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

FORM 8-K
Amendment No. 2

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date Earliest Event Reported):
January 17, 2020

VIVINT SMART HOME, INC.
(Exact name of registrant as specified in its charter)

Delaware	001-38246	98-1380306
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

4931 North 300 West
Provo, Utah 84604
(Address of Principal Executive Offices) (Zip Code)

(801) 377-9111
(Registrant's telephone number, including area code)

Mosaic Acquisition Corp.
375 Park Avenue
New York, New York 10152
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e- 4(c))

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A common stock, par value $0.0001	**VVNT**	**New York Stock Exchange**
Warrants, each exercisable for one share of Class A common stock at an exercise price of $11.50 per share	**VVNT WS**	**New York Stock Exchange**

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

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. ☐

EXPLANATORY NOTE

This Amendment No. 2 to Vivint Smart Home, Inc.'s (the "Company") Current Report on Form 8-K (the "Form 8-K") originally filed by the Company on January 24, 2020, as amended by the Amendment No. 1 filed by the Company on January 27, 2020, is being filed solely for the purpose of amending the historical financial statements provided under Items 9.01(a) and 9.01(b) in the Form 8-K to include the audited consolidated financial statements of Legacy Vivint Smart Home, Inc. ("Legacy Vivint Smart Home") as of December 31, 2019 and 2018 and for each of the three years in the period ended December 31, 2019 and the related Management's Discussion and Analysis of Financial Condition and Results of Operations of Legacy Vivint Smart Home for the year ended December 31, 2019. This Amendment No. 2 does not amend any other item of the Form 8-K or purport to provide an update or a discussion of any developments at the Company subsequent to the filing date of the Form 8-K.

Capitalized terms used but not defined herein have the meanings assigned to them in the Form 8-K.

Item 9.01 Financial Statements and Exhibits

(a) Financial Statements of Business Acquired

The audited consolidated financial statements of Legacy Vivint Smart Home as of December 31, 2019 and 2018 and for each of the three years in the period ended December 31, 2019 are filed herewith as Exhibit 99.1.

Also included herewith as Exhibit 99.2 and incorporated by reference herein is the Management's Discussion and Analysis of Financial Condition and Results of Operations of Legacy Vivint Smart Home for the year ended December 31, 2019.

(d) Exhibits.

Exhibit No.	Description
99.1	Audited consolidated financial information of Legacy Vivint Smart Home, Inc. as of December 31, 2019 and 2018 and for the years ended December 31, 2019, 2018 and 2017
99.2	Management's Discussion and Analysis of Financial Condition and Results of Operations of Legacy Vivint Smart Home for the year ended December 31, 2019

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 hereunto duly authorized.

VIVINT SMART HOME, INC.

By: /s/ Shawn J. Lindquist
Name: Shawn J. Lindquist
Title: Chief Legal Officer

Date: March 13, 2020

Exhibit 99.1

FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Audited consolidated financial statements Legacy Vivint Smart Home, Inc. and Subsidiaries:

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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of Vivint Smart Home, Inc. and Subsidiaries

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Legacy Vivint Smart Home, Inc. and Subsidiaries (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive loss, changes in equity (deficit) and cash flows for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

Adoption of Accounting Standards Update (ASU) No. 2014-09

As discussed in Note 2 and Note 3 to the consolidated financial statements, effective January 1, 2018 the Company has changed its method for recognizing revenue from contracts with customers and its accounting for contract acquisition costs due to the adoption of ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606), as amended.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2011.

Salt Lake City, Utah
March 13, 2020

LEGACY VIVINT SMART HOME, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share amounts)

	December 31, 2019	December 31, 2018
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 4,549	$ 12,773
Accounts and notes receivable, net	64,216	48,724
Inventories	64,622	50,552
Prepaid expenses and other current assets	18,063	11,449
Total current assets	151,450	123,498
Property, plant and equipment, net	61,088	73,401
Capitalized contract costs, net	1,215,249	1,115,775
Deferred financing costs, net	1,123	2,058
Intangible assets, net	177,811	255,085
Goodwill	836,540	834,855
Operating lease right-of-use assets	65,320	—
Long-term notes receivables and other assets, net	95,827	119,819
Total assets	$ 2,604,408	$ 2,524,491
LIABILITIES AND STOCKHOLDERS' (DEFICIT) EQUITY		
Current Liabilities:		
Accounts payable	$ 86,554	$ 67,086
Accrued payroll and commissions	72,642	65,479
Accrued expenses and other current liabilities	147,489	136,715
Deferred revenue	234,612	186,953
Current portion of notes payable, net	453,320	—
Current portion of operating lease liabilities	11,640	—
Current portion of finance lease liabilities	7,708	7,743
Total current liabilities	1,013,965	463,976
Notes payable, net	2,471,659	2,961,947
Notes payable, net - related party	103,634	75,148
Revolving line of credit	245,000	—
Finance lease liabilities, net of current portion	5,474	5,571
Deferred revenue, net of current portion	405,786	323,585
Operating lease liabilities, net of current portion	63,477	—
Other long-term obligations	80,540	90,209
Deferred income tax liabilities	2,231	1,096
Total liabilities	4,391,766	3,921,532
Commitments and contingencies (See Note 13)		
Stockholders' deficit:		
Common stock, $0.01 par value, 2,000,000 shares authorized; 1,009,144 and 1,006,290 shares issued and outstanding as of December 31, 2019 and 2018, respectively	10	10
Preferred stock, $0.01 par value, 400,000 shares authorized, including 100,000 shares designated and 79,791 shares issued and outstanding of Series A Convertible Preferred Stock as of December 31, 2019 and 2018	1	1
Additional paid-in capital	740,119	735,966
Accumulated deficit	(2,500,022)	(2,104,181)
Accumulated other comprehensive loss	(27,466)	(28,837)
Total stockholders' deficit	(1,787,358)	(1,397,041)
Total liabilities and stockholders' deficit	$ 2,604,408	$ 2,524,491

See accompanying notes to consolidated financial statements

LEGACY VIVINT SMART HOME, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share amount)

	Year ended December 31,		
	2019	2018	2017
Revenues:			
Recurring and other revenue	$1,155,981	$1,050,441	$ 843,420
Service and other sales revenue	—	—	26,988
Activation fees	—	—	11,575
Total revenues	1,155,981	1,050,441	881,983
Costs and expenses:			
Operating expenses (exclusive of depreciation and amortization shown separately below)	369,285	355,813	321,476
Selling expenses (exclusive of amortization of deferred commissions of $181,265, $165,797 and $84,152, respectively, which are included in depreciation and amortization shown separately below)	193,359	213,386	198,348
General and administrative expenses	192,182	209,257	188,397
Depreciation and amortization	543,440	514,082	329,255
Restructuring and asset impairment charges	—	4,683	—
Total costs and expenses	1,298,266	1,297,221	1,037,476
Loss from operations	(142,285)	(246,780)	(155,493)
Other expenses (income):			
Interest expense	260,014	245,214	225,772
Interest income	(23)	(425)	(130)
Other (income) loss, net	(7,665)	(17,323)	27,986
Loss before income taxes	(394,611)	(474,246)	(409,121)
Income tax expense (benefit)	1,313	(1,611)	1,078
Net loss	$ (395,924)	$ (472,635)	$ (410,199)
Net loss attributable per share to common stockholders:			
Basic	$ (392.86)	$ (470.61)	$ (408.75)
Diluted	$ (392.86)	$ (470.61)	$ (408.75)
Weighted-average shares used in computing net loss attributable per share to common stockholders:			
Basic	1,007,792	1,004,295	1,003,544
Diluted	1,007,792	1,004,295	1,003,544

See accompanying notes to consolidated financial statements

LEGACY VIVINT SMART HOME, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)

	Year ended December 31,		
	2019	**2018**	**2017**
Net loss	$(395,924)	$(472,635)	$(410,199)
Other comprehensive income (loss), net of tax effects:			
Foreign currency translation adjustment	1,371	(2,216)	3,155
Unrealized loss on marketable securities	—	—	(1,693)
Total other comprehensive income (loss)	1,371	(2,216)	1,462
Comprehensive loss	$(394,553)	$(474,851)	$(408,737)

See accompanying notes to consolidated financial statements

LEGACY VIVINT SMART HOME, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY (DEFICIT)
(In thousands, except shares)

	Common Stock		Convertible Preferred Stock					
	Shares	Amount	Shares	Amount	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive loss	Total
Balance, December 31, 2016	1,003,541	$ 10	79,791	$ 1	$ 727,273	$ (943,703)	$ (28,763)	$ (245,182)
Net Loss	—	—	—	—	—	(410,199)	—	(410,199)
Foreign currency translation adjustment	—	—	—	—	—	—	3,155	3,155
Unrealized loss on marketable securities	—	—	—	—	—	—	(1,693)	(1,693)
Stock-based compensation	—	—	—	—	1,577	(33)	—	1,544
Issuance of common stock	46	—	—	—	—	—	—	—
Balance, December 31, 2017	1,003,587	10	79,791	1	728,850	(1,353,935)	(27,301)	(652,375)
Net Loss	—	—	—	—	—	(472,635)	—	(472,635)
Foreign currency translation adjustment	—	—	—	—	—	—	(2,216)	(2,216)
Stock-based compensation	—	—	—	—	2,416	—	—	2,416
ASU 2014-09 adoption	—	—	—	—	—	(276,931)	—	(276,931)
ASU 2016-01 adoption	—	—	—	—	—	(680)	680	—
Issuance of common stock	31	—	—	—	—	—	—	—
Capital contribution	2,672	—	—	—	4,700	—	—	4,700
Balance, December 31, 2018	1,006,290	10	79,791	1	735,966	(2,104,181)	(28,837)	(1,397,041)
Net Loss	—	—	—	—	—	(395,924)	—	(395,924)
Foreign currency translation adjustment	—	—	—	—	—	—	1,371	1,371
Stock-based compensation	—	—	—	—	4,241	—	—	4,241
Return of capital	—	—	—	—	(4,788)	—	—	(4,788)
ASU 2016-02 adoption	—	—	—	—	—	83	—	83
Issuance of common stock	495	—	—	—	—	—	—	—
Capital contribution	2,359	—	—	—	4,700	—	—	4,700
Balance, December 31, 2019	1,009,144	$ 10	79,791	$ 1	$ 740,119	$ (2,500,022)	$ (27,466)	$ (1,787,358)

See accompanying notes to consolidated financial statements

LEGACY VIVINT SMART HOME, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year ended December 31,		
	2019	**2018**	**2017**
Cash flows from operating activities:			
Net loss from operations	$(395,924)	$(472,635)	$(410,199)
Adjustments to reconcile net loss to net cash used in operating activities of operations:			
Amortization of capitalized contract costs	437,285	398,174	—
Amortization of subscriber acquisition costs	—	—	206,153
Amortization of customer relationships	74,538	84,174	94,863
Gain on fair value changes of equity securities	(2,254)	(477)	—
Expensed offering costs	168	4,721	—
Depreciation and amortization of property, plant and equipment and other intangible assets	31,617	31,734	28,239
Amortization of deferred financing costs and bond premiums and discounts	4,703	5,152	6,586
Loss (gain) on sale or disposal of assets	1,121	(49,762)	458
Loss on early extinguishment of debt	806	14,571	23,062
Stock-based compensation	4,241	2,505	1,595
Provision for doubtful accounts	25,043	19,405	22,465
Deferred income taxes	606	(2,149)	929
Changes in operating assets and liabilities, net of acquisitions:			
Accounts and notes receivable, net	(34,486)	(34,008)	(49,590)
Inventories	(13,951)	64,442	(75,580)
Prepaid expenses and other current assets	(816)	4,695	(5,975)
Capitalized contract costs, net	(533,504)	(499,252)	—
Subscriber acquisition costs, net	—	—	(457,679)
Long-term notes receivables and other assets, net	20,975	(29,118)	(74,801)
Right-of-use assets	7,255	—	—
Accounts payable	5,611	(27,045)	70,525
Accrued payroll and commissions, accrued expenses, and other current and long-term liabilities	24,899	91,469	62,208
Current and long-term operating lease liabilities	(8,149)	—	—
Restructuring liability	—	—	(91)
Deferred revenue	128,624	172,905	247,500
Net cash used in operating activities	(221,592)	(220,499)	(309,332)
Cash flows from investing activities:			
Capital expenditures	(10,119)	(19,412)	(20,391)
Proceeds from the sale of intangible assets	—	53,693	—
Proceeds from the sale of capital assets	878	127	776
Acquisition of intangible assets	(1,801)	(1,486)	(1,745)
Proceeds from sales of equity securities	5,430	—	—
Acquisition of other assets	—	—	(301)
Net cash (used in) provided by investing activities	(5,612)	32,922	(21,661)

See accompanying notes to consolidated financial statements

LEGACY VIVINT SMART HOME, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS CONTINUED
(In thousands)

	Year ended December 31,		
	2019	**2018**	**2017**
Cash flows from financing activities:			
Proceeds from notes payable	225,000	759,000	724,750
Proceeds from notes payable - related party	—	51,000	—
Repayments of notes payable	(233,100)	(522,191)	(450,000)
Borrowings from revolving line of credit	342,500	201,000	196,895
Repayments on revolving line of credit	(97,500)	(261,000)	(136,895)
Repayments of finance lease obligations	(9,781)	(12,354)	(10,007)
Payments of other long-term obligations	—	—	(2,983)
Return of capital	(5,435)	—	—
Financing costs	—	(11,317)	(18,277)
Deferred financing costs	(4,896)	(9,302)	(11,119)
Payments of offering costs	(2,574)	(3,129)	(1,151)
Proceeds from capital contributions	4,700	4,700	—
Net cash provided by financing activities	218,914	196,407	291,213
Effect of exchange rate changes on cash	66	71	132
Net (decrease) increase in cash and cash equivalents	(8,224)	8,901	(39,648)
Cash and cash equivalents:			
Beginning of period	12,773	3,872	43,520
End of period	$ 4,549	$ 12,773	$ 3,872
Supplemental cash flow disclosures:			
Income tax paid	$ 661	$ 330	$ 219
Interest paid	$ 252,911	$ 239,441	$ 207,433
Supplemental non-cash investing and financing activities:			
Finance lease additions	$ 10,197	$ 4,569	$ 14,633
Intangible asset acquisitions included within accounts payable, accrued expenses and other current liabilities and other long-term obligations	$ 1,536	$ 974	$ 557
Deferred offering costs included within accounts payable	$ 4,206	$ 440	$ 2,208
Capital expenditures included within accounts payable, accrued expenses and other current liabilities	$ 2,074	$ 128	$ 2,531
Change in fair value of equity securities	$ —	$ —	$ 1,314
Property acquired under build-to-suit agreements included within other long-term obligations	$ —	$ —	$ 2,300

See accompanying notes to consolidated financial statements

1. Description of Business

Legacy Vivint Smart Home, Inc. ("Parent") is a holding company, and all operations are conducted by its wholly-owned subsidiaries. Parent and its wholly-owned subsidiaries, (collectively the "Company"), is engaged in the sale, installation, servicing and monitoring of smart home and security systems, primarily in the United States and Canada. Parent, which is majority-owned by 313 Acquisition, LLC. ("313"), APX Group Holdings, Inc. ("Holdings"), which is wholly-owned by Parent, and APX Group, Inc. ("APX"), which is wholly-owned by Holdings, have no operations.

2. Significant Accounting Policies

Basis of Presentation

The Company has prepared the accompanying consolidated financial statements pursuant to generally accepted accounting principles in the United States ("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 a 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, may 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 shift in its sales model does not change the Company's conclusion 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 of up to $4,000. The annual percentage rates on these loans range between 0% and 9.99%, based on the customer's credit quality, and are either installment or revolving loans with a 42 or 60 month term.

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 and the Company shares liability for credit losses, with the Company being responsible for between 5% and 100% of lost principal balances. Additionally, the Company is responsible for reimbursing certain third-party financing providers for credit card transaction fees associated with the loans. 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 Consolidated Statement of Operations. (See Note 9).

For other 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. Gross RIC receivables are reduced for (i) expected write-offs of uncollectible balances over the term of the RIC and (ii) a present value discount of the expected cash flows using a risk adjusted market interest rate (together, the “RIC Discount”). Therefore, the RIC receivables equal the present value of the expected cash flows to be received by the Company over the term of the RIC. At the time of installation, the Company records a long-term note receivable within long-term notes receivables and other assets, net on the 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 consolidated balance sheets. The billed amounts of notes receivables are included in accounts receivable within accounts and notes receivable, net on the 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 risk adjusted interest rate considers a number of factors, including credit quality of the subscriber base and other qualitative considerations such as macro-economic factors. The imputed interest income is recognized over the term of the RIC contract as recurring and other revenue on the consolidated statements of operations.

When the Company determines that there are RIC receivables that have become uncollectible, it records an adjustment to the RIC Discount and reduces the related note receivable balance. On a regular basis, the Company also assesses the level of the RIC Discount balance based on historical RIC write-off trends and adjusts the balance, if necessary. 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. (See Note 4).

