued and unpaid interest to the redemption date plus a “make-whole premium.” From and after September 1, 2019, we may, at our option, redeem at any time and from time to time some or all of the 2023 notes at 105.719%, declining to par from and after September 1, 2022, in each case, plus any accrued and unpaid interest to the date of redemption. In addition, on or prior to September 1, 2019, we may, at our option, redeem up to 35% of the aggregate principal amount of the 2023 notes with the proceeds from certain equity offerings at 107.625%, plus accrued and unpaid interest to the date of redemption.

2024 Notes

As of June 30, 2019 , APX had $225.0 million outstanding aggregate principal amount of its 2024 notes. Interest on the 2024 notes is payable semi-annually in arrears on May 1 and November 1 of each year.

We may, at our option, redeem at any time and from time to time prior to May 1, 2021, some or all of the 2024 notes at 100% of the principal amount thereof plus accrued and unpaid interest to the redemption date plus the applicable “make-whole premium.” From and after May 1, 2021, we may, at our option, redeem at any time and from time to time some or all of the 2024 notes at 104.25%, declining to par from and after May 1, 2023, in each case, plus any accrued and unpaid interest to the date of redemption. In addition, on or prior to May 1, 2021, we may, at our option, redeem up to 40% of the aggregate principal amount of the 2024 notes with the proceeds from certain equity offerings at 108.50%, plus accrued and unpaid interest to the date of redemption. In addition, on or prior to May 1, 2021, during any 12 month period, we also may, at our option, redeem at any time and from time to time up to 10% of the aggregate principal amount of the 2024 notes at a price equal to 103% of the principal amount thereof, plus accrued and unpaid interest, to but excluding the redemption date.

The 2024 notes mature on November 1, 2024, or on such earlier date as either the 2020 notes or 2023 notes mature as a result of the operation of any springing maturity condition in the indentures governing such notes.

2024 Term Loan B

On September 6, 2018, our subsidiary, APX Group incurred $810.0 million of term loans. Pursuant to the terms of the 2024 Term Loan B, quarterly amortization payments are due in an amount equal to 0.25% of the aggregate principal amount of the 2024 Term Loan B outstanding on the closing date.

The remaining principal amount outstanding under the 2024 Term Loan B will be due and payable in full on March 31, 2024 if the Springing Maturity Condition (as defined below) does not apply. If the Springing Maturity Condition does apply, the 2024 Term Loan B will be due and payable in full on either the Springing Maturity Date for the 2020 notes (as defined below) or the Springing Maturity Date for the 2023 notes (as defined below), as applicable.

The Springing Maturity Condition applies if either (i) on the Springing Maturity Date for the 2020 notes, an aggregate principal amount of 2020 notes in excess of $275.0 million are either outstanding or have not been repaid or redeemed or (ii) on the Springing Maturity Date for the 2023 notes, an aggregate principal amount of the 2023 notes in excess of $125.0 million are either outstanding or have not been repaid or redeemed. The " Springing Maturity Date for the 2020 notes" means the date that is 91 days before the maturity date with respect to the 2020 notes and the "Springing Maturity Date for the 2023 notes means the date that is 91 days before the maturity date with respect to the 2023 notes.

Revolving Credit Facility

On November 16, 2012, we entered into a $200.0 million senior secured revolving credit facility, with a five year maturity. In addition, we may request one or more term loan facilities, increased commitments under the revolving credit facility or new revolving credit commitments, in an aggregate amount not to exceed $225.0 million. Availability of such incremental facilities and/or increased or new commitments will be subject to certain customary conditions. As of June 30, 2019 , the aggregate commitments available under the credit agreement, as amended and restated on August 10, 2017, was $288.2 million .

As of June 30, 2019 we had $140.3 million of availability under our revolving credit facility (after giving effect to $13.9 million of letters of credit outstanding and $134.0 million of borrowings).