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, which is the period in which the parties to the contract have enforceable rights and obligations. 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 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 that were 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.

Accounts Receivable

Accounts receivable consists primarily of amounts due from customers 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 consolidated balance sheets. Accounts receivable totaled $20.5 million and $16.5 million and December 31, 2019 and 2018, respectively net of the allowance for doubtful accounts of $8.1 million and $5.6 million at December 31, 2019 and 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 consolidated statements of operations and totaled $25.0 million and $19.4 million for the years ended December 31, 2019 and 2018, respectively.

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

	Year ended December 31,		
	2019	2018	2017
Beginning balance	$ 5,594	$ 5,356	$ 4,138
Provision for doubtful accounts	25,043	19,405	22,465
Write-offs and adjustments	(22,519)	(19,167)	(21,247)
Balance at end of period	$ 8,118	$ 5,594	$ 5,356

Restructuring and Asset Impairment Charges

Restructuring and asset impairment charges represent expenses incurred in relation to activities to exit or dispose 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 10).

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of Legacy Vivint Smart Home, Inc. and its subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

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. The Company calculates amortization by accumulating all deferred contract costs into separate portfolios based on the initial month of service and amortizes those deferred contract costs on a straight-line basis over the expected period of benefit that the Company has determined to be five years, consistent with the pattern in which the Company provides services to its customers. The Company believes this pattern of amortization appropriately reduces the carrying value of the capitalized contract costs over time to reflect the decline in the value of the assets as the remaining period of benefit for each monthly portfolio of contracts decreases. The period of benefit of five years is longer than a typical contract term because of anticipated contract renewals. The Company applies this period of benefit to its entire portfolio of contracts. The Company updates its estimate of the period of benefit periodically and whenever events or circumstances indicate that the period of benefit could change significantly. Such changes, if any, are accounted for prospectively as a change in estimate. Amortization of capitalized contract costs is included in “Depreciation and Amortization” on the consolidated statements of operations.

The carrying amount of the capitalized contract costs is periodically reviewed for impairment. In performing this review, the Company considers whether the carrying amount of the capitalized contract costs will be recovered. In estimating the amount of consideration the Company expects to receive in the future related to capitalized contract costs, the Company considers factors such as attrition rates, economic factors, and industry developments, among other factors. If it is determined that capitalized contract costs are impaired, an impairment loss is recognized for the amount by which the carrying amount of the capitalized contract costs and the anticipated costs that relate directly to providing the future services exceed the consideration that has been received and that is expected to be received in the future.

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 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 equipment and parts are stated at the lower of cost or net realizable value with cost determined under the first-in, first-out (FIFO) method. Inventories sold to customers as part of a smart home and security system are generally capitalized as capitalized contract costs. The Company adjusts the inventories 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 years ended December 31, 2019, 2018 and 2017, 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):

	Year ended December 31,		
	2019	2018	2017
Amortization of capitalized contract costs	$437,285	$398,174	$ —
Amortization of subscriber acquisition costs	—	—	206,153
Amortization of definite-lived intangibles	80,468	90,945	101,827
Depreciation of property, plant and equipment	25,687	24,963	21,275
Total depreciation and amortization	$543,440	$514,082	$329,255

Wireless Spectrum Licenses

The Company had capitalized as an intangible asset wireless spectrum licenses that were acquired from third parties. The cost basis of the wireless spectrum asset includes the purchase price paid for the licenses at the time of acquisition, plus costs incurred to acquire the licenses. The asset and related liability were recorded at the net present value of future cash outflows using the Company's incremental borrowing rate at the time of acquisition.

The Company determined that the wireless spectrum licenses met the definition of indefinite-lived intangible assets because the licenses were able to be renewed periodically for a nominal fee, provided that the Company continued to meet the service and geographic coverage provisions. In January 2018, the Company terminated the wireless spectrum licenses for cash consideration. See Note 8 for further discussion.

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 consolidated balance sheets. Finance lease assets are included in property, plant and equipment, net on the 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 consolidated balance sheets and capital lease assets were included in property, plant and equipment, net on the 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 consolidated financial statements. See Recently Adopted Accounting Standards below and note 14 "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 December 31, 2018, the Company's equity investments totaled $3.9 million. The Company did not hold any equity security investments as of December 31, 2019.

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 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's revolving credit facility are amortized over the amended maturity dates discussed in Note 5. Deferred costs associated with the revolving credit facitliy reported in the accompanying consolidated balance sheets as deferred financing costs, net at December 31, 2019 and 2018 were $1.1 million and $2.1 million, net of accumulated amortization of $10.6 million and $9.6 million, respectively. Deferred financing costs included in the accompanying consolidated balance sheets within notes payable, net at December 31, 2019 and 2018 were $27.0 million and $32.4 million, net of accumulated amortization of $63.5 million and $54.6 million, respectively. Amortization expense on deferred financing costs recognized and included in interest expense in the accompanying consolidated statements of operations totaled $9.8 million, $10.4 million and $11.4 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Offering Costs

Specific incremental costs (i.e. consisting of legal, accounting and other fees and costs) directly attributable to a proposed or actual offering of securities are deferred and charged against the gross proceeds of the offering. In the event a planned offering of securities does not occur or is significantly delayed, all of the costs are expensed. There were $6.2 million of offering costs capitalized as of December 31, 2019, in prepaid expenses and other current assets on the consolidated balance sheets. Offering costs of $0.2 million and $4.7 million were expensed to general and administrative expenses in the year ended December 31, 2019 and 2018, respectively, when offering plans were delayed.

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 was $4.5 million and $4.5 million as of December 31, 2019 and 2018, respectively, and the amount included in other long-term obligations was $20.7 million and $13.0 million at December 31, 2019 and 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 12).

Advertising Expense

Advertising costs are expensed as incurred. Advertising costs were approximately $60.4 million, $47.2 million and $42.5 million for the years ended December 31, 2019, 2018 and 2017, 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 (See Note 11).

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 December 31, 2019, approximately 88% of the Company’s installed panels were SkyControl panels, 12% were 2GIG Go!Control 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 years ended December 31, 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, 2019 consisted of one reporting unit. The Company found that no indicators of goodwill impairment existed during the year ended December 31, 2019, thus a qualitative approach was used and it was determined that no impairment existed for goodwill.

During the years ended December 31, 2019, 2018 and 2017, no impairments to goodwill were recorded.

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 (loss) income 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) equity 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 consolidated statement of operations. The Company has determined that settlement of Vivint Canada, Inc. intercompany balances are anticipated and therefore such balances are deemed to be of a short-term nature. Translation activity included in the statements of operations in other loss, net related to intercompany balances was a gain of $3.4 million for the year ended December 31, 2019, a loss of $7.1 million for the year ended December 31, 2018, and a gain of $4.9 million for the year ended December 31, 2017.

Letters of Credit

As of December 31, 2019 and 2018, the Company had $11.1 million and $13.8 million, respectively, of letters of credit issued in the ordinary course of business, all of which are undrawn.

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 expects the adoption of ASU 2016-13 to have an impact on the accounting for accounts receivable and RICs included in accounts and notes receivable, net and long-term notes receivables and other assets, net in the balance sheets and is still evaluating the extent of such impact.

Recently Adopted Accounting Standards

ASU 2016-02

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 consolidated statements of operations or its 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 14 "Leases" for additional information related to the impact of adopting this standard.

ASU 2014-09

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers (Topic 606)," which supersedes the revenue recognition requirements in "Revenue Recognition (Topic 605)." Under Topic 606, revenue is recognized when a customer obtains control of promised goods or services and is recognized in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. In addition, Topic 606 requires enhanced disclosures, including disclosure of the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. Topic 606 also includes Subtopic 340-40, Other Assets and Deferred Costs—Contracts with Customers, which requires the deferral of incremental costs of obtaining a contract with a customer. Collectively, the Company refers to Topic 606 and Subtopic 340-40 as the "new standard".

The Company adopted the new standard as of January 1, 2018, utilizing the modified retrospective method of transition (the cumulative catch-up transition method). Adoption of the new standard resulted in changes to the accounting policies for revenue recognition, deferred revenue, and capitalized contract costs (formerly subscriber acquisition costs). The cumulative effect of applying the new standard to all contracts with customers that were not completed as of January 1, 2018 was recorded as an adjustment to accumulated deficit as of the adoption date. The comparative information as of and for the year ended December 31, 2017 has not been adjusted and continues to be reported under Topic 605. See Note 3 “Revenue and Capitalized Contract Costs” for additional information related to the impact of adopting this standard and a discussion of the Company’s updated policies related to revenue recognition and accounting for costs to obtain and fulfill a customer contract.

3. 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 years ended December 31, 2019 and 2018, the Company recognized revenues of $225.9 million and $144.1 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 December 31, 2019, approximately $2.6 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.

Financial Statement Impact of Adopting Topic 606

The following tables compare the select reported consolidated statements of operations and cash flows line items to the amounts had the previous guidance been in effect (in thousands):

Consolidated Statements of Operations and Comprehensive Loss

	Year ended December 31, 2019			Year ended December 31, 2018		
	As Reported	Balances Without Adoption of Topic 606	Effect of Change Higher/ (Lower)	As Reported	Balances Without Adoption of Topic 606	Effect of Change Higher/ (Lower)
Recurring and other revenue	$1,155,981	$1,038,788	$117,193	$1,050,441	$ 950,661	$ 99,780
Service and other sales revenue	—	66,542	(66,542)	—	46,177	(46,177)
Activation fees	—	8,117	(8,117)	—	9,705	(9,705)
Total revenues	1,155,981	1,113,447	42,534	1,050,441	1,006,543	43,898
Operating expenses	369,285	419,041	(49,756)	355,813	385,672	(29,859)
Depreciation and amortization	543,440	390,733	152,707	514,082	367,879	146,203
Loss from operations	(142,285)	(81,868)	(60,417)	(246,780)	(174,334)	(72,446)
Income tax (benefit) expense	1,313	3,142	(1,829)	(1,611)	806	(2,417)
Net loss	(395,924)	(337,336)	(58,588)	(472,635)	(402,606)	(70,029)

Consolidated Statements of Cashflows

	Year ended December 31, 2019			Year ended December 31, 2018		
	As Reported	Balances Without Adoption of Topic 606	Effect of Change Higher/ (Lower)	As Reported	Balances Without Adoption of Topic 606	Effect of Change Higher/ (Lower)
Cash flows from operating activities:						
Net loss	$ (395,924)	$(337,336)	$ (58,588)	$ (472,635)	$(402,606)	$ (70,029)
Adjustments to reconcile net loss to net cash used in operating activities:						
Amortization of capitalized contract costs	437,285	—	437,285	398,174	—	398,174
Amortization of subscriber acquisition costs	—	284,574	(284,574)	—	251,971	(251,971)
Changes in operating assets and liabilities:						
Capitalized contract costs – deferred contract costs	(533,504)	—	(533,504)	(499,252)	—	(499,252)
Subscriber acquisition costs – deferred contract costs	—	(483,748)	483,748	—	(469,393)	469,393
Accrued expenses and other current liabilities	24,899	26,727	(1,828)	91,469	93,886	(2,417)
Deferred revenue	128,624	171,163	(42,539)	172,905	216,803	(43,898)
Net cash used in operating activities	$ (221,592)	$(221,592)	$ —	$ (220,499)	$(220,499)	$ —

Timing of Revenue Recognition

The Company previously recognized certain service and other sales revenue when the Services were provided or when title to Products sold transferred to the subscriber. Revenue from the sale of Products that were not part of the service offering (i.e., those Products sold subsequent to the date of the initial installation) were also generally recognized upon delivery of Products. Under the new standard, the Company considers Products, related installation, and its proprietary back-end cloud platform software and services an integrated system that allows the Company's subscribers to monitor, control and protect their homes. These Smart Home Services are accounted for as a single performance obligation that is recognized over the subscriber's contract term. Accordingly, the Company now defers a larger portion of certain Smart Home Services revenue, as prior to the adoption of Topic 606 certain of this revenue was recognized at the time services were provided or upon delivery.

The Company previously amortized deferred revenues related to sales of Products and activation fees on subscriber contracts over the expected life of the customer, which was 15 years using a 240% declining balance method. Under the new standard, revenues related to sales of Products and activation fees are included in the transaction price allocated to the single Smart Home Service performance obligation and recognized straight-line over the subscriber's contract term, which is generally three to five years.

Capitalized Contract Costs

Capitalized contract costs generally include commissions, other compensation and related costs incurred directly for the generation and installation of new or modified subscriber contracts, as well as the cost of Products installed in the subscriber's home at the commencement or modification of the contract. The Company previously deferred and amortized these costs for new subscriber contracts in the same manner as deferred revenue and generally expensed all costs associated with modified subscriber contracts. Under the new standard, 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.

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 consolidated balance sheets.

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

	December 31, 2019	December 31, 2018
RIC receivables, gross	$ 192,058	$ 175,250
RIC Discount	(59,513)	(34,163)
RIC receivables, net	$ 132,545	$ 141,087
Classified on the consolidated balance sheets as:		
Accounts and notes receivable, net	$ 43,733	$ 32,185
Long-term notes receivables and other assets, net	88,812	108,902
RIC receivables, net	$ 132,545	$ 141,087

The changes in the Company's RIC Discount were as follows (in thousands):

	For the Years Ended	
	December 31, 2019	December 31, 2018
RIC Discount, beginning of period	$ 34,163	$ 36,048
Write-offs, net of recoveries	(21,392)	(26,360)
Change in RIC Discount on short-term and long-term RIC receivables	46,742	24,475
RIC Discount, end of period	$ 59,513	$ 34,163

During year ended December 31, 2019, 2018 and 2017, the amount of RIC imputed interest income recognized in recurring and other revenue was $13.6 million, $14.9 million and $7.3 million, respectively.

Change in Accounting Estimate in 2019

RIC receivables are recorded at their present value, net of the RIC Discount. The Company records the RIC Discount as an adjustment to deferred revenue and as an adjustment to the face amount of the related receivable. The RIC Discount considers a number of factors, including collection experience, credit quality of the subscriber base and other qualitative considerations such as macro-economic factors.

In the third quarter of 2019, with over two years of RIC customer history, the Company believed that it had sufficient data and experience from RIC receivables to reevaluate the remaining RIC Discount. The Company determined that actual RIC write-offs were trending higher than the expected write-offs used in the original estimates. Therefore, the Company determined that it was necessary to adjust the remaining RIC Discount balance primarily associated with subscribers originated in 2017 and 2018, to reflect the new estimate of the present value of cash expected to be collected over the remaining contractual periods.

In accordance with this change in accounting estimate, in the third quarter of 2019 the Company increased the RIC Discount and recognized an adjustment to revenue to record the proportional amount related to performance obligations that have already been delivered and the remaining amount (related to undelivered performance obligations) to deferred revenue. The Company recorded a total increase to the RIC Discount of $26.6 million, with a decrease to deferred revenue of $17.5 million and a decrease to recurring and other revenue of $9.1 million. The decrease to revenue resulted in a corresponding increase to net loss for the year ended December 31, 2019.

5. Long-Term Debt

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

	December 31, 2019			
	Outstanding Principal	Unamortized Premium (Discount)	Unamortized Deferred Financing Costs (1)	Net Carrying Amount
Long-Term Debt:				
Senior Secured Revolving Credit Facilities	$ 245,000	$ —	$ —	245,000
8.875% Senior Secured Notes Due 2022	270,000	(1,645)	(451)	267,904
7.875% Senior Secured Notes Due 2022	900,000	15,480	(9,532)	905,948
7.625% Senior Notes Due 2023	400,000	—	(3,081)	396,919
8.500% Senior Secured Notes Due 2024	225,000	—	(4,431)	220,569
Term Loan - noncurrent	791,775	—	(7,822)	783,953
Total Long-Term Debt	2,831,775	13,835	(25,317)	2,820,293
Current Debt:				
8.75% Senior Notes due 2020	454,299	742	$ (1,721)	453,320
Term Loan - current	8,100	—	—	8,100
Total Current Debt	462,399	742	(1,721)	461,420
Total Debt	$3,294,174	$ 14,577	$ (27,038)	$ 3,281,713

	December 31, 2018			
	Outstanding Principal	Unamortized Premium (Discount)	Unamortized Deferred Financing Costs (1)	Net Carrying Amount
Long-Term Debt:				
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
Term Loan - noncurrent	799,875	—	(9,662)	790,213
Total Long-Term Debt	3,049,174	20,286	(32,365)	3,037,095
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 consolidated balance sheets at December 31, 2019 and 2018 was $1.1 million and $2.1 million, respectively.

Notes Payable

2020 Notes

As of December 31, 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 December 31, 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, under "Springing Maturity" provisions, on September 1, 2020 (the 91st 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 2020 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 December 31, 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 December 31, 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 8.5% 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, unless, under "Springing Maturity" provisions, (1) on September 1, 2020 (the 91st day prior to the maturity of the 2020 notes) more than an aggregate principal amount of $275.0 million of such 2020 notes remain outstanding or have not been refinanced as permitted under the note purchase agreement for the 2020 notes, in which case the 2024 notes will mature on September 1, 2020 or (2) on June 1, 2023 (the 91st day prior to the maturity of the 2023 notes) more than an aggregate principal amount of $125.0 million of such 2023 notes remain outstanding or have not been refinanced as permitted under the note purchase agreement for the 2023 notes, in which case the 2024 Notes will mature on June 1, 2023. 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, unless, under "Springing Maturity" provision, (1) on September 1, 2020 (the 91st day prior to the maturity of the 2020 notes) more than an aggregate principal amount of $275.0 million of such 2020 notes remain outstanding or have not been refinanced as permitted under the note purchase agreement for the 2020 notes, in which case the Term Loan will mature on September 1, 2020 or (2) on June 1, 2023 (the 91st day prior to the maturity of the 2023 notes) more than an aggregate principal amount of $125.0 million of such 2023 notes remain outstanding or have not been refinanced as permitted under the note purchase agreement for the 2023 notes, in which case the Term Loan will mature on June 1, 2023.

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.

GSO Capital Partners, an affiliate of Blackstone, is a participating lender in the Term Loan and receives proportional interest payments of the outstanding debt held. As of December 31, 2019 and 2018, GSO Capital Partners held $103.6 million and $75.1 million, respectively, of outstanding aggregate principal of 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):

	Other expense and loss on extinguishment				Deferred financing costs		
Issuance	Original premium extinguished	Previously deferred financing costs extinguished	New financing costs	Total other expense and loss on extinguishment	Previously deferred financing rolled over	New deferred financing costs	Total deferred financing costs
For the year ended December 31, 2019							
2024 Notes May 2019 issuance	$ (588)	$ 1,395	$ —	$ 807	$ —	$ 4,956	$ 4,956
For the year ended December 31, 2018							
Term Loan September 2018 issuance	(953)	4,207	11,317	14,571	—	10,275	10,275
For the year ended December 31, 2017							
2023 Notes August 2017 issuance	—	1,408	8,881	10,289	473	4,569	5,042
2022 Notes February 2017 issuance	—	3,259	9,491	12,750	1,476	6,076	7,552
Total	$ —	$ 4,667	$ 18,372	$ 23,039	$ 1,949	$ 10,645	$ 12,594

Deferred financing costs are amortized to interest expense over the life of the issued debt. The following table presents deferred financing activity for the years ended December 31, 2019 and 2018 (in thousands):

	Unamortized Deferred Financing Costs				
	Balance December 31, 2018	Additions	Early Extinguishment	Amortized	Balance December 31, 2019
Revolving Credit Facility	$ 2,058	$ —	$ —	$ (935)	$ 1,123
2020 Notes	5,380	—	(1,395)	(2,264)	1,721
2022 Private Placement Notes	602	—	—	(151)	451
2022 Notes	12,799	—	—	(3,267)	9,532
2023 Notes	3,922	—	—	(841)	3,081
2024 Notes	—	4,956	—	(525)	4,431
Term Loan	9,662	—	—	(1,840)	7,822
Total Deferred Financing Costs	$ 34,423	$ 4,956	$ (1,395)	$ (9,823)	$ 28,161

	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 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 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, unless, under “Springing Maturity” provisions, on September 1, 2020 (the 91st day prior to the maturity of the 2020 notes) more than an aggregate principal amount of $250.0 million of such 2020 notes remain outstanding or have not been refinanced as permitted under note purchase agreement for the 2020 notes, in which case the principal amount outstanding under the revolving credit facility will mature on September 1, 2020.

As of December 31, 2019 there was $245.0 million outstanding borrowings under the revolving credit facility. As of December 31, 2018, there was no outstanding borrowings under the revolving credit facility. As of December 31, 2019, the Company had $32.1 million of availability under the revolving credit facility (after giving effect to $11.1 million of outstanding letters of credit and $245.0 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.

6. Balance Sheet Components

The following table presents material balance sheet component balances as of December 31, 2019 and December 31, 2018 (in thousands):

	December 31,	
	2019	2018
Prepaid expenses and other current assets		
Prepaid expenses	$ 7,753	$ 7,183
Deposits	870	904
Other	9,440	3,362
Total prepaid expenses and other current assets	$ 18,063	$ 11,449
Capitalized contract costs		
Capitalized contract costs	$ 2,903,389	$ 2,361,795
Accumulated amortization	(1,688,140)	(1,246,020)
Capitalized contract costs, net	$ 1,215,249	$ 1,115,775
Long-term notes receivables and other assets		
RIC receivables, gross	$ 148,325	$ 143,065
RIC deferred interest	(59,514)	(34,164)
Security deposits	6,715	6,586
Investments	—	3,865
Other	301	467
Total long-term notes receivables and other assets, net	$ 95,827	$ 119,819
Accrued payroll and commissions		
Accrued payroll	$ 35,666	$ 36,753
Accrued commissions	36,976	28,726
Total accrued payroll and commissions	$ 72,642	$ 65,479
Accrued expenses and other current liabilities		
Accrued interest payable	$ 31,327	$ 28,885
Current portion of derivative liability	80,366	67,710
Service warranty accrual	8,680	8,813
Current portion of Term Loan	8,100	8,100
Blackstone monitoring fee, a related party	—	4,793
Accrued taxes	5,462	5,351
Accrued payroll taxes and withholdings	5,361	5,097
Loss contingencies	1,831	3,131
Other	6,362	4,835
Total accrued expenses and other current liabilities	$ 147,489	$ 136,715

7. Property Plant and Equipment

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

	December 31,		Estimated
	2019	2018	Useful Lives
Vehicles	$ 46,496	$ 45,050	3-5 years
Computer equipment and software	63,197	53,891	3-5 years
Leasehold improvements	28,593	26,401	2-15 years
Office furniture, fixtures and equipment	20,786	19,532	2-7 years
Build-to-suit lease building	—	8,247	10.5 years
Construction in process	3,480	2,975	
Property, plant and equipment, gross	162,552	156,096	
Accumulated depreciation and amortization	(101,464)	(82,695)	
Property, plant and equipment, net	$ 61,088	$ 73,401	

Property plant and equipment includes approximately $24.3 million and $23.7 million of assets under finance lease obligations, net of accumulated amortization of $22.8 million and $22.2 million at December 31, 2019 and 2018, respectively. Depreciation and amortization expense on all property plant and equipment was $25.7 million, $25.0 million and $21.3 million for the years ended December 31, 2019, 2018 and 2017, respectively. Amortization expense relates to assets under finance leases as 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.

8. Goodwill and Intangible Assets

Goodwill

The change in the carrying amount of goodwill during the year ended December 31, 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). The changes in the carrying amount of goodwill for the years ended December 31, 2019 and 2018, were as follows (in thousands):

Balance as of January 1, 2018	$836,970
Effect of Foreign Currency Translation	(2,115)
Balance as of December 31, 2018	834,855
Effect of CrowdStorage acquisition	453
Effect of Foreign Currency Translation	1,232
Balance as of December 31, 2019	$836,540

Intangible assets, net

The following table presents intangible asset balances as of December 31, 2019 and 2018 (in thousands):

	December 31, 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	$ 967,623	$ (794,926)	$172,697	$ 964,100	$ (717,648)	$246,452	10 years
2GIG 2.0 technology	17,000	(16,534)	466	17,000	(15,292)	1,708	8 years
Other technology	4,725	(2,858)	1,867	2,917	(1,667)	1,250	2 - 7 years
Space Monkey technology	7,100	(6,809)	291	7,100	(5,756)	1,344	6 years
Patents	12,885	(10,454)	2,431	12,123	(8,415)	3,708	5 years
Total definite-lived intangible assets:	1,009,333	(831,581)	177,752	1,003,240	(748,778)	254,462	
Indefinite-lived intangible assets:							
IP addresses	—	—	—	564	—	564	
Domain names	59	—	59	59	—	59	
Total Indefinite-lived intangible assets	59	—	59	623	—	623	
Total intangible assets, net	$1,009,392	$ (831,581)	$177,811	$1,003,863	$ (748,778)	$255,085	

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 year ended December 31, 2019.

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 $1.3 million for a total net gain on sale of $50.4 million which is included in other income, net in the consolidated statement of operations.

During the year ended December 31, 2019 and 2018, the Company added $1.2 million and $1.7 million of intangible assets related to patents, respectively. Amortization expense related to intangible assets was approximately $80.5 million, $90.9 million and $101.8 million for the years ended December 31, 2019, 2018, and 2017, respectively.

As of December 31, 2019, the remaining weighted-average amortization period for definite-lived intangible assets was 2.9 years. Estimated future amortization expense of intangible assets, excluding approximately $0.3 million in patents currently in process, is as follows as of December 31, 2019 (in thousands):

2020	$ 68,996
2021	59,419
2022	48,973
2023	77
2024	5
Thereafter	—
Total estimated amortization expense	$177,470

9. 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 December 31, 2019 and 2018 (in thousands):

	December 31, 2019				
	Adjusted Cost	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Long-Term Notes Receivables and Other Assets, net
Cash	$ 4,545	$ —	$4,545	$ 4,545	$ —
Level 1:					
Money market funds	4	—	4	4	—
Total	$ 4,549	$ —	$4,549	$ 4,549	$ —

	December 31, 2018				
	Adjusted Cost	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 years ended December 31, 2018 and 2017, the Company recorded unrealized losses of $0.3 million and $1.3 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.

Debt

Components of the Company's debt including the associated interest rates and related fair values (in thousands, except interest rates) are as follows:

Issuance	December 31, 2019 Face Value	December 31, 2019 Estimated Fair Value	December 31, 2018 Face Value	December 31, 2018 Estimated Fair Value	Stated Interest Rate
2020 Notes	454,299	455,253	679,299	643,568	8.750%
2022 Notes Private Placement Notes	270,000	267,975	270,000	257,073	8.875%
2022 Notes	900,000	909,000	900,000	855,000	7.875%
2023 Notes	400,000	378,040	400,000	326,000	7.625%
2024 Notes	225,000	232,290	—	—	8.500%
Term Loan	799,875	799,875	807,975	807,975	N/A
Total	$3,049,174	$ 3,042,433	$3,057,274	$ 2,889,616	

The Notes are fixed-rate debt and considered Level 2 fair value measurements as the value was determined using observable market inputs, such as current interest rates as well as prices observable from less active markets. 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 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 December 31, 2019 and 2018 (in thousands):

	December 31,	
	2019	2018
Consumer Financing Program Contractual Obligations:		
Fair value	$136,863	$117,620
Notional amount	534,560	368,708
Classified on the consolidated balance sheets as:		
Accrued expenses and other current liabilities	80,366	67,710
Other long-term obligations	56,497	49,910
Total Consumer Financing Program Contractual Obligation	$136,863	$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 instrument for the years ended December 31, 2019 and 2018 (in thousands):

	December 31,	
	2019	2018
Balance, beginning of period	$117,620	$ 46,496
Additions	94,592	93,095
Settlements	(70,213)	(34,587)
(Gains) losses included in earnings	(5,136)	12,616
Balance, end of period	$136,863	$117,620

10. Restructuring and Asset Impairment Charges

Restructuring

During the year ended December 31, 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 ("Best Buy Agreement"), which resulted in the elimination of in-store sales positions. In addition, the Company eliminated other general and administrative positions. These actions resulted in one-time cash employee severance and termination benefits expenses of $4.7 million during the year ended December 31, 2018. The Company formally terminated its relationship with Best Buy in December 2018 and agreed to pay a termination fee of $5.5 million. The difference between the termination fee and all previously recorded liabilities relating to the Company's Best Buy Agreement was recorded as a reduction to capitalized contract costs.

The following table presents accrued restructuring activity for the years ended December 31, 2019 and 2018.

	Employee severance and termination benefits
Accrued restructuring balance as of December 31, 2017	$ —
Restructuring expenses	4,683
Cash payments	(4,341)
Accrued restructuring balance as of December 31, 2018	342
Cash payments	(342)
Accrued restructuring balance as of December 31, 2019	$ —

Wireless Spin-Off

On July 31, 2019, the Company completed a spin-off of its Wireless subsidiary. In connection with the spin-off, the equity interests of Wireless were distributed to the shareholders of Legacy Vivint Smart Home, Inc. pro rata based on their respective holdings. As a result of the spin-off, the Company's additional paid-in capital was decreased by the net assets of Wireless of $4.8 million, as of the effective date of the spin-off. The spin-off does not represent a strategic shift that has (or will have) a major effect on the Company's operations and financial results.

The results of Wireless are reflected in the Company's consolidated financial statement up through July 31, 2019. The following financial information presents the results of operations of Wireless for the years ended December 31, 2019, 2018 and 2017:

	Years Ended December 31,		
	2019	2018	2017
Revenues:			
Recurring and other revenue	$ 2,808	$ 6,870	$ 9,504
Activation fees	—	—	89
Total revenues	2,808	6,870	9,593
Costs and expenses:			
Operating expenses	5,455	8,295	9,990
Selling expenses	137	674	194
General and administrative expenses	5,291	15,547	12,167
Depreciation and amortization	68	102	23
Total costs and expenses	10,951	24,618	22,374
Loss from operations	(8,143)	(17,748)	(12,781)
Other expenses (income):			
Interest expense	—	2	2,354
Other income, net	(2,100)	(52,021)	(37)
Net (loss) income	$ (6,043)	$ 34,271	$(15,098)

11. Income Taxes

The Company files a consolidated federal income tax return with its wholly-owned subsidiaries.

The income tax expense (benefit) consisted of the following (in thousands):

	Year ended December 31,		
	2019	2018	2017
Current income tax:			
Federal	$ —	$ —	$ —
State	703	512	151
Foreign	(2)	(52)	(24)
Total	701	460	127
Deferred income tax:			
Federal	(380)	—	(326)
State	(73)	—	(53)
Foreign	1,065	(2,071)	1,330
Total	612	(2,071)	951
Income tax expense (benefit)	$1,313	$(1,611)	$1,078

The following reconciles the tax benefit computed at the statutory federal rate and the Company's tax expense (benefit) (in thousands):

	Year ended December 31,		
	2019	2018	2017
Computed expected tax benefit	$(82,833)	$(98,598)	$(139,100)
State income taxes, net of federal tax effect	483	404	65
Foreign income taxes	232	(690)	(299)
Other reconciling items	2,988	—	(344)
Permanent differences	7,007	4,406	2,008
Effect of Federal law change	—	—	166,876
Change in valuation allowance	73,436	92,867	(28,128)
Income tax expense (benefit)	$ 1,313	$ (1,611)	$ 1,078

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and liabilities were as follows (in thousands)

	December 31,	
	2019	2018
Gross deferred tax assets:		
Net operating loss carryforwards	$ 585,854	$ 591,273
Deferred subscriber income	151,051	113,103
Interest expense limitation	111,682	56,381
Accrued expenses and allowances	26,683	18,766
Lease liabilities	18,773	—
Purchased intangibles and deferred financing costs	11,232	17,788
Inventory reserves	3,387	4,688
Research and development credits	41	41
Valuation allowance	(566,498)	(467,734)
Total	342,205	334,306
Gross deferred tax liabilities:		
Deferred capitalized contract costs	(325,616)	(332,547)
Right of use assets	(16,355)	—
Property and equipment	(2,465)	(2,242)
Prepaid expenses	—	(613)
Total	(344,436)	(335,402)
Net deferred tax liabilities	$ (2,231)	$ (1,096)

The Company had net operating loss carryforwards as follows (in thousands):

	December 31,	
	2019	2018
Net operating loss carryforwards:		
Federal	$2,408,078	$2,405,465
States	1,972,423	1,656,418
Canada	10,390	19,753
Total	$4,390,891	$4,081,636

U.S. federal net operating loss carryforwards will begin to expire in 2026, if not used. State net operating loss carryforwards expire over different periods and some have already begun to expire. The Company had United States research and development credits of approximately $41,000 at December 31, 2019, and December 31, 2018, which begin to expire in 2030.

Canadian net operating loss carryforwards will begin to expire in 2029.

Realization of the Company's federal and state net operating loss carryforwards and tax credits is dependent on generating sufficient taxable income prior to their expiration. Although a portion of these net operating loss carryforwards may be subject to the provisions of Internal Revenue Code Section 382, the Company has not performed a formal study to determine the amount of any limitation. The use of the net operating loss carryforwards may have additional limitations resulting from future ownership changes or other factors under Section 382 of the Internal Revenue Code.

On December 22, 2017, Congress enacted the Tax Act, which made significant changes to U.S. federal income tax laws, including reducing the corporate rate from 35% to 21% effective January 1, 2018. The Tax Act included a Global Intangible Low-Taxed Income ("GILTI") provision which introduced a new tax on foreign income in excess of a deemed return on tangible business property of foreign subsidiaries. The GILTI provisions of the Tax Act became effective for the Company during 2018 and it elected to account for it in the period incurred (the "period cost method").