Borrowings under the amended and restated revolving credit facility bear interest at a rate per annum equal to an applicable margin plus, at APX's option, either (1) the base rate determined by reference to the highest of (a) the Federal Funds rate plus 0.50% , (b) the prime rate of Bank of America, N.A. and (c) the LIBOR rate determined by reference to the costs of funds for U.S. dollar deposits for an interest period of one month, plus 1.00% or (2) the LIBOR rate determined by reference to the London interbank offered rate for dollars for the interest period relevant to such borrowing. The applicable margin for base rate-based borrowings (1)(a) under the Series A Revolving Commitments of approximately $267.0 million is and, when in effect, the Series D Revolving Commitments of approximately $15.4 million was 2.0% per annum and (b) under the Series B Revolving Commitments of approximately $21.2 million was 3.0% and (2)(a) the applicable margin for LIBOR rate-based borrowings (a) under the Series A Revolving Commitments is and, when in effect, the Series D Revolving Commitments is currently 3.0% per annum and (b) under the Series B Revolving Commitments is currently 4.0% . The applicable margin for borrowings under the revolving credit facility is subject to one step-down of 25 basis points based on APX meeting a consolidated first lien net leverage ratio test at the end of each fiscal quarter. Outstanding borrowings under the amended and restated revolving credit facility are allocated on a pro-rata basis between each Series based on the total Revolving Commitments.

In addition to paying interest on outstanding principal under the revolving credit facility, APX is required to pay a quarterly commitment fee (which will be subject to one interest rate step-down of 12.5 basis points, based on APX meeting a consolidated first lien net leverage ratio test) to the lenders under the revolving credit facility in respect of the unutilized commitments thereunder. APX also pays a customary letter of credit and agency fees.

APX is not required to make any scheduled amortization payments under the revolving credit facility. The Series D Revolving Commitments expired on March 31, 2019 and the principal amount outstanding under the revolving credit facility will be due and payable in full with respect to the extended commitments under the Series A Revolving Credit Facility and Series B Revolving Credit Facility on March 31, 2021 .

Guarantees and Security (Revolving Credit Facility, 2024 Term Loan B and Notes)

All of the obligations under the credit agreement governing the revolving credit facility, the credit agreement governing the 2024 Term Loan B and the debt agreements governing the Notes are guaranteed by APX Group Holdings, Inc. and each of APX Group, Inc.'s existing and future material wholly-owned U.S. restricted subsidiaries (subject to customary exclusions and qualifications). However, such subsidiaries shall only be required to guarantee the obligations under the debt agreements governing the Notes for so long as such entities guarantee the obligations under the revolving credit facility, the credit agreement governing the 2024 Term Loan B or our other indebtedness. See Note 17 of our accompanying consolidated financial statements included elsewhere in this report for additional financial information regarding guarantors and non-guarantors.

The obligations under the revolving credit facility, 2024 Term Loan B and the 2022 private placement notes, 2022 notes and 2024 notes (collectively with the 2022 private placement notes and the 2022 notes, the "existing senior secured notes") are secured by a security interest in (1) substantially all of the present and future tangible and intangible assets of APX Group, Inc., and the guarantors, including without limitation equipment, subscriber contracts and communication paths, intellectual property, fee-owned real property, general intangibles, investment property, material intercompany notes and proceeds of the foregoing, subject to permitted liens and other customary exceptions, (2) substantially all personal property of APX Group, Inc. and the guarantors consisting of accounts receivable arising from the sale of inventory and other goods and services (including related contracts and contract rights, inventory, cash, deposit accounts, other bank accounts and securities accounts), inventory and intangible assets to the extent attached to the foregoing books and records of APX Group, Inc. and the guarantors, and the proceeds thereof, subject to permitted liens and other customary exceptions, in each case held by APX Group, Inc. and the guarantors and (3) a pledge of all of the capital stock of APX Group, Inc., each of its subsidiary guarantors and each restricted subsidiary of APX Group, Inc. and its subsidiary guarantors, in each case other than excluded assets and subject to the limitations and exclusions provided in the applicable collateral documents.

Under the terms of the applicable security documents and intercreditor agreement, the proceeds of any collection or other realization of collateral received in connection with the exercise of remedies will be applied first to repay amounts due under the revolving credit facility, and up to an additional $60.0 million of "superpriority" obligations that APX Group, Inc. may incur in the future, before the holders of the existing senior secured notes or 2024 Term Loan B receive any such proceeds.