At December 31, 2019 and 2018, the Company recorded a valuation allowance against its U.S. federal and state net deferred tax assets as it believes it is more likely than not that these benefits will not be realized. Significant judgment is required in determining the Company’s provision for income taxes, recording valuation allowances against net deferred tax assets and evaluating the Company’s uncertain tax positions. The Company has considered and weighed the available evidence, both positive and negative, to determine whether it is more likely than not that some portion, or all, of the deferred tax assets will not be realized. Based on available information, management does not believe it is more likely than not that all of its deferred tax assets will be utilized. The Company recorded a valuation allowance for U.S. net deferred tax assets of approximately $566.5 million and $467.7 million at December 31, 2019 and 2018, respectively.

As of December 31, 2019, the Company’s income tax returns for the tax years 2014 and later, remain subject to examination by the Internal Revenue Service and various state taxing authorities.

12. Stock-Based Compensation and Equity

313 Incentive Units

The Company's indirect parent, 313 Acquisition, LLC ("313"), which is majority owned by the Investors, 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 December 31, 2019, a total of 78,401,126 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 issued 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 Inc. 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. In the event of a change of control, all outstanding Incentive Units with time-based vesting conditions will become fully vested and exercisable.

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 rate between 0.61% and 2.61%.

A summary of the Incentive Unit activity for the years ended December 31, 2019 and 2018 is presented below:

	Incentive Units	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in millions)
Outstanding, December 31, 2017	85,812,836	$ 1.19	5.81	$ —
Forfeited	(450,000)	1.93		
Outstanding, December 31, 2018	85,362,836	1.19	5.81	—
Granted	1,000,000	1.95		
Forfeited	(7,961,710)	1.32		
Outstanding, December 31, 2019	78,401,126	1.18	5.28	51.2
Unvested shares expected to vest after December 31, 2019	48,574,548	1.21	5.38	30.5
Exercisable at December 31, 2019	29,826,578	$ 1.13	5.12	$ 20.7

As of December 31, 2019, there was $7.9 million of unrecognized compensation expense related to outstanding Incentive Units, which will be recognized over a weighted-average period of 3.41 years. As of each December 31, 2019 and 2018, the weighted average grant date fair value per share of the outstanding incentive units was $0.36.

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, 41,700,249 SARs were outstanding as of December 31, 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. In the event of a change of control, all outstanding SARs with time-based vesting conditions will become fully vested and exercisable. The Company expects to settle SARs through issuance of common stock.

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 6.50 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.

A summary of the Vivint Group SAR activity for the years ended December 31, 2019 and 2018 is presented below:

	Stock Appreciation Rights	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in millions)
Outstanding, December 31, 2017	32,754,290	$ 1.26	9.21	$ —
Granted	14,630,000	1.79		
Forfeited	(9,255,137)	1.31		
Exercised	(117,274)	0.89		
Outstanding, December 31, 2018	38,011,879	1.46	8.07	—
Granted	10,772,000	1.95		
Forfeited	(5,584,582)	1.55		
Exercised	(1,499,048)	0.89		
Outstanding, December 31, 2019	41,700,249	1.57	7.86	0.9
Unvested shares expected to vest after December 31, 2019	33,649,333	1.63	8.07	0.5
Exercisable at December 31, 2019	8,050,916	$ 1.32	7.01	$ 0.4

As of December 31, 2019, there was $6.2 million of unrecognized compensation expense related to outstanding Vivint awards, which will be recognized over a weighted-average period of 3.55 years. As of December 31, 2019 and 2018, the weighted average grant date fair value per share of the outstanding SARs was $0.30 and $0.23, respectively.

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. 397,407 RSUs are expected to vest after December 31, 2019 and 198,704 are exercisable at December 31, 2019. In the event of a change of control, all outstanding RSUs will become fully vested.

The fair value of the RSU awards, representing the estimated equity value per share of Vivint Group at the grant date, is recognized as expense over the requisite service period. The fair values are determined using management's financial projections and available market data at the time of issuance. The grant date fair value per share of the outstanding RSUs was $1.08 for the March 2019 issuance and $0.48 for the June 2018 issuance. As of December 31, 2019, there was $0.2 million of unrecognized compensation expense related to outstanding RSUs, which will be recognized over a period of 1.62 years.

Stock-based compensation expense in connection with all stock-based awards for the years ended December 31, 2019, 2018 and 2017 is allocated as follows (in thousands):

	Year ended December 31,		
	2019	2018	2017
Operating expenses	$ 320	$ 129	$ 65
Selling expenses	508	285	217
General and administrative expenses	3,413	2,091	1,313
Total stock-based compensation	$4,241	$2,505	$1,595

Equity

Common Stock

The Company had 2,000,000 shares of $0.01 par value common stock authorized, of which 1,009,144 and 1,006,290 shares were legally issued and outstanding as of December 31, 2019 and 2018, respectively. Each share of common stock has the right to one vote on all matters submitted to a vote of stockholders. The holders of common stock are also entitled to receive dividends whenever funds are legally available and when declared by the the Company's board of directors, subject to prior rights of holders of all classes of stock outstanding having priority rights as to dividends. No dividends have been declared or paid on our common stock through December 31, 2019.

Convertible Preferred Stock

During 2016, the Company authorized 400,000 shares of preferred stock, of which 100,000 shares were designated as convertible preferred series A stock ("Series A Preferred Stock"). During 2016, the Company issued 79,791 shares of the Series A Preferred Stock for $100.4 million, net of issuance costs.

The holders of the Company's Series A Preferred Stock have various rights, preferences, and privileges as follows:

Conversion Rights

At any time, each holder of Series A Preferred Stock shall have the right, at such holder's option and by delivery of written notice to the Company, to convert any or all of such holder's shares of Series A Preferred Stock (including any fraction of a share) into shares of the Company's common stock ("Common Stock"). The default conversion rate is one share of Common Stock for every converted share of Series A Preferred Stock (the "Conversion Rate"), which Conversion Rate is subject to adjustment in the event of certain dilutive events.

Series A Preferred Stock holders are also granted conversion rights in the event of a reclassification, statutory exchange, merger, consolidation or other similar business combination, including the sale, transfer or conveyance of all or substantially all of the Company's assets. Where such a transaction involves the exchange or conversion of Common Stock for or into other securities, cash or property, Series A Preferred Stock will automatically become convertible into the number, kind and amount of such other securities, cash or property as though the holders of such Series A Preferred Stock had converted such shares of Series A Preferred Stock to Common Stock immediately prior to such transaction.

Anti-Dilution

The Conversion Rate is subject to adjustment in the case of the issuance of Common Stock as a dividend or distribution to all or substantially all outstanding holders of Common Stock, or a subdivision, split or combination of Common Stock or a reclassification of Common Stock into a greater or lesser number of shares of Common Stock.

Voting Rights

The holders of Series A Preferred Stock are entitled to vote with the holders of Common Stock on all matters submitted for a vote of the holders of Common Stock. Each share of Series A Preferred Stock shall be entitled to a number of votes equal to the number of shares of Common Stock into which each such share of Series A Preferred Stock is then convertible, as calculated at the then effective Conversion Rate at the time of the related record date.

The Company shall not, without first obtaining the written consent of the holders of at least a majority of the then outstanding shares of Series A Preferred Stock (1) amend the Company's certificate of incorporation, (2) issue to Blackstone any class or series of Capital Stock that is or would be Senior Stock or that is or would be capital stock of any Subsidiary, (3) issue to Blackstone any debt instrument that has any equity-like features or is entitled to any return tied to equity value or the repayment amount of which at issuance is in excess of the sum of the amount of cash plus the face amount, including accrued interest, of debt of the Company, in either case, that is tendered as payment for such debt instruments; or (4) issue any class or series of shares, interests, rights to purchase, warrants, options, participations or other equivalents of or interests in (however designated) stock issued by the Company that is or would be, in general, in parity with the Series A Preferred Stock.

Participating Dividends

If the board of directors of the Company shall declare a dividend or other distribution payable upon the then outstanding shares of Common Stock, whether in cash or in other securities or property, the Company shall also declare and pay to each holder of outstanding shares of Series A Preferred Stock a dividend or distribution, as the case may be, in respect of each share of Series A Preferred Stock held by such holder, the amount and kind of dividends or distributions as would be payable in respect of the number of shares of Common Stock issuable upon the conversion of a share of Series A Preferred Stock.

Liquidation Rights

Upon the liquidation, dissolution or winding up of the Company and after payment in full of all amounts required to be paid to creditors and to the holders of stock having priority liquidation preferences, if any, and before any distribution or payment is made to holders of Common Stock, holders of Series A Preferred Stock will be entitled to an amount per share of Series A Preferred Stock, out of the legally available assets of the Company and proceeds thereof, equal to the greater of (1) $1,267.00 less the amount of any cash dividends and less the fair market value of any non-cash dividends or distributions, in each case previously paid to such holder of Series A Preferred Stock pursuant to certain dividend declarations or other distributions (the "Unreturned Basis") or (2) the amount of cash and fair market value of any securities or other property that a holder of Series A Preferred Stock would have received in respect of each share of Series A Preferred Stock held by such holder had such holder, immediately prior to such liquidation, dissolution or winding up of the Company, converted its shares into shares of Common Stock (at the conversion rate of one share of Common Stock per share of Series A Preferred Stock, subject to certain anti-dilution adjustments). If the assets of the Company or proceeds therefrom are not sufficient to pay in full the Unreturned Basis payable on the Series A Preferred Stock and the corresponding liquidation preference amounts payable on stock with equally ranked priority liquidation preferences, if any, then such assets or proceeds thereof will be paid pro rata in accordance with the amounts that would otherwise have been payable on the Series A Preferred Stock and such other shares.

Return of Capital

During the year ended December 31, 2019, the Company returned capital of $4.8 million to 313 Acquisition, LLC associated with the Wireless spin-off. See Note 10 for further information on the Wireless spin-off.

Capital Contribution

During each year ended December 31, 2019 and 2018, 313 contributed $4.7 million to the Company as a capital contribution.

13. 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 addition, from time to time the Company is subject to examinations, investigations and/or enforcement actions by federal and state licensing and regulatory agencies and may face the risk of penalties for violation of financial services, consumer protections and other applicable laws and regulations. For example, in 2019, the Company received a subpoena in connection with an investigation by the U.S. Department of Justice ("DOJ") concerning potential violations of the Financial Institutions Reform, Recovery and Enforcement Act ("FIRREA"). The Company also has received a civil investigative demand from the staff of the Federal Trade Commission ("FTC") concerning potential violations of the Fair Credit Reporting Act ("FCRA") and the "Red Flags Rule" thereunder, and the Federal Trade Commission Act ("FTC Act"). 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 $2.5 million as of December 31, 2019 and 2018, respectively. In conjunction with one of the settlements, the Company is obligated to pay certain future royalties, based on sales of future Products.

During the year ended December 31, 2017 the Company accrued $10.0 million related to the settlement of litigation with ADT Inc. included in accounts payable on the consolidated balance sheets. The Company paid the full amount in early 2018.

Operating Leases

The Company leases office and warehouse space, certain equipment, software 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 years ended December 31, 2018 and 2017 was $16.5 million and $17.0 million, respectively. See Note 14 "Leases" for additional information related to the impact of adopting Topic 842.

Capital Leases

The Company also enters into certain capital leases with expiration dates through May 2022. On an ongoing basis, the Company enters into vehicle lease agreements under a Fleet Lease Agreement. The lease agreements are typically 36 to 48 month leases for each vehicle. As of December 31, 2018, the capital lease obligation balance was $13.3 million. See Note 14 “Leases” for additional information related to the impact of adopting Topic 842.

Spectrum Licenses

During the year ended December 31, 2016, Vivint Wireless, Inc. (“Vivint Wireless”), an indirect wholly owned subsidiary of the Company, entered into leasing agreements with Nextlink Wireless, LLC (“Nextlink”) for designated radio frequency spectrum in 40 mid-sized metropolitan markets. In December 2017, Vivint Wireless entered into a Termination Agreement with Verizon Communications Inc. (“Verizon”) pursuant to which the parties agreed, among other things, to terminate certain spectrum leases, including the 40 aforementioned leasing agreements, between Vivint Wireless and Nextlink, a subsidiary of Verizon, in exchange for cash consideration. In January 2018, the Company consummated the transactions contemplated by the Termination Agreement with Verizon. See Note 8 for further discussion.

In addition to the commitments mentioned above, the Company had other purchase obligations of $48.6 million as of December 31, 2019 that consisted of commitments related to software licenses, marketing activities, and other goods and services.

14. 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):

		Year ended December 31, 2019
Operating lease cost	$	16,323
Finance lease cost:		
Amortization of right-of-use assets		5,533
Interest on lease liabilities		730
Total finance lease cost	$	6,263

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

		Year ended December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$	(16,713)
Operating cash flows from finance leases		(730)
Financing cash flows from finance leases		(9,781)
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$	3,423
Finance leases		8,728

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

	Year ended December 31, 2019	
Operating Leases		
Operating lease right-of-use assets	$	65,320
Current operating lease liabilities		11,640
Operating lease liabilities		63,477
Total operating lease liabilities	$	75,117
Finance Leases		
Property, plant and equipment, gross	$	47,175
Accumulated depreciation		(22,827)
Property, plant and equipment, net	$	24,348
Current finance lease liabilities	$	7,708
Finance lease liabilities		5,474
Total finance lease liabilities	$	13,182
Weighted Average Remaining Lease Term		
Operating leases		6 years
Finance leases		1.7 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, 2020	$	17,044	$	8,202
2021		16,123		3,249
2022		14,882		2,190
2023		14,534		3
2024		14,521		—
Thereafter		17,744		—
Total lease payments		94,848		13,644
Less imputed interest		(19,731)		(462)
Total	$	75,117	$	13,182

15. 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"). Historically, 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 agreed to act as a non-exclusive dealer for the other party to market, promote and sell each other's products. During the year ended December 31, 2019, 2018 and 2017 the Company charged $9.2 million, $17.3 million and $2.8 million, respectively of net expenses to Solar in connection with these agreements and was

included in selling expenses in the accompanying consolidated statement of operations. The balance due from Solar in connection with these agreements and other expenses paid on Solar's behalf was $2.2 million at December 31, 2019, and is included in prepaid expenses and other current assets in the accompanying consolidated balance sheets. As of December 31, 2018 the balance due from Solar was immaterial.

Other Related-party Transactions

The Company incurred additional expenses during the years ended December 31, 2019, 2018 and 2017, of approximately $2.5 million, $2.7 million, $3.5 million, respectively, for other related-party transactions including contributions to the charitable organization Vivint Gives Back, legal fees, and other services. These expenses were included in selling and general and administrative expenses in the accompanying consolidated statement of operations. Accrued expenses and other current liabilities at December 31, 2019 and 2018 included net payables associated with these related-party transactions of $1.0 million and $0.2 million, respectively.

On July 31, 2019, in an effort to deliver additional cost savings and cash-flow improvements, the Company completed a spin-off of Wireless, its wireless internet business. Associated with the spin-off, the Company and Wireless entered into a Transition Service Agreement ("TSA") According to the TSA, Vivint performs specified services for Wireless, including human resources, information technology, and facilities. The Company invoices Wireless on a monthly basis for these agreed upon services. Additionally, Vivint cross charges Wireless for items not included in the TSA but that are paid for by Vivint on behalf of Wireless. Transactions associated with these services were $1.3 million for the year ended December 31, 2019. The Company recorded a reserve against the full balance due from Wireless in connection with the TSA as of December 31, 2019.

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 "Transaction"). In connection with the Transaction, 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 $5.6 million, $4.1 million and $3.5 million during the years ended December 31, 2019, 2018 and 2017, respectively and was included in general and administrative expense in the accompanying consolidated statement of operations. Accrued expenses and other current liabilities at December 31, 2018 included a liability of $4.8 million to BMP related to the monitoring fee.

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 years ended December 31, 2019, 2018 and 2017 the Company incurred no costs associated with such services. Additionally, during the year ended December 31, 2019 the Company agreed to reimburse Blackstone for $1.8 million of certain other fees incurred by Blackstone for activities related to the Company and was included in general and administrative expenses in the accompanying consolidated statement of operations. The full amount was included in accrued expenses and other current liabilities as of December 31, 2019.

An affiliate of Blackstone participated as one of the arrangers in the Term Loan in September 2018 and as one of the initial 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.

During the year ended December 31, 2017, Blackstone Advisory Partners L.P., an affiliate of Blackstone participated as one of the initial purchasers of the 2022 notes in the February 2017 issuance and the 2023 notes in the August 2017 issuance and received fees at the time of closing of such issuances aggregating approximately $0.6 million.

In addition, GSO Capital Partners, an affiliate of Blackstone, is a participating lender in the Term Loan and receives proportional interest payments of the outstanding debt held. As of December 31, 2019, GSO Capital Partners holds $103.6 million of outstanding aggregate principal of the Term Loan.

In each of July 2019 and September 2018, 313 Acquisition, LLC contributed $4.7 million to the Company as a capital contribution.

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

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.

16. Segment Reporting and Business Concentrations

For the years ended December 31, 2019, 2018 and 2017, the Company conducted business through one operating segment, Vivint and primarily operated in two geographic regions: United States and Canada. Revenues by geographic region were as follows (in thousands):

	United States	Canada	Total
Revenue from external customers			
Year ended December 31, 2019	$ 1,083,756	$72,225	$1,155,981
Year ended December 31, 2018	$ 977,877	$72,564	$1,050,441
Year ended December 31, 2017	$ 816,026	$65,957	$ 881,983

17. 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 new 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 during the year ended December 31, 2019 and 2018 totaled $6.5 million and $6.0 million, respectively. No matching contributions were made to the plans for the year ended December 31, 2017.

18. Basic and Diluted Net Loss Per Share

The Company computes basic loss per share by dividing loss attributable to common stockholders by the weighted-average number of common shares outstanding for the period. Diluted earnings per share reflects the potential dilution of securities that could be exercised or converted into common shares, and is computed by dividing net earnings available to common stockholders by the weighted-average number of common shares outstanding plus the effect of potentially dilutive shares to purchase common stock.

The following table sets forth the computation of the Company's basic and diluted net loss attributable per share to common stockholders for the years ended December 31, 2019, 2018 and 2017:

	Year ended December 31,		
	2019	2018	2017
Numerator:			
Net loss attributable to common stockholders (in thousands)	$ (395,924)	$ (472,635)	$ (410,199)
Denominator:			
Shares used in computing net loss attributable per share to common stockholders, basic and diluted	1,007,792	1,004,295	1,003,544
Net loss attributable per share to common stockholders:			
Basic and diluted	$ (392.86)	$ (470.61)	$ (408.75)

The following table discloses securities that could potentially dilute basic net loss per share in the future that were not included in the computation of diluted net loss per share because to do so would have been antidilutive for all periods presented:

	Year ended December 31,		
	2019	2018	2017
Series A Convertible Preferred Stock	79,791	79,791	79,791
Vivint Group SARs	95,322,140	91,633,770	86,376,181
Vivint Group RSUs	596,111	360,000	—

See Note 12 for additional information regarding the terms of the Preferred Stock, SARs and RSUs.

19. 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. As of December 31, 2019 Legacy Vivint Smart Home, Inc. is not a guarantor of the notes.

Presented below is the 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 December 31, 2019 and 2018 and for the years ended December 31, 2019, 2018 and 2017. The audited consolidating financial information reflects the investments of APX in the Guarantor Subsidiaries and the Non-Guarantor Subsidiaries using the equity method of accounting.

Condensed Consolidating Balance Sheet
December 31, 2019
(In thousands)

	Parent	APX Group Holdings, Inc.	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Assets							
Current assets	$ 6,170	$ —	$ 2,651	$ 340,321	$ 161,041	$ (358,733)	$ 151,450
Property and equipment, net	—	—	—	59,916	1,172	—	61,088
Capitalized contract costs, net	—	—	—	1,147,860	67,389	—	1,215,249
Deferred financing costs, net	—	—	1,123	—	—	—	1,123
Investment in subsidiaries	—	—	1,519,843	—	—	(1,519,843)	—
Intercompany receivable	—	—	—	6,303	—	(6,303)	—
Intangible assets, net	—	—	—	164,330	13,481	—	177,811
Goodwill	—	—	—	810,130	26,410	—	836,540
Operating lease right-of-use assets	—	—	—	65,120	200	—	65,320
Long-term notes receivables and other assets, net	—	—	106	75,008	20,819	(106)	95,827
Total Assets	$ 6,170	$ —	$ 1,523,723	$2,668,988	$ 290,512	$(1,884,985)	$ 2,604,408
Liabilities and Stockholders' (Deficit) Equity							
Current liabilities	$ 4,206	$ —	$ 492,752	$ 645,373	$ 230,367	$ (358,733)	$ 1,013,965
Intercompany payable	—	—	—	—	6,303	(6,303)	—
Notes payable and revolving line of credit, net of current portion	—	—	2,820,293	—	—	—	2,820,293
Finance lease obligations, net of current portion	—	—	—	4,909	565	—	5,474
Deferred revenue, net of current portion	—	—	—	385,690	20,096	—	405,786
Operating lease liabilities	—	—	—	63,392	85	—	63,477
Accumulated losses of investee	1,789,322	1,789,322	—	—	—	(3,578,644)	—
Other long-term obligations	—	—	—	80,248	292	—	80,540
Deferred income tax liability	(71)	—	—	106	2,231	(35)	2,231
Total (deficit) equity	(1,787,287)	(1,789,322)	(1,789,322)	1,489,270	30,573	2,058,730	(1,787,358)
Total liabilities and stockholders' (deficit) equity	$ 6,170	$ —	$ 1,523,723	$2,668,988	$ 290,512	$(1,884,985)	$ 2,604,408

Condensed Consolidating Balance Sheet
December 31, 2018
(In thousands)

	Parent	APX Group Holdings, Inc.	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Assets							
Current assets	$ —	$ —	$ 12,951	$ 269,770	$ 103,451	$ (262,674)	$ 123,498
Property 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, net	—	—	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	$ 440	$ —	$ 36,988	$ 507,063	$ 182,159	$ (262,674)	$ 463,976
Intercompany payable	—	—	—	—	6,303	(6,303)	—
Notes payable and revolving line of credit, net of current portion	—	—	3,037,095	—	—	—	3,037,095
Finance 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	1,396,601	1,396,601				(2,793,202)	—
Other long-term obligations	—	—	—	90,209	—	—	90,209
Deferred income tax liability	(29)	—	—	106	1,096	(77)	1,096
Total (deficit) equity	(1,397,012)	(1,396,601)	(1,396,601)	1,635,991	26,376	1,130,806	(1,397,041)
Total liabilities and stockholders' (deficit) equity	$ —	$ —	$ 1,677,482	$2,545,592	$ 232,867	$(1,931,450)	$ 2,524,491

Condensed Consolidating Statements of Operations and Comprehensive Loss
For the Year ended December 31, 2019
(In thousands)

	Parent	APX Group Holdings, Inc.	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	$ —	$ —	$ —	$1,103,539	$ 53,434	$ (992)	$ 1,155,981
Costs and expenses	168	—	—	1,246,351	52,739	(992)	1,298,266
(Loss) income from operations	(168)	—	—	(142,812)	695	—	(142,285)
Loss from subsidiaries	(395,756)	(395,756)	(137,476)	—	—	928,988	—
Other expense (income), net	—	—	258,280	(2,726)	(3,228)	—	252,326
(Loss) income before income taxes	(395,924)	(395,756)	(395,756)	(140,086)	3,923	928,988	(394,611)
Income tax expense	(42)	—	—	237	1,076	42	1,313
Net (loss) income	$(395,882)	$(395,756)	$(395,756)	$ (140,323)	$ 2,847	$ 928,946	$ (395,924)
Other comprehensive income, net of tax effects:							
Other comprehensive income from subsidiaries	1,371	1,371	1,371	—	—	(4,113)	—
Foreign currency translation adjustment	—	—	—	—	1,371	—	1,371
Total other comprehensive income, net of tax effects	1,371	1,371	1,371	—	1,371	(4,113)	1,371
Comprehensive (loss) income	$(394,511)	$(394,385)	$(394,385)	$ (140,323)	$ 4,218	$ 924,833	$ (394,553)

Condensed Consolidating Statements of Operations and Comprehensive Loss
For the Year ended December 31, 2018
(In thousands)

	Parent	APX Group Holdings, Inc.	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	$ —	$ —	$ —	$ 998,190	$ 54,818	$ (2,567)	$ 1,050,441
Costs and expenses	4,721	—	—	1,240,570	54,497	(2,567)	1,297,221
(Loss) income from operations	(4,721)	—	—	(242,380)	321	—	(246,780)
Loss from subsidiaries	(467,914)	(467,914)	(211,665)	—	—	1,147,493	—
Other expense (income), net	—	—	256,249	(35,936)	7,153	—	227,466
Loss before income taxes	(472,635)	(467,914)	(467,914)	(206,444)	(6,832)	1,147,493	(474,246)
Income tax expense (benefit)	(1,194)	—	—	512	(2,123)	1,194	(1,611)
Net loss	$(471,441)	$(467,914)	$(467,914)	$ (206,956)	$ (4,709)	$ 1,146,299	$ (472,635)
Other comprehensive loss, net of tax effects:							
Other comprehensive loss from subsidiaries	(2,216)	(2,216)	(2,216)	—	—	6,648	—
Foreign currency translation adjustment	—	—	—	—	(2,216)	—	(2,216)
Total other comprehensive loss, net of tax effects	(2,216)	(2,216)	(2,216)	—	(2,216)	6,648	(2,216)
Comprehensive loss	$(473,657)	$(470,130)	$(470,130)	$ (206,956)	$ (6,925)	$ 1,152,947	$ (474,851)

Condensed Consolidating Statements of Operations and Comprehensive Loss
For the Year ended December 31, 2017
(In thousands)

	Parent	APX Group Holdings, Inc.	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	$ —	$ —	$ —	$ 841,658	$ 43,015	$ (2,690)	$ 881,983
Costs and expenses	—	—	—	997,247	42,919	(2,690)	1,037,476
(Loss) income from operations	—	—	—	(155,589)	96	—	(155,493)
Loss from subsidiaries	(410,199)	(410,199)	(165,497)	—	—	985,895	—
Other expense (income), net	—	—	244,702	13,545	(4,619)	—	253,628
Loss before income taxes	(410,199)	(410,199)	(410,199)	(169,134)	4,715	985,895	(409,121)
Income tax (benefit) expense	(565)	—	—	(228)	1,306	565	1,078
Net (loss) income	$(409,634)	$(410,199)	$(410,199)	$ (168,906)	$ 3,409	$ 985,330	$ (410,199)
Other comprehensive income, net of tax effects:							
Other comprehensive income from subsidiaries	1,462	1,462	1,462	—	—	(4,386)	—
Unrealized gain on marketable securities	—	—	—	(1,693)	—	—	(1,693)
Foreign currency translation adjustment	—	—	—	—	3,155	—	3,155
Total other comprehensive income (loss), net of tax effects	1,462	1,462	1,462	(1,693)	3,155	(4,386)	1,462
Comprehensive (loss) income	$(408,172)	$(408,737)	$(408,737)	$ (170,599)	$ 6,564	$ 980,944	$ (408,737)

Condensed Consolidating Statements of Cash Flows
For the Year ended December 31, 2019
(In thousands)

	Parent	APX Group Holdings, Inc.	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows from operating activities:							
Net cash (used in) provided by operating activities	$ —	$ —	$ —	$ (222,781)	$ 1,189	$ —	$ (221,592)
Cash flows from investing activities:							
Capital expenditures	—	—	—	(10,031)	(88)	—	(10,119)
Proceeds from sale of intangibles	—	—	—	—	—	—	—
Proceeds from sale of capital assets	—	—	—	878	—	—	878
Investment in subsidiary	3,309	3,309	(237,174)	—	—	230,556	—
Acquisition of intangible assets	—	—	—	(1,801)	—	—	(1,801)
Proceeds from sales of equity securities	—	—	—	5,430	—	—	5,430
Net cash provided by (used in) investing activities	3,309	3,309	(237,174)	(5,524)	(88)	230,556	(5,612)
Cash flows from financing activities:							
Proceeds from notes payable	—	—	225,000	—	—	—	225,000
Repayment on notes payable	—	—	(233,100)	—	—	—	(233,100)
Borrowings from revolving line of credit	—	—	342,500	—	—	—	342,500
Repayment of revolving line of credit	—	—	(97,500)	—	—	—	(97,500)
Proceeds from capital contribution	4,700	4,700	4,700	245,183	—	(254,583)	4,700
Repayments of finance lease obligations	—	—	—	(9,551)	(230)	—	(9,781)
Deferred financing costs	—	—	(4,896)	—	—	—	(4,896)
Payment of offering costs	(2,574)	—	—	—	—	—	(2,574)
Return of capital	(5,435)	(8,009)	(8,009)	(8,009)	—	24,027	(5,435)
Net cash (used in) provided by financing activities	(3,309)	(3,309)	228,695	227,623	(230)	(230,556)	218,914
Effect of exchange rate changes on cash	—	—	—	—	66	—	66
Net (decrease) increase in cash	—	—	(8,479)	(682)	937	—	(8,224)
Cash:							
Beginning of period	—	—	11,130	682	961	—	12,773
End of period	$ —	$ —	$ 2,651	$ —	$ 1,898	$ —	$ 4,549

Condensed Consolidating Statements of Cash Flows
For the Year ended December 31, 2018
(In thousands)

	Parent	APX Group Holdings, Inc.	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows from operating activities:							
Net cash (used in) provided by operating activities	$ —	$ —	$ —	$ (220,952)	$ 453	$ —	$ (220,499)
Cash flows from investing activities:							
Subscriber acquisition costs – company owned equipment	—	—	—	—	—	—	—
Proceeds from sale of intangibles	—	—	—	53,693	—	—	53,693
Capital expenditures	—	—	—	(19,409)	(3)	—	(19,412)
Proceeds from sale of capital assets	—	—	—	127	—	—	127
Investment in subsidiary	(1,571)	(1,571)	(201,292)	—	—	204,434	—
Acquisition of intangible assets	—	—	—	(1,486)	—	—	(1,486)
Other assets	—	—	—	—	—	—	—
Net cash (used in) provided by investing activities	(1,571)	(1,571)	(201,292)	32,925	(3)	204,434	32,922
Cash flows from financing activities:							
Proceeds from notes payable	—	—	810,000	—	—	—	810,000
Repayment on notes payable	—	—	(522,191)	—	—	—	(522,191)
Borrowings from revolving line of credit	—	—	201,000	—	—	—	201,000
Repayment of revolving line of credit	—	—	(261,000)	—	—	—	(261,000)
Proceeds from capital contribution	4,700	4,700	4,700	204,421	—	(213,821)	4,700
Repayments of capital lease obligations	—	—	—	(12,011)	(343)	—	(12,354)
Financing costs	—	—	(11,317)	—	—	—	(11,317)
Deferred financing costs	—	—	(9,302)	—	—	—	(9,302)
Payment of offering costs	(3,129)	—	—	—	—	—	(3,129)
Return of capital	—	(3,129)	(3,129)	(3,129)	—	9,387	—
Net cash provided by (used in) financing activities	1,571	1,571	208,761	189,281	(343)	(204,434)	196,407
Effect of exchange rate changes on cash	—	—	—	—	71	—	71
Net increase in cash	—	—	7,469	1,254	178	—	8,901
Cash:							
Beginning of period	—	—	3,661	(572)	783	—	3,872
End of period	$ —	$ —	$ 11,130	$ 682	$ 961	$ —	$ 12,773

Condensed Consolidating Statements of Cash Flows
For the Year ended December 31, 2017
(In thousands)

	Parent	APX Group Holdings, Inc.	APX Group, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows from operating activities:							
Net cash (used in) provided by operating activities	$ —	$ —	$ —	$ (313,290)	$ 3,958	$ —	$ (309,332)
Cash flows from investing activities:							
Capital expenditures	—	—	—	(20,391)	—	—	(20,391)
Proceeds from sale of capital assets	—	—	—	776	—	—	776
Investment in subsidiary	1,151	1,151	(325,222)	—	—	322,920	—
Acquisition of intangible assets	—	—	—	(1,745)	—	—	(1,745)
Other assets	—	—	—	(301)	—	—	(301)
Net cash used in investing activities	1,151	1,151	(325,222)	(21,661)	—	322,920	(21,661)
Cash flows from financing activities:							
Proceeds from notes payable	—	—	724,750	—	—	—	724,750
Repayment on notes payable	—	—	(450,000)	—	—	—	(450,000)
Borrowings from revolving line of credit	—	—	196,895	—	—	—	196,895
Repayment of revolving line of credit	—	—	(136,895)	—	—	—	(136,895)
Proceeds from capital contribution	—	—	—	326,373	—	(326,373)	—
Payment of intercompany settlement	—	—	—	(2,983)	—	—	(2,983)
Intercompany receivable	—	—	—	3,621	—	(3,621)	—
Intercompany payable	—	—	—	—	(3,621)	3,621	—
Repayments of capital lease obligations	—	—	—	(9,667)	(340)	—	(10,007)
Financing costs	—	—	(18,277)	—	—	—	(18,277)
Payment of offering costs	(1,151)	—	—	—	—	—	(1,151)
Return of capital	—	—	(11,119)	—	—	—	(11,119)
Payment of dividends	—	(1,151)	(1,151)	(1,151)	—	3,453	—
Net cash (used in) provided by financing activities	(1,151)	(1,151)	304,203	316,193	(3,961)	(322,920)	291,213
Effect of exchange rate changes on cash	—	—	—	—	132	—	132
Net increase (decrease) in cash	—	—	(21,019)	(18,758)	129	—	(39,648)
Cash:							
Beginning of period	—	—	24,680	18,186	654	—	43,520
End of period	$ —	$ —	$ 3,661	$ (572)	$ 783	$ —	$ 3,872

20. Subsequent Events

Transaction between Legacy Vivint Smart Home and Vivint Smart Home

On January 17, 2020 (the "Closing Date"), Vivint Smart Home and Legacy Vivint Smart Home, consummated a merger pursuant to a certain agreement and plan of merger, dated September 15, 2019 (the "Agreement and Plan of Merger"), by and among Vivint Smart Home, Maiden Merger Sub, Inc., a subsidiary of Vivint Smart Home ("Merger Sub"), and Legacy Vivint Smart Home, as amended by Amendment No. 1 to the Agreement and Plan of Merger (the "Amendment" and as amended, the "Merger Agreement"), dated as of December 18, 2019, by and among Vivint Smart Home, Merger Sub and Legacy Vivint Smart Home.