Debt Covenants

The credit agreement governing the revolving credit facility, the credit agreement governing the 2024 Term Loan B and the debt agreements governing the Notes contain a number of covenants that, among other things, restrict, subject to certain exceptions, APX Group, Inc. and its restricted subsidiaries' ability to:

- incur or guarantee additional debt or issue disqualified stock or preferred stock;
- pay dividends and make other distributions on, or redeem or repurchase, capital stock;
- make certain investments;
- incur certain liens;
- enter into transactions with affiliates;
- merge or consolidate;
- materially change the nature of their business;
- enter into agreements that restrict the ability of restricted subsidiaries to make dividends or other payments to APX Group, Inc.;
- designate restricted subsidiaries as unrestricted subsidiaries;
- amend, prepay, redeem or purchase certain subordinated debt; and
- transfer or sell certain assets.

The credit agreement governing the revolving credit facility, the credit agreement governing the 2024 Term Loan B and the debt agreements governing the Notes contain change of control provisions and certain customary affirmative covenants and events of default. As of June 30, 2019 , APX Group, Inc. was in compliance with all covenants related to its long-term obligations.

Subject to certain exceptions, the credit agreement governing the revolving credit facility, the credit agreement governing the 2024 Term Loan B and the debt agreements governing the Notes permit APX Group, Inc. and its restricted subsidiaries to incur additional indebtedness, including secured indebtedness.

Our future liquidity requirements will be significant, primarily due to debt service requirements. The actual amounts of borrowings under the revolving credit facility will fluctuate from time to time. We believe that our existing cash, together with cash provided by operations and amounts available through the revolving credit facility and incremental facilities will be sufficient to meet our operating needs for the next 12 months, including working capital requirements, capital expenditures, debt service obligations and potential new acquisitions.

Our liquidity and our ability to fund our capital requirements is dependent on our future financial performance, which is subject to general economic, financial and other factors that are beyond our control and many of which are described under “Item 1A—Risk Factors” in our Annual Report on Form 10-K/A for the fiscal year ended December 31, 2018 and Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2019. If those factors significantly change or other unexpected factors adversely affect us, our business may not generate sufficient cash flow from operations or we may not be able to obtain future financings to meet our liquidity needs. We anticipate that to the extent additional liquidity is necessary to fund our operations, it would be funded through borrowings under the revolving credit facility, incurring other indebtedness, additional equity or other financings or a combination of these potential sources of liquidity. We may not be able to obtain this additional liquidity on terms acceptable to us or at all.

Covenant Compliance

Under the credit agreement governing the revolving credit facility, the credit agreement governing the 2024 Term Loan B and the debt agreements governing the Notes, our subsidiary, APX Group's ability to engage in activities such as incurring additional indebtedness, making investments, refinancing certain indebtedness, paying dividends and entering into certain merger transactions is governed, in part, by its ability to satisfy tests based on Adjusted EBITDA for the applicable four-quarter period. Such tests include an incurrence-based maximum consolidated secured debt ratio and consolidated total debt ratio of 4.00 to 1.0, an incurrence-based minimum fixed charge coverage ratio of 2.00 to 1.0, and, solely in the case of the credit agreement governing the revolving credit facility, a maintenance-based maximum consolidated first lien secured debt ratio of 5.35 to 1.0, each as determined in accordance with the credit agreement governing the revolving credit facility, the credit agreement governing the 2024 Term Loan B and the debt agreements governing the Notes. Non-compliance with these covenants could restrict our ability to undertake certain activities or result in a default under the credit agreement governing the revolving credit facility, the credit agreement governing the 2024 Term Loan B and the debt agreements governing the Notes.

“Adjusted EBITDA” is defined as net income (loss) before interest expense (net of interest income), income and franchise taxes and depreciation and amortization (including amortization of capitalized subscriber acquisition costs), further adjusted to exclude the effects of certain contract sales to third parties, non-capitalized subscriber acquisition costs, stock based compensation and certain unusual, non-cash, non-recurring and other items permitted in certain covenant calculations under the agreements governing our Notes, the credit agreement governing the 2024 Term Loan B and the credit agreement governing our revolving credit facility.