Pursuant to the terms of the Merger Agreement, a business combination between Vivint Smart Home and Legacy Vivint Smart Home was effected through the merger of Merger Sub with and into Legacy Vivint Smart Home, with Legacy Vivint Smart Home surviving as the surviving company (the "Merger"). At the effective time of the Merger, each stockholder of Legacy Vivint Smart Home received 84.5320916792 shares of Vivint Smart Home's Class A common stock, par value $0.0001 per share (the "Common Stock"), for each share of Legacy Vivint Smart Home common stock, par value $0.01 per share, that such stockholder owned. Pursuant in each case to a Subscription Agreement entered into in connection with the Merger Agreement, certain investment funds managed by affiliates of Fortress Investment Group LLC ("Fortress") and certain investment funds affiliated with Blackstone purchased, respectively, 12,500,000 and 10,000,000 newly-issued shares of Common Stock concurrently with the completion of the Merger (the "Closing") on the Closing Date for an aggregate purchase price of $125.0 million and $100.0 million, respectively.

In connection with the Closing, Mosaic Acquisition Corp. changed its name to Vivint Smart Home, Inc.

Earnout

Following the closing of the Merger, holders of Vivint common stock and holders of Rollover Restricted Stock (as defined in the Merger Agreement) and outstanding Rollover Equity Awards (as defined in the Merger Agreement) will have the contingent right to receive, in the aggregate, up to 37,500,000 shares of Common Stock if, from the closing of the Merger until the fifth anniversary thereof, the dollar volume-weighted average price of Common Stock exceeds certain thresholds. The first issuance of 12,500,000 earnout shares will occur if the volume-weighted average price of Common Stock exceeds $12.50 for any 20 trading days within any 30 trading day period (the "First Earnout"). The second issuance of 12,500,000 earnout shares will occur if the volume weighted average price of Common Stock exceeds $15.00 for any 20 trading days within any 30 trading day period (the "Second Earnout"). The third issuance of 12,500,000 earnout shares will occur if the volume weighted average price of Common Stock exceeds $17.50 for any 20 trading days within any 30 trading day period (the "Third Earnout") (as further described in the Merger Agreement).

Subsequent to the closing of the Merger, the issuance of 12,500,000 earnout shares occurred in February 2020 after attainment of the First Earnout and the issuance of 12,500,000 earnout shares occurred in March 2020 after attainment of the Second Earnout.

Refinancing Transactions

On February 14, 2020, APX completed its offering of $600.0 million aggregate principal amount of 6.75% senior secured notes due 2027 (the "2027 Notes") in a private placement.

Concurrently with the 2027 Notes offering, APX amended and restated the credit agreements governing our existing revolving credit facility and existing term loan credit facility (the "Concurrent Refinancing Transactions"). In connection therewith, APX, among other things, (i) extended the maturity date with respect to certain commitments under the revolving credit facility and increased the aggregate commitments in respect of the revolving credit facility to $350.0 million and (ii) extended the maturity date with respect to the loans outstanding under the term loan facility and increased the aggregate principal amount of term loans term loans outstanding under the term loan credit facility to $950.0 million.

APX used the net proceeds from the 2027 Notes offering and Concurrent Refinancing Transactions, together with the proceeds from the Merger, to (i) redeem all of APX's outstanding 8.750% Senior Notes due 2020 (the "2020 Notes Redemption"), (ii) redeem all of APX's outstanding 8.875% Senior Secured Notes due 2022 (the "2022 Private Placement Notes Redemption"), (iii) refinance in full the existing borrowings under APX's existing term loan facility and revolving credit facility, (iv) redeem $223.0 million aggregate principal amount of APX's outstanding 7.875% Senior Secured Notes due 2022 (the "Existing 7.875% Notes Redemption" and, together with the 2020 Notes Redemption and the 2022 Private Placement Notes Redemption, the "Redemptions") and (v) pay the related accrued interest, fees and expenses related thereto. APX irrevocably deposited funds with the applicable trustee and/or paying agent to effect the Redemptions and to satisfy and discharge all of APX's remaining obligations under the indenture governing APX's 8.750% Senior Notes due 2020 and the note purchase agreement governing APX's 8.875% Senior Secured Notes due 2022. Vivint intends to use any remaining net proceeds for general corporate purposes, which may include repayment of additional indebtedness.

LEGACY VIVINT SMART HOME'S MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis provides information which management believes is relevant to an assessment and understanding of our consolidated results of operations and financial condition. The discussion should be read in conjunction with the consolidated financial statements and notes thereto contained in Exhibit 99.1 to this Amendment No. 2. This discussion contains forward-looking statements and involves numerous risks and uncertainties, including, but not limited to, those described in the "Risk Factors" section of the Form 8-K. Actual results may differ materially from those contained in any forward-looking statements. Unless the context otherwise requires, references in this "Management's Discussion and Analysis of Financial Condition and Results of Operations" to "we", "us", "our", and "the Company" are intended to mean the business and operations of Vivint Smart Home, Inc. and its consolidated subsidiaries.

Business Overview

Following the Merger, 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.

Legacy Vivint Smart Home was founded by our CEO Todd Pedersen in 1999 and has grown to become one of the largest smart home solutions providers in North America with over 1.5 million subscribers as of December 31, 2019, managing over 20 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, national 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.

As of December 31, 2019 and 2018, Legacy Vivint Smart Home had over 1.5 million and 1.4 million subscribers, respectively, representing year-over-year growth of 7%. In 2019 and 2018, Legacy Vivint Smart Home generated revenue of $1.2 billion and $1.1 billion, respectively along with a net loss of $395.9 million and $472.6 million, respectively. As of December 31, 2019 and 2018, Legacy Vivint Smart Home had approximately $3.3 billion and $3.1 billion of total debt outstanding, respectively.

Recent Developments

Transaction between Legacy Vivint Smart Home and Vivint Smart Home

On January 17, 2020 (the “Closing Date”), Vivint Smart Home and Legacy Vivint Smart Home, consummated a merger pursuant to a certain agreement and plan of merger, dated September 15, 2019 (the “Agreement and Plan of Merger”), by and among Vivint Smart Home, Maiden Merger Sub, Inc., a subsidiary of Vivint Smart Home (“Merger Sub”), and Legacy Vivint Smart Home, as amended by Amendment No. 1 to the Agreement and Plan of Merger (the “Amendment” and as amended, the “Merger Agreement”), dated as of December 18, 2019, by and among Vivint Smart Home, Merger Sub and Legacy Vivint Smart Home.

Pursuant to the terms of the Merger Agreement, a business combination between Vivint Smart Home and Legacy Vivint Smart Home was effected through the merger of Merger Sub with and into Legacy Vivint Smart Home, with Legacy Vivint Smart Home surviving as the surviving company (the “Merger”). At the effective time of the Merger, each stockholder of Legacy Vivint Smart Home received 84.5320916792 shares of Vivint Smart Home’s Class A common stock, par value $0.0001 per share (the “Common Stock”), for each share of Legacy Vivint Smart Home common stock, par value $0.01 per share, that such stockholder owned. Pursuant in each case to a Subscription Agreement entered into in connection with the Merger Agreement, certain investment funds managed by affiliates of Fortress Investment Group LLC (“Fortress”) and certain investment funds affiliated with Blackstone purchased, respectively, 12,500,000 and 10,000,000 newly-issued shares of Common Stock concurrently with the completion of the Merger (the “Closing”) on the Closing Date for an aggregate purchase price of $125.0 million and $100.0 million, respectively.

In connection with the Closing, Mosaic Acquisition Corp. changed its name to Vivint Smart Home, Inc.

Refinancing Transactions

On February 14, 2020, APX completed its offering of $600.0 million aggregate principal amount of 6.75% senior secured notes due 2027 (the “2027 Notes”) in a private placement.

Concurrently with the 2027 Notes offering, APX amended and restated the credit agreements governing our existing revolving credit facility and existing term loan credit facility (the “Concurrent Refinancing Transactions”). In connection therewith, APX, among other things, (i) extended the maturity date with respect to certain commitments under the revolving credit facility and increased the aggregate commitments in respect of the revolving credit facility to $350.0 million and (ii) extended the maturity date with respect to the loans outstanding under the term loan facility and increased the aggregate principal amount of term loans outstanding under the term loan credit facility to $950.0 million.

APX used the net proceeds from the 2027 Notes offering and Concurrent Refinancing Transactions, together with the proceeds from the Merger, to (i) redeem all of APX’s outstanding 8.750% Senior Notes due 2020 (the “2020 Notes Redemption”), (ii) redeem all of APX’s outstanding 8.875% Senior Secured Notes due 2022 (the “2022 Private Placement Notes Redemption”), (iii) refinance in full the existing borrowings under APX’s existing term loan facility and existing revolving credit facility, (iv) redeem $223.0 million aggregate principal amount of APX’s outstanding 7.875% Senior Secured Notes due 2022 (the “Existing 7.875% Notes Redemption” and, together with the 2020 Notes Redemption and the 2022 Private Placement Notes Redemption, the “Redemptions”) and (v) pay the related accrued interest, fees and expenses related thereto. APX irrevocably deposited funds with the applicable trustee and/or paying agent to effect the Redemptions and to satisfy and discharge all of APX’s remaining obligations under the indenture governing APX’s 8.750% Senior Notes due 2020 and the note purchase agreement governing APX’s 8.875% Senior Secured Notes due 2022. Vivint intends to use any remaining net proceeds for general corporate purposes, which may include repayment of additional indebtedness.

Wireless Internet Business

On July 31, 2019, in an effort to deliver additional cost savings and cash-flow improvements, Legacy Vivint Smart Home 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 stockholders of Legacy Vivint Smart Home pro rata based on their respective holdings.

Our Business Model

Our business is driven by the acquisition of new subscribers and by servicing and growing sales from our existing subscriber base. The acquisition of new subscribers requires significant upfront investment, which in turn generates high-margin recurring revenue from our cloud-enabled smart home solutions. We generate this revenue from selling our solution and accompanying smart home devices to our subscribers. Therefore, we focus our investment decisions on acquiring new subscribers in the most cost-effective manner, while striving to maximize existing subscriber retention and lifetime value.

Legacy Vivint Smart Home has experienced significant historical subscriber growth. For example, its Total Subscribers increased by 95% from December 31, 2013 to December 31, 2019. To drive this growth, Legacy Vivint Smart Home has made significant upfront investments in its various sales channels, as well as technology and infrastructure to support its growing subscriber base. As a result of these investments, Legacy Vivint Smart Home has incurred losses and used significant amounts of cash to fund operations.

As we scale our business a greater percentage of our net acquisition costs for New Subscribers may be funded through revenues generated by our existing subscriber base. Although we anticipate the absolute number of new subscribers to grow over time, we expect the number of new subscribers to decrease as a percentage of our Total Subscribers. We believe this decrease in new subscribers as a percentage of the total, along with the expected growth in revenue, will improve our operating results and operating cash flows over time. Our ability to improve our operating results and cash flows, however, is subject to a number of risks and uncertainties as described in greater detail elsewhere in this filing and there can be no assurance that we will achieve such improvements. To the extent that we do not scale our business efficiently, we will continue to incur losses and require a significant amount of cash to fund our operations, which in turn could have a material adverse effect on our business, cash flows, operating results and financial condition.

We seek to increase our average monthly revenue per user, or AMRU, by continually innovating and offering new smart home solutions that further leverage the investments made to date in our existing platform and sales channels. Since 2010, Legacy Vivint Smart Home has successfully expanded its smart home platform, which has allowed it to charge higher recurring subscription fees and generate higher smart home device revenue from new subscribers for these additional offerings. For example, the introduction of Legacy Vivint Smart Home’s proprietary Vivint Smart Hub, Vivint SkyControl Panel, Vivint Glance Display, Vivint Smart Drive, Vivint Doorbell Camera, Vivint Ping Camera, Vivint Outdoor Camera, Vivint Element Thermostat, Vivint Smart Sensor and Vivint Motion Sensor has expanded its smart home platform. Due to the high rate of adoption of additional smart home devices and tech-enabled services, Legacy Vivint Smart Home’s AMRU has increased from $56.14 in 2013 to $64.44 for the year ended December 31, 2019, an increase of 15%.

Our SHaaS business model generates subscription-based, high-margin recurring revenue from subscribers who contract for our Smart Home Services. We continue to focus on technology, service, and business model innovation to provide superior subscriber experience, from the time of first contact to the day-to-day experience.

In 2017, Legacy Vivint Smart Home made a strategic decision to offer Vivint Flex Pay to the market as a part of its business model innovation, providing benefits to both its subscribers and the company. Vivint Flex Pay provides greater subscriber accessibility and affordability by enabling qualified subscribers to purchase our Products and related installation through unsecured financing provided either by a third party financing partner or by us, in most cases at zero-percent APR. Under the Consumer Financing Program (the “CFP”), qualified subscribers are eligible for installment loans of up to $4,000 for either 42 or 60 months. These installment loans are between the subscriber and Citizens Bank, N.A., or Citizens, as the exclusive third party provider of the installment loans under Vivint Flex Pay. Customers not eligible for the CFP, but who qualify under the Company’s underwriting criteria, may enter into a RIC directly with Vivint. Because we directly fund Product purchases financed through RICs, the mix of financing methods between CFP and RICs affects the amount of cash we receive at the time of subscriber origination to offset this upfront investment.

Pursuant to the agreement between Citizens (the "CFP Agreement") and Legacy Vivint Smart Home, we pay a monthly fee to Citizens based on the average daily outstanding balance of the loans provided by Citizens to our subscribers, and we share with Citizens the liability for credit losses, with our company being responsible for between 5% to 100% of lost principal balances, depending on factors specified in the CFP Agreement. Additionally, we are responsible for reimbursing Citizens for the credit card transaction fees associated with these loans. The present value of the estimated total fees owed by us to Citizens, based on current loans outstanding, are recorded as a derivative liability on our consolidated balance sheet. The initial term of the CFP Agreement is five years, subject to automatic, one-year renewals unless terminated by either party in accordance with its terms. Because the Vivint Flex Pay plan separates payments for our smart home devices from payments for our Smart Home Services, under the plan agreements, following the expiration of the term of subscribers' initial contract term, annual revenues will primarily be limited to fees from our Services. Thus, our revenues and margins are expected to be lower over the life of the subscriber than under our historical service contracts.

The launch of Vivint Flex Pay enables Legacy Vivint Smart Home to accelerate the acquisition of new subscribers and expand our market opportunity by reducing upfront cash requirements associated with new subscriber acquisitions. Vivint Flex Pay also improves our unit economics, increases contract length, reduces our balance sheet risk, and increases the capital efficiency of our business. Today, Vivint Flex Pay is the significant driver of our subscriber retention strategy. Our retention improves as our subscribers enter into longer term contracts. Vivint Flex Pay has also improved Legacy Vivint Smart Home's subscriber economics with an Average Subscriber Lifetime of 92 months (approximately 8 years) as of December 31, 2019. If our expected long-term annualized attrition rate increases by 1% to 14%, Average Subscriber Lifetime would decrease to approximately 86 months. Conversely, if our expected attrition decreases by 1% to 12%, our Average Subscriber Lifetime would increase to approximately 100 months. Although there are costs to acquiring new subscribers, because we operate on a recurring revenue-based model, acquiring subscribers results in cumulative value generation that compounds and accrues over time.

We expect to continue investing in innovative technologies that will make our platform more valuable and engaging for subscribers, and we expect to continue investing in our subscriber acquisition channels to further improve the economics of our business model.

Recurring 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. Because we view the sale of our subscription and the accompanying devices as a single, combined performance obligation, we recognize these revenues together, ratably, generally over the course of the contract. We operate in a single, reportable segment.

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.

Market factors and disruptions in global markets may also affect our future operating results and cash flows. For example, we cannot presently estimate the overall operational and financial impact of the coronavirus disease (COVID-19), which could be material to our 2020 results, and which is highly dependent on the breadth and duration of the outbreak and could be affected by other factors we are not currently able to predict.

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. Legacy Vivint Smart Home's Average Subscriber Lifetime was 92 months (approximately 8 years) as of December 31, 2019. If our expected long-term annualized attrition rate increases by 1% to 14%, Average Subscriber Lifetime would decrease to approximately 86 months. Conversely, if our expected attrition decreases 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 Legacy Vivint Smart Home's subscriber data for the years ended December 31, 2019, 2018 and 2017:

	Year ended December 31,		
	2019	2018	2017
Beginning balance of subscribers	1,444,822	1,292,698	1,146,746
New subscribers	316,403	322,574	279,735
Attrition	(208,684)	(170,450)	(133,783)
Ending balance of subscribers	1,552,541	1,444,822	1,292,698
Monthly average subscribers	1,502,310	1,380,741	1,214,696
Attrition rate	13.9%	12.3%	11.0%

Historically, Legacy Vivint Smart Home has 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 December 31, 2019, reflects the effect of the 2014 60-month, 2015 42-month and 2016 42-month contracts reaching the end of their initial contract term. Attrition in the twelve months ended December 31, 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, Legacy Vivint Smart Home 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 December 31, 2019, 14% of Legacy Vivint Smart Home subscribers have financed their equipment purchases through RICs, which were funded through Legacy Vivint Smart Home's 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 Legacy Vivint Smart Home 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 the 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 national 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 Legacy Vivint Smart Home's 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. The Legacy Vivint Smart Home platform supports over 20 million connected devices, as of December 31, 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

Legacy Vivint Smart Home has made significant investments in the development of our organization, and we 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.

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. Management uses these metrics to analyze its continuing operations and to monitor, assess, and identify meaningful trends in the operating and financial performance of the company.

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 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.

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 Backlog

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

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, Legacy Vivint Smart Home has 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, it has 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 ("Smart Home Pros") perform most subscriber installations related to customer moves, customer upgrades or those generated through our national 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, or 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.

Critical Accounting Policies and Estimates

In preparing our 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 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, impairment of long-lived assets, fair value and income taxes have the greatest potential impact on our consolidated financial statements; therefore, we consider these to be our critical accounting estimates. For information on our significant accounting policies, see Note 2 to the accompanying audited 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, which is the period in which the parties to the contract have enforceable rights and obligations. 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 that were 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 subscriber’s home at the commencement or modification of the contract. We calculate amortization by accumulating all deferred contract costs into separate portfolios based on the initial month of service and amortize those deferred contract costs on a straight-line basis over the expected period of benefit that we have determined to be five years, consistent with the pattern in which we provide services to our customers. We believe this pattern of

amortization appropriately reduces the carrying value of the capitalized contract costs over time to reflect the decline in the value of the assets as the remaining period of benefit for each monthly portfolio of contracts decreases. The period of benefit of five years is longer than a typical contract term because of anticipated contract renewals. We apply this period of benefit to our entire portfolio of contracts. We update our estimate of the period of benefit periodically and whenever events or circumstances indicate that the period of benefit could change significantly. Such changes, if any, are accounted for prospectively as a change in estimate. Amortization of capitalized contract costs is included in "Depreciation and Amortization" on the consolidated statements of operations.

The carrying amount of the capitalized contract costs is periodically reviewed for impairment. In performing this review, we consider whether the carrying amount of the capitalized contract costs will be recovered. In estimating the amount of consideration we expect to receive in the future related to capitalized contract costs, we consider factors such as attrition rates, economic factors, and industry developments, among other factors. If we determine that capitalized contract costs are impaired, we recognize an impairment loss for the amount by which the carrying amount of the capitalized contract costs and the anticipated costs that relate directly to providing the future services exceed the consideration that we have received and that we expect to receive in the future.

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 accompanying 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 Legacy Vivint Smart Home's primary sales model beginning in March 2017. Under Vivint Flex Pay, customers pay separately for Products and 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%, based on the customer's credit quality, and are either installment loans or revolving loans with a 42 or 60 month term.

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 and we share liability for credit losses, with the Company being responsible for between 5% and 100% of lost principal balances. Additionally, we are responsible for reimbursing certain third-party financing providers for the credit card transaction fees associated with the loans. 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 Consolidated Statement of Operations.

For other 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. Gross RIC receivables are reduced for (i) expected write-offs of uncollectible balances over the term of the RIC and (ii) a present value discount of the expected cash flows using a risk adjusted market interest rate (together, the “RIC Discount”). Therefore, the RIC receivables equal the present value of the expected cash flows to be received by us over the term of the RIC. At the time of installation, we record a long-term note receivable within long-term notes receivables and other assets, net on the 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 consolidated balance sheets. The billed amounts of notes receivable are included in accounts receivable within accounts and notes receivable, net on the 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 risk adjusted interest rate considers a number of factors, including credit quality of the subscriber base and other qualitative considerations such as macro-economic factors. The imputed interest income is recognized over the term of the RIC contract as recurring and other revenue on the consolidated statements of operations.

When we determine that there are RIC receivables that have become uncollectible, we record an adjustment to the RIC Discount and reduce the related note receivable balance. On a regular basis, we also assess the level of the RIC Discount balance based on historical RIC write-off trends and adjust the balance, if necessary. 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 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 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, 2019 consisted of one reporting unit. As of December 31, 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 2 to our accompanying audited Consolidated Financial Statements.

Basis of Presentation

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

Results of operations

	Year ended December 31,		
	2019	2018	2017
		(in thousands)	
Total revenues	$1,155,981	$1,050,441	$ 881,983
Total costs and expenses	1,298,266	1,297,221	1,037,476
Loss from operations	(142,285)	(246,780)	(155,493)
Other expenses	252,326	227,466	253,628
Loss before taxes	(394,611)	(474,246)	(409,121)
Income tax expense (benefit)	1,313	(1,611)	1,078
Net loss	$ (395,924)	$ (472,635)	$ (410,199)

Key performance measures

	Year ended December 31,		
	2019	2018	2017
Total Subscribers (in thousands)	1,552.5	1,444.8	1,292.7
Total MSR (in thousands)	$ 79,858	$ 76,103	$ 70,992
AMSRU	$ 51.44	$ 52.67	$ 54.92
Net subscriber acquisition costs per new subscriber	$ 1,018	$ 1,189	$ 1,594
Net service cost per subscriber	$ 13.73	$ 16.27	$ 15.69
Net service margin	74%	69%	72%
Average subscriber lifetime (months)	92	91	90
Total bookings (in millions)	$ 1,753	$ 1,676	$ 1,524
Total backlog (in millions)	$ 5,813	$ 5,163	$ 4,758

	Year ended December 31,				
	2019		2018		2017
	As Reported	As Adjusted (1)	As Reported	As Adjusted (1)	
Total MR (in thousands)	$ 97,093	$ 92,787	$ 87,537	$ 83,879	$73,499
AMRU	$ 64.44	$ 61.58	$ 63.11	$ 60.47	$ 60.21

(1) As adjusted excludes the impact of adopting Topic 606 associated with total revenues recognized. See Note 3 "Revenue and Capitalized Contract Costs" in the accompanying notes to consolidated financial statements for additional information related to the impact of adopting this standard and a discussion of Legacy Vivint Smart Home's updated policies related to revenue recognition and accounting for costs to obtain and fulfill a customer contract.

Year Ended December 31, 2019 Compared to the Year Ended December 31, 2018

Revenues

The following table provides our revenue for the years ended December 31, 2019 and 2018:

	2019	2018	% Change
	(in thousands)		
Recurring and other revenue	$1,155,981	$1,050,441	10%

Recurring and other revenue increased $105.5 million, or 10% for the year ended December 31, 2019 as compared to the year ended December 31, 2018. An increase in Total Subscribers of approximately 7.5% led to an increase of approximately $91.6 million in recurring and other revenue and an increase in AMRU resulted in an increase of approximately $28.9 million in recurring and other revenue. In addition, during the year ended December 31, 2019, Legacy Vivint Smart Home recorded an adjustment to reduce recurring and other revenue of $9.1 million associated with a change in accounting estimate related to RIC receivables associated with subscribers originated in 2017 and 2018 (see Note 4 in the accompanying consolidated financial statements). The spin-off of Legacy Vivint Smart Home's wireless internet business in July 2019 resulted in a $4.1 million decrease in recurring and other revenue (see Note 10 in the accompanying consolidated financial statements for further information on the Wireless spin-off). When compared to the year ended December 31, 2018, currency translation negatively affected recurring and other revenue by $1.7 million, as computed on a constant foreign currency basis.

Costs and Expenses

The following table provides the significant components of Legacy Vivint Smart Home's costs and expenses for the years ended December 31, 2019 and 2018:

	2019	2018	% Change
	(in thousands)		
Operating expenses	$ 369,285	$ 355,813	4%
Selling expenses	193,359	213,386	(9)%
General and administrative	192,182	209,257	(8)%
Depreciation and amortization	543,440	514,082	6%
Restructuring and asset impairment charges	—	4,683	NM
Total costs and expenses	$1,298,266	$1,297,221	— %

(1) Not Meaningful ("NM")

Operating expenses for the year ended December 31, 2019 increased $13.5 million, or 4%, as compared to the year ended December 31, 2018. This increase was primarily due to increases of $7.4 million in personnel and related costs; facility and rent expense of $5.5 million; information technology expenses of $4.2 million; contracted services of $3.2 million; and $2.6 million of payment processing and bank fees. These increases were offset by decreases of $5.5 million in costs associated with our retail and other sales pilots and a decrease of $2.8 million associated with the spin-off of our wireless internet business in July 2019.

Selling expenses, excluding capitalized contract costs, decreased $20.0 million, or 9%, for the year ended December 31, 2019 as compared to the year ended December 31, 2018, primarily due to decreases of $12.2 million in personnel and related costs; expenses associated with our retail and other sales pilots of $9.5 million; and housing and related costs of $6.9 million. These decreases were offset by an increase in marketing costs of $10.2 million primarily associated with lead generation.

General and administrative expenses decreased $17.1 million, or 8%, for the year ended December 31, 2019 as compared to the year ended December 31, 2018, primarily due to decreases of $10.0 million in G&A expenses from the wireless internet business, personnel and related costs of $6.3 million, information technology costs of $3.5 million, third-party contract costs of $2.3 million primarily associated with professional services, and research and development costs of $1.9 million. These decreases were offset by an increase of $5.7 million in bad debt expense and an increase of $1.7 million in facility-related costs.

Depreciation and amortization for the year ended December 31, 2019 increased $29.4 million, or 6%, as compared to the year ended December 31, 2018 primarily due to increased amortization of capitalized contract costs related to new subscribers.

Restructuring expenses for the year ended December 31, 2018 related to employee severance and termination benefits expenses (See Note 11 to the accompanying Consolidated Financial Statements for further information).

Other Expenses, net

The following table provides the significant components of Legacy Vivint Smart Home's other expenses, net, for the years ended December 31, 2019 and 2018:

	Year ended December 31,		
	2019	2018	% Change
	(in thousands)		
Interest expense	$ 260,014	$ 245,214	6%
Interest income	(23)	(425)	NM
Other income, net	(7,665)	(17,323)	NM
Total other expenses, net	$ 252,326	$ 227,466	11%

Interest expense increased $14.8 million, or 6%, for the year ended December 31, 2019, as compared with the year ended December 31, 2018, due to a higher principal balance on debt. See Note 5 to Legacy Vivint Smart Home's accompanying Consolidated Financial Statements for further information on its long-term debt.

Other income, net represented $7.7 million for the year ended December 31, 2019, as compared to $17.3 million for the year ended December 31, 2018. The other income during the year ended December 31, 2019 was primarily due a gain on derivative instruments of $5.1 million and a foreign currency exchange gain of $3.4 million, offset by a loss on debt modification and extinguishment of $0.8 million. The other income during the year ended December 31, 2018 was primarily due to the $50.4 million gain associated with the sale of Legacy Vivint Smart Home's Spectrum intangible assets (see Note 8 to the accompanying Consolidated Financial Statements for further information), offset by a loss on debt modification and extinguishment of $14.6 million, a loss on derivative instruments of $12.6 million and a foreign currency exchange loss of $7.1 million.

See Note 5 to our accompanying consolidated financial statements for further information on Legacy Vivint Smart Home's long-term debt related to other expenses, net.

Income Taxes

The following table provides the significant components of Legacy Vivint Smart Home's income tax expense (benefit) for the years ended December 31, 2019 and 2018:

	Year ended December 31, 2019	Year ended December 31, 2018	% Change
	(in thousands)		
Income tax expense (benefit)	$ 1,313	$ (1,611)	NM

Income tax expense was $1.3 million for the year ended December 31, 2019, as compared to an income tax benefit of $1.6 million for the year ended December 31, 2018. The tax expense and benefit for the years ended December 31, 2019 and 2018, respectively, resulted primarily from the income and loss in the Canadian subsidiary, U.S. minimum state taxes, and the partial release of the domestic valuation allowance in 2019 associated with certain acquisitions.

Year Ended December 31, 2018 Compared to the Year Ended December 31, 2017

Revenues

The following table provides the significant components of Legacy Vivint Smart Home's revenue for the years ended December 31, 2018 and 2017:

	2018				% Change	
	As Reported	Topic 606 Adjustments	As Adjusted (1)	2017	As Reported	As Adjusted
	(in thousands)					
Recurring and other revenue	$1,050,441	$ (99,780)	$ 950,661	$843,420	25%	13%
Service and other sales revenue	—	46,177	$ 46,177	26,988	NM	71%
Activation fees	—	9,705	$ 9,705	11,575	NM	(16)%
Total revenues	$1,050,441	$ (43,898)	$ 1,006,543	$881,983	19%	14%

(1) As adjusted excludes the impact of adopting Topic 606. See Note 3 "Revenue and Capitalized Contract Costs" in the accompanying notes to the consolidated financial statements for additional information related to the impact of adopting this standard and a discussion of our updated policies related to revenue recognition and accounting for costs to obtain and fulfill a customer contract.

Total revenues increased $168.5 million, or 19%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017, of which $43.9 million was associated with the adoption of Topic 606 related to the timing of revenue recognition. The impact of Topic 606 primarily related to the change in timing of revenue recognition associated with customer payments related to Products.

Recurring and other revenue for the year ended December 31, 2018 increased $207.0 million, or 25%, as compared to the year ended December 31, 2017, of which $99.8 million related to the adoption of Topic 606 associated with the timing of revenue recognition and classification of revenue components. The as adjusted recurring and other revenue for the year ended December 31, 2018 totaled $950.7 million, an increase of $107.2 million, or 13%. Approximately $110.1 million of this increase in recurring and other revenue was due to an increase in Total Subscribers. Recognized deferred revenue increased $46.0 million and recognized RIC imputed interest increased $7.6 million, due to the increased subscriber base, increases in sales of Products and Legacy Vivint Smart Home's transition to Vivint Flex Pay in 2017. When compared to the year ended December 31, 2017, currency translation had an immaterial impact, as computed on a constant currency basis. The increase in recurring and other revenue was partially offset by $53.7 million from a decrease in the AMSRU of approximately $3.00 attributable to the Legacy Vivint Smart Home's transition to Vivint Flex Pay in early 2017 and a decrease of $2.7 million related to wireless.

Total service and other sales revenue for the year ended December 31, 2017 totaled $27.0 million. The as adjusted service and other sales revenue for the year ended December 31, 2018 totaled $46.2 million, which represented an increase of $19.2 million, or 71%, as compared to the year ended December 31, 2017, primarily due to upgrade Product sales and increased service-related billings.

Revenues recognized related to activation fees for the year ended December 31, 2017 totaled $11.6 million. The as adjusted revenues recognized related to activation fees for the year ended December 31, 2018 totaled $9.7 million, which represented a decrease of $1.9 million, or 16% as compared to the year ended December 31, 2017. This change was primarily due to activation fees no longer being billed separately to subscribers at the time of installation under Vivint Flex Pay.

Costs and Expenses

The following table provides the significant components of Legacy Vivint Smart Home costs and expenses for the years ended December 31, 2018 and 2017:

	2018				**% Change**	
	As Reported	Topic 606 Adjustments	As Adjusted (1)	**2017**	As Reported	As Adjusted
		(in thousands)				
Operating expenses	$ 355,813	$ 29,859	$ 385,672	$ 321,476	11%	20%
Selling expenses	213,386	—	213,386	198,348	8%	8%
General and administrative	209,257	—	209,257	188,397	11%	11%
Depreciation and amortization	514,082	(146,203)	367,879	329,255	56%	12%
Restructuring and asset impairment charges	4,683	—	4,683	—	NM	NM
Total costs and expenses	$1,297,221	$ (116,344)	$ 1,180,877	$1,037,476	25%	14%

(1) As adjusted excludes the impact of adopting Topic 606. See Note 3 “Revenue and Capitalized Contract Costs” in the accompanying notes to the consolidated financial statements for additional information related to the impact of adopting this standard and a discussion of our updated policies related to revenue recognition and accounting for costs to obtain and fulfill a customer contract.

Operating expenses for the year ended December 31, 2018 increased $34.3 million, or 11%, as compared to the year ended December 31, 2017, which excluded $29.9 million related to certain contract costs previously expensed, but are now included in capitalized contract costs after the adoption of Topic 606. As adjusted operating expenses for the year ended December 31, 2018 increased $64.2 million, or 20% as compared to the year ended December 31, 2017. This increase was primarily due to increases of $62.9 million in personnel and related costs for field service and customer care, an increase of $11.1 million in non-capitalized equipment and shipping costs, and an increase of $2.7 million of payment processing and bank fees associated with the increase in Total Subscribers and Legacy Vivint Smart Home’s transition to Vivint Flex Pay. These increases were offset by decreases of $6.8 million in costs associated with our retail and other sales pilots, contracted services of $5.0 million primarily associated with third-party field services and information technology operating expenses of $2.1 million.