We believe that the presentation of Adjusted EBITDA is appropriate to provide additional information to investors about the calculation of, and compliance with, certain financial covenants contained in the agreements governing the Notes, the credit agreements governing the revolving credit facility and the 2024 Term Loan B. We caution investors that amounts presented in accordance with our definition of Adjusted EBITDA may not be comparable to similar measures disclosed by other issuers, because not all issuers and analysts calculate Adjusted EBITDA in the same manner.

Adjusted EBITDA is not a measurement of our financial performance under GAAP and should not be considered as an alternative to net loss or any other performance measures derived in accordance with GAAP or as an alternative to cash flows from operating activities as a measure of our liquidity.

The following table sets forth a reconciliation of net loss to Adjusted EBITDA (in thousands):

	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019	Twelve months ended June 30, 2019
Net loss	$ (115,896)	$ (205,052)	$ (443,864)
Interest expense, net	65,817	129,542	255,245
Other (income) expense, net	(198)	(2,444)	20,742
Income tax benefit	(552)	(853)	(1,125)
Restructuring expenses (1)	—	—	542
Depreciation and amortization (2)	27,259	53,449	111,528
Amortization of capitalized contract costs	107,245	212,276	417,148
Non-capitalized contract costs (3)	79,939	137,594	260,102
Non-cash compensation (4)	892	1,662	3,464
Other adjustments (5)	14,191	25,664	53,356
Adjustment for a change in accounting principle (Topic 606) (6)	(23,349)	(46,831)	(94,519)
Adjusted EBITDA	$ 155,348	$ 305,007	$ 582,619

(1) Restructuring employee severance and termination benefits expenses. (See Note 15 to the accompanying unaudited condensed consolidated financial statements)
(2) Excludes loan amortization costs that are included in interest expense.
(3) Reflects subscriber acquisition costs that are expensed as incurred because they are not directly related to the acquisition of specific subscribers. Certain other industry participants purchase subscribers through subscriber contract purchases, and as a result, may capitalize the full cost to purchase these subscriber contracts, as compared to our organic generation of new subscribers, which requires us to expense a portion of our subscriber acquisition costs under GAAP. (See Note 1 to the accompanying unaudited condensed consolidated financial statements)
(4) Reflects non-cash compensation costs related to employee and director stock and stock option plans. Excludes non-cash compensation costs included in non-capitalized subscriber acquisition costs.
(5) Other adjustments represent primarily the following items (in thousands):

	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019	Twelve months ended June 30, 2019
Product development (a)	$ 5,172	$ 9,663	$ 20,403
Hiring, retention and termination payments (b)	3,269	5,499	12,011
Certain legal and professional fees (c)	1,792	2,505	5,748
Monitoring fee (d)	993	1,986	3,938
Purchase accounting deferred revenue fair value adjustment (e)	—	34	459
Adjustment for a change in accounting principle (Topic 842) (f)	204	408	408
All other adjustments (g)	2,761	5,569	10,389
Total other adjustments	$ 14,191	$ 25,664	$ 53,356

(a) Costs related to the development of control panels, including associated software, peripheral devices and Wireless Internet Technology.
(b) Expenses associated with retention bonus, relocation and severance payments to management.
(c) Legal and professional fees associated with strategic initiatives and financing transactions.
(d) BMP monitoring fee (See Note 13 to the accompanying unaudited condensed consolidated financial statements).
(e) Add back revenue reduction directly related to purchase accounting deferred revenue adjustments.
(f) Adjustments to eliminate the impact of the Company's adoption of Topic 842.
(g) Other adjustments primarily reflect costs associated with payments to third parties related to various strategic and financing activities, including the monthly financing fee paid under the Consumer Financing Plan, and costs to implement Sarbanes-Oxley Section 404.