Selling expenses, excluding capitalized contract costs (formerly subscriber acquisition costs), increased by $15.0 million, or 8%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017, primarily due to increases of $14.1 million in personnel and related costs, sales-related information technology costs of $7.9 million, housing and related costs of $6.0 million and marketing costs of $4.7 million primarily associated with lead generation. These increases were offset by a decrease of $18.8 million in costs associated with our retail and other sales pilots.

General and administrative expenses increased $20.9 million, or 10%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017, primarily due to increases in personnel and related costs of $25.4 million, including (i) $6.0 million associated with offering a 401(k) match beginning in 2018, (ii) $5.4 million in executive retention bonuses and (iii) approximately $1.4 million in incremental stock-based compensation expense from the June 2018 modification of equity awards, research and development costs of $5.3 million, an increase in expensed security offering costs of $4.7 million, an increase in information technology costs of $4.3 million and an increase in contracted services costs of $2.3 million. These costs were offset by a decrease of $10.4 million in costs associated with retail and other sales pilots and a decrease of $9.1 million in legal and litigation matters.

Depreciation and amortization for the year ended December 31, 2018 increased $184.8 million, or 56%, as compared to the year ended December 31, 2017, of which $146.2 million was associated with the adoption of Topic 606, relating to the timing of amortization of capitalized contract costs. As adjusted depreciation and amortization for the year ended December 31, 2018 increased $38.6 million, or 12%, as compared to the year ended December 31, 2017 primarily due to increased amortization of capitalized contract costs (formerly subscriber acquisition costs) related to new subscribers.

Restructuring expenses for the year ended December 31, 2018 related to employee severance and termination benefits expenses (See Note 10 to the accompanying Consolidated Financial Statements for further information).

Other Expenses, net

The following table provides the significant components of Legacy Vivint Smart Home's other expenses, net, for the years ended December 31, 2018 and 2017:

	Year ended December 31,		
	2018	**2017**	**% Change**
	(in thousands)		
Interest expense	$ 245,214	$ 225,772	9%
Interest income	(425)	(130)	NM
Other loss (income), net	(17,323)	27,986	NM
Total other expenses, net	$ 227,466	$ 253,628	(10)%

Interest expense increased $19.4 million, or 9%, for the year ended December 31, 2018, as compared with the year ended December 31, 2017, due to a higher principal balance on debt. See Note 5 to the accompanying Consolidated Financial Statements for further information on Legacy Vivint Smart Home's long-term debt.

Other (income) loss, net, represented income of $17.3 million for the year ended December 31, 2018, as compared to a loss of $28.0 million for the year ended December 31, 2017. The other income during the year ended December 31, 2018 was primarily due to the $50.4 million gain associated with the sale of Legacy Vivint Smart Home's Spectrum intangible assets (see Note 8 to the accompanying Consolidated Financial Statements for further information), offset by a loss on debt modification and extinguishment of $14.6 million, a loss on derivative instruments of $12.6 million and a foreign currency exchange loss of $7.1 million. The other loss during the year ended December 31, 2017 was primarily due to a loss of $23.0 million resulting from our debt modification and extinguishment and a loss on derivative instruments of $9.6 million, offset by a foreign currency exchange gain of $4.9 million.

See Note 5 to the accompanying consolidated financial statements for further information on Legacy Vivint Smart Home's long-term debt related to other expenses, net.

Income Taxes

The following table provides the significant components of Legacy Vivint Smart Home's income tax expense for the years ended December 31, 2018 and 2017:

	Year ended December 31,		
	2018	2017	% Change
	(in thousands)		
Income tax expense	$ (1,611)	$ 1,078	NM

Income tax benefit was $2.7 million for the year ended December 31, 2018, as compared to an income tax expense of $1.1 million for the year ended December 31, 2017. The tax benefit and expense for the years ended December 31, 2018 and 2017, respectively, resulted primarily from the loss and earnings in the Canadian subsidiary, as well as U.S. minimum state taxes.

Unaudited Quarterly Results of Operations

The following tables present Legacy Vivint Smart Home's unaudited quarterly consolidated results of operations for the four quarters ended December 31, 2019 and 2018. This unaudited quarterly consolidated information has been prepared on the same basis as Legacy Vivint Smart Home's audited consolidated financial statements and, in the opinion of Legacy Vivint Smart Home's management, the statement of operations data includes all adjustments, consisting of normal recurring adjustments, necessary for the fair presentation of the results of operations for these periods. You should read these tables in conjunction with Legacy Vivint Smart Home's audited consolidated financial statements and related notes located elsewhere in this report. The results of operations for any quarter are not necessarily indicative of the results of operations for a full year or any future periods.

	Three Months Ended			
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019
	(in thousands)			
Statement of operations data				
Revenue	$ 307,835	$ 290,844	$ 281,053	$ 276,249
Loss from operations	(20,872)	(42,606)	(50,829)	(27,978)
Net loss	(88,466)	(102,406)	(115,896)	(89,156)

	Three Months Ended			
	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
	(in thousands)			
Statement of operations data				
Revenue	$ 276,542	$ 272,335	$ 254,967	$ 246,597
Loss from operations	(47,228)	(44,168)	(83,753)	(71,631)
Net loss	(119,677)	(120,336)	(147,905)	(84,717)

Liquidity and Capital Resources

Legacy Vivint Smart Home's primary source of liquidity has historically been cash from operations, proceeds from issuances of debt securities, borrowings under the credit facilities and, to a lesser extent, capital contributions. As of December 31, 2019, Legacy Vivint Smart Home had $4.5 million of cash and cash equivalents and $32.1 million of availability under the revolving credit facility (after giving effect to $11.1 million of letters of credit outstanding and $245.0 million of borrowings). Subsequent to December 31, 2019 we used the net proceeds from the 2027 Notes offering and Concurrent Refinancing Transactions, together with the proceeds from the Merger, to (i) redeem all of the 2020 Notes, (ii) redeem all of the 2022 Private Placement Notes , (iii) refinance in full the existing borrowings under the existing term loan facility and existing revolving credit facility, (iv) redeem $223.0 million aggregate principal amount of the 2022 Notes and (v) pay the related accrued interest, fees and expenses related thereto.

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. As examples, Legacy Vivint Smart Home recently entered into the following financing transactions:

- In September 2018, Legacy Vivint Smart Home borrowed $810 million under the 2024 Term Loan B (the "2024 Term Loan B"). Legacy Vivint Smart Home 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 existing 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 Term Loan Agreement, and
- In May 2019, Legacy Vivint Smart Home 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.

Capital Contribution

In each of July 2019 and September 2018, 313 Acquisition, LLC contributed $4.7 million to Legacy Vivint Smart Home as equity contributions.

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 customers 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 customers we service. Cash used in operating activities includes the cash costs to monitor and service our subscribers, a portion of subscriber acquisition costs, interest associated with our debt and general and administrative costs. Historically, Legacy Vivint Smart Home financed subscriber acquisition costs through 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):

	Year ended December 31,		
	2019	**2018**	**2017**
Net cash used in operating activities	$(221,592)	$(220,499)	$(309,332)
Net cash (used in) provided by investing activities	(5,612)	32,922	(21,661)
Net cash provided by financing activities	218,914	196,407	291,213

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 Service offerings, (4) develop new Smart Home Service 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 year ended December 31, 2019, net cash used in operating activities was $221.6 million. This cash used was primarily from a net loss of $395.9 million, adjusted for:

- $552.4 million in non-cash amortization, depreciation, and stock-based compensation,
- a $25.0 million provision for doubtful accounts, and
- a $1.1 million net gain on sale of disposal of assets,
- a $2.3 million realized gain on equity securities, and
- a $0.8 million loss on early extinguishment of debt.

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

- a $533.5 million increase in capitalized contract costs,
- $34.5 million increase in accounts receivable driven primarily by the increase in billed RIC receivables,
- $8.1 million decrease in right-of-use operating lease liabilities,
- a $14.0 million increase in inventories on hand, and
- a $0.8 million increase in prepaid expenses and other current assets.

These uses of operating cash were partially offset by:

- a $128.6 million increase in deferred revenue due to the increased subscriber base and the increase of deferred revenues associated with Product sales under Vivint Flex Pay,
- a $21.0 million decrease in other assets primarily due to decreases in notes receivables associated with RICs,
- a $24.9 million increase in accrued expenses and other liabilities due primarily from increases in accrued interest on long term debt and accrued payroll related costs,
- $7.3 million decrease in right-of-use operating assets and
- a $5.6 million increase in accounts payable due primarily to non-direct third-party services.

For the year ended December 31, 2018, net cash used in operating activities was $220.5 million. This cash used was primarily from a net loss of $467.9 million, adjusted for:

- $521.7 million in non-cash amortization, depreciation, and stock-based compensation,
- a $49.8 million net gain on sale of disposal of assets primarily associated with the sale of the spectrum intangible assets,
- a $14.6 million loss on early extinguishment of debt,
- a $19.4 million provision for doubtful accounts, and
- a $0.5 million unrealized gain on equity securities.

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

- a $499.3 million increase in capitalized contract costs,
- $34.0 million increase in accounts receivable driven primarily by the increase in billed RIC receivables,

- a $29.1 million increase in other assets primarily due to increases in notes receivables associated with RICs, and
- a $27.0 million decrease in accounts payable due primarily to decreases in inventory purchases.

These uses of operating cash were partially offset by:

- a $172.9 million increase in deferred revenue due to the increased subscriber base and the increase of deferred revenues associated with Product sales under Vivint Flex Pay,
- a $91.5 million increase in accrued expenses and other liabilities due primarily from increases in accrued interest on long term debt,
- a $64.4 million decrease in inventories primarily associated with the decrease in inventory on hand associated with the retail sales channel, and
- a $4.7 million decrease in prepaid expenses and other current assets.

For the year ended December 31, 2017, net cash used in operating activities was $309.3 million. This cash used was primarily from a net loss of $410.2 million, adjusted for:

- $337.4 million in non-cash amortization, depreciation, and stock-based compensation,
- a $23.1 million loss on early extinguishment of debt, and
- a $22.5 million provision for doubtful accounts.

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

- a $457.7 million increase in subscriber acquisition costs,
- a $75.6 million increase in inventories to support Legacy Vivint Smart Home’s Best Buy relationship and the anticipated sales generated by the national inside sales channel,
- a $74.8 million increase in other assets primarily due to increases in notes receivables associated with RICs,
- a $49.6 million increase in accounts receivable driven primarily by the recognition of billed RIC receivables, and
- a $6.0 million increase in prepaid expenses and other current assets.

These uses of operating cash were partially offset by:

- a $247.5 million increase in deferred revenue due to the increased subscriber base and the generation of deferred revenues associated with Product sales under Vivint Flex Pay,
- a $70.5 million increase in accounts payable due primarily to increases in inventory purchases, and
- a $62.2 million increase in accrued expenses and other liabilities due primarily from increases in accrued interest on long term debt.

Legacy Vivint Smart Home’s outstanding debt as of December 31, 2019 was approximately $3.3 billion. Net cash interest paid for the years ended December 31, 2019, 2018 and 2017 related to Legacy Vivint Smart Home’s indebtedness (excluding finance leases) totaled $250.4 million, $236.7 million and $203.4 million, respectively. Legacy Vivint Smart Home’s net cash from operating activities for the years ended December 31, 2019, 2018 and 2017, before these interest payments, was an inflow of $28.8 million, an inflow of $16.2 million and an outflow of $105.9 million, respectively. Accordingly, net cash from operating activities for the years ended December 31, 2019, 2018 and 2017 was insufficient to cover these interest payments. For additional information regarding Legacy Vivint Smart Home’s outstanding indebtedness see “—Long-Term Debt” below.

Cash Flows from Investing Activities

Historically, Legacy Vivint Smart Home’s investing activities have primarily consisted of capital expenditures, business combinations and technology acquisitions. Capital expenditures primarily consist of periodic additions to property and equipment to support the growth in the business.

For the year ended December 31, 2019, net cash used in investing activities was $5.6 million. This cash used primarily consisted of capital expenditures of $10.1 million and acquisition of intangible assets of $1.8 million. These cash uses were offset by $5.4 million in equity security sales.

For the year ended December 31, 2018, net cash provided by investing activities was $32.9 million. This cash provided primarily consisted of net proceeds of $53.7 million primarily from the sale of the spectrum intangible assets, offset by capital expenditures of $19.4 million and acquisition of intangible assets of $1.5 million.

For the year ended December 31, 2017, net cash used in investing activities was $21.7 million. This cash used primarily consisted of capital expenditures of $20.4 million and acquisition of intangible assets of $1.8 million.

Cash Flows from Financing Activities

Historically, Legacy Vivint Smart Home's cash flows provided by financing activities primarily related to the issuance of debt, all to fund the portion of upfront costs associated with generating new subscribers that are not covered through operating cash flows or through the Vivint Flex Pay program. Uses of cash for financing activities are generally associated with the return of capital to Legacy Vivint Smart Home stockholders, the repayment of debt and the payment of financing costs associated with the issuance of debt.

For the year ended December 31, 2019, net cash provided by financing activities was $218.9 million, consisting primarily of $225.0 million in borrowings on notes, $342.5 million in borrowings on the revolving credit facility and $4.7 million from a capital contribution. This was offset with $233.1 million of repayments on notes, $97.5 million of repayments on the revolving credit facility, $4.9 million in financing costs, $9.8 million of repayments under finance lease obligations, $5.4 million in returns of capital associated with the Wireless spin-off and $2.6 million in cost associated with offering securities.

For the year ended December 31, 2018, net cash provided by financing activities was $196.4 million, consisting primarily of $810.0 million in borrowings on notes, $201.0 million in borrowings on the revolving credit facility and $4.7 million from a capital contribution. This was offset with $522.2 million of repayments on notes, $261.0 million of repayments on the revolving credit facility, $20.6 million in financing costs, $12.4 million of repayments under capital lease obligations and $3.1 million in cost associated with offering securities.

For the year ended December 31, 2017, net cash provided by financing activities was $291.2 million, consisting primarily of $724.8 million in borrowings on notes and $196.9 million in borrowings on the revolving credit facility. This was offset with $450.0 million of repayments on notes, $136.9 million of repayments on the revolving credit facility, $29.4 million in financing costs, $10.0 million of repayments under capital lease obligations, $3.0 million in repayments under spectrum lease obligations and $1.2 million in cost associated with offering securities.

Long-Term Debt

We are a highly leveraged company with significant debt service requirements. As of December 31, 2019, Legacy Vivint Smart Home had $3,294.2 million of aggregate principal total debt outstanding, consisting of $454.3 million of outstanding 2020 notes, $270 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 and $799.9 million of outstanding 2024 Term Loan B with $32.1 million of availability under the revolving credit facility (after giving effect to $11.1 million of outstanding letters of credit and $245.0 million of borrowings).

Revolving Credit Facility

On November 16, 2012, APX entered into a $200.0 million senior secured revolving credit facility, with a five year maturity. In addition, APX 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.

On June 28, 2013, APX amended and restated the credit agreement to provide for a new repriced tranche of revolving credit commitments with a lower interest rate. Nearly all of the existing tranches of revolving credit commitments were terminated and converted into the repriced tranche, with the unterminated portion of the existing tranche continuing to accrue interest at the original higher rate.

On March 6, 2015, APX amended and restated the credit agreement to provide for, among other things, (1) an increase in the aggregate commitments previously available from $200.0 million to $289.4 million and (2) the extension of the maturity date with respect to certain of the previously available commitments.

On August 10, 2017, APX amended and restated the credit agreement to provide for, among other things, (1) an increase in the aggregate commitments previously available 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.

On February 14, 2020, APX amended and restated the credit agreement (the “Fourth Amended and Restated Credit Agreement”) to provide for, among other things, (1) an increase in the aggregate commitments previously available from $288.2 million to $350.0 million and (2) the extension of the maturity date with respect to certain of the previously available commitments.

As of December 31, 2019, the aggregate commitments available under the credit agreement, as amended and restated on August 10, 2017, prior to APX entering into the Fourth Amended and Restated Credit Agreement, was $288.2 million. As of December 31, 2019 there was $245.0 million outstanding borrowings under the revolving credit facility. Borrowings under the Fourth Amended and Restated Credit Agreement bear interest at a rate per annum equal to an applicable margin plus, at our 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 $10.9 million and the Series C Revolving Commitments of approximately $330.8 million is currently 2.0% and (b) under the Series B Revolving Commitments of approximately $8.3 million is currently 3.0% and (2) the applicable margin for LIBOR rate-based borrowings (a) under the Series A Revolving Commitments and the Series C 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 our meeting a consolidated first lien net leverage ratio test at the end of each fiscal quarter.

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 on March 31, 2021 with respect to the commitments under the Series A Revolving Credit Facility and Series B Revolving Credit Facility and on February 14, 2025 (or the applicable springing maturity date if the Revolving Springing