(6) The adjustments to eliminate the impact of the Company's adoption of Topic 606, are as follows (in thousands):

	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019	Twelve months ended June 30, 2019
Net loss	$ 14,989	$ 29,515	$ 54,709
Amortization of capitalized contract costs	(107,245)	(212,273)	(417,147)
Amortization of subscriber acquisition costs	68,907	135,927	267,919
Topic 606 adjustments	$ (23,349)	$ (46,831)	$ (94,519)

Other Factors Affecting Liquidity and Capital Resources

Vehicle Leases. Since 2010, we have leased, and expect to continue leasing, vehicles primarily for use by our SHPs. For the most part, these leases have 36 month durations and we account for them as finance leases. At the end of the lease term for each vehicle we have the option to either (i) purchase it for the estimated end-of-lease fair market value established at the beginning of the lease term; or (ii) return the vehicle to the lessor to be sold by them and in the event the sale price is less than the estimated end-of-lease fair market value we are responsible for such deficiency. As of June 30, 2019 , our total finance lease obligations were $10.4 million , of which $7.0 million is due within the next 12 months.

Aircraft Lease. In December 2012, we entered into an aircraft lease agreement for the use of a corporate aircraft, which is accounted for as an operating lease. Upon execution of the lease, we paid a $5.9 million security deposit which is refundable at the end of the lease term. Beginning January 2013, we are required to make 156 monthly rental payments of approximately $83,000 each. In January 2015, an amendment to the agreement was made which, among other changes, increased the required monthly rental payments to approximately $87,000 each. We also have the option to extend the lease for an additional 36 months upon expiration of the initial term. The lease agreement also provides us the option to purchase the aircraft on certain specified dates for a stated dollar amount, which represents the current estimated fair value as of the purchase date.

Off-Balance Sheet Arrangements

Currently we do not engage in off-balance sheet financing arrangements, as defined in Item 303(a)(4)(ii) of Regulation S-K.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our operations include activities in the United States and Canada. These operations expose us to a variety of market risks, including the effects of changes in interest rates and foreign currency exchange rates. We monitor and manage these financial exposures as an integral part of our overall risk management program.

Interest Rate Risk

Our revolving credit facility and term loan facility bear interest at a floating rate. As a result, we may be exposed to fluctuations in interest rates to the extent of our borrowings under these credit facilities. To help manage borrowing costs, we may from time to time enter into interest rate swap transactions with financial institutions acting as principal counterparties. We consider changes in the 30-day LIBOR rate to be most indicative of our interest rate exposure as it is a function of the base rate for our credit facilities and is reasonably correlated to changes in our earnings rate on our cash investments. Assuming the borrowing of all amounts available under our revolving credit facility, if the 30-day LIBOR rate increases by 1% due to normal market conditions, our interest expense will increase by approximately $10.9 million per annum.

We had $134.0 million borrowings under the revolving credit facility as of June 30, 2019 .

Foreign Currency Risk

We have exposure to the effects of foreign currency exchange rate fluctuations on the results of our Canadian operations. Our Canadian operations use the Canadian dollar to conduct business but our results are reported in U.S. dollars. We are exposed periodically to the foreign currency rate fluctuations that affect transactions not denominated in the functional currency of our U.S. and Canadian operations. Based on results of our Canadian operations for the six months ended June 30, 2019 , if foreign currency exchange rates had decreased 10% throughout the period, our revenues would have decreased by approximately $3.6 million , our total assets would have decreased by $26.9 million and our total liabilities would have decreased by $23.7 million . We do not currently use derivative financial instruments to hedge investments in foreign subsidiaries. For the six months ended June 30, 2019 , before intercompany eliminations, approximately $35.9 million of our revenues, $268.7 million of our total assets and $237.4 million of our total liabilities were denominated in Canadian Dollars.

ITEM 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as that term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) that are designed to ensure that information required to be disclosed in our reports under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosures. Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives.

Internal Control Procedures

Our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of the design and operation of our disclosure controls and procedures as of June 30, 2019 , the end of the period covered by this report. Based upon that evaluation, our principal executive officer and principal financial officer concluded that, as of the end of the period covered by this report, the design and operation of our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act) during the fiscal quarter ended June 30, 2019 that have materially affected, or that are reasonably likely to materially affect, our internal control over financial reporting.

Part II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are engaged in the defense of certain claims and lawsuits arising out of the ordinary course and conduct of our business and have certain unresolved claims pending, the outcomes of which are not determinable at this time. Our subscriber contracts include exculpatory provisions as described under "—Subscriber Contracts—Other Terms" in our Form 10-K/A. We also have insurance policies covering certain potential losses where such coverage is available and cost effective. In our opinion, any liability that might be incurred by us upon the resolution of any claims or lawsuits will not, in the aggregate, have a material adverse effect on our financial condition or results of operations. See Note 11 of our unaudited Condensed Consolidated Financial Statements included elsewhere in this Quarterly Report on Form 10-Q for additional information.

ITEM 1A. RISK FACTORS

For a discussion of the Company's potential risks or uncertainties, please see "Risk Factors" in our Form 10-K/A for the fiscal year ended December 31, 2018 and our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2019. Except as set forth in our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2019, there have been no material changes to the risk factors disclosed in the Form 10-K/A.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

Exhibits

		Incorporated by Reference				
Exhibit Number	Exhibit Title	Form	File No.	Exhibit No.	Filing Date	Provided Herewith
4.1	Indenture, dated as of May 10, 2019, among APX Group, Inc., the guarantors party thereto and Wilmington Trust, National Association, as trustee and collateral agent.	8-K	333-191132-02	4.1	May 10, 2019	
4.2	Registration Rights Agreement, dated as of May 10, 2019, by and among APX Group, Inc., the guarantors listed on Schedule I thereto and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as representative of the several initial purchasers of the Notes.	8-K	333-191132-02	4.2	May 10, 2019	
31.1	Certification of the Registrant's Chief Executive Officer, Todd Pedersen, pursuant to Rule 13a-14 of the Securities Exchange Act of 1934					X
31.2	Certification of the Registrant's Principal Financial Officer, Mark Davies, pursuant to Rule 13a-14 of the Securities Exchange Act of 1934					X
32.1	Certification of the Registrant's Chief Executive Officer, Todd Pedersen, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					X
32.2	Certification of the Registrant's Principal Financial Officer, Mark Davies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					X
101.INS	XBRL Instance Document.					X
101.SCH	XBRL Taxonomy Extension Schema Document.					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.					X
101.DEF	XBRL Taxonomy Extension Schema Document.					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.					X

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and you should not rely on them for that purpose. In particular, any representations and warranties made by us in these agreements or other documents were made solely within the specific context of the relevant agreement or document and may not describe the actual state of affairs as of the date they were made or at any other time.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

APX Group Holdings Inc.

Date:	August 6, 2019	By:	/s/ Todd Pedersen
			Todd Pedersen
			Chief Executive Officer and Director
			(Principal Executive Officer)
Date:	August 6, 2019	By:	/s/ Mark Davies
			Mark Davies
			Chief Financial Officer
			(Principal Financial Officer)

Exhibit 31.1

CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Todd Pedersen, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the quarterly period ended June 30, 2019 of APX Group Holdings, 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 (or persons performing the equivalent functions):

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: August 6, 2019

/s/ Todd Pedersen

Todd Pedersen

Chief Executive Officer and Director
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Mark Davies, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the quarterly period ended June 30, 2019 of APX Group Holdings, 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 (or persons performing the equivalent functions):

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: August 6, 2019

/s/ Mark Davies

Mark Davies
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of APX Group Holdings, Inc. (the “Company”) on Form 10-Q for the quarterly period ended June 30, 2019 filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Todd Pedersen, Chief Executive Officer and Director of the Company, do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

Date: August 6, 2019

/s/ Todd Pedersen

Todd Pedersen
Chief Executive Officer and Director
(Principal Executive Officer)

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of APX Group Holdings, Inc. (the “Company”) on Form 10-Q for the quarterly period ended June 30, 2019 filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Mark Davies, Chief Financial Officer of the Company, do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

Date: August 6, 2019

/s/ Mark Davies

Mark Davies
Chief Financial Officer
(Principal Financial Officer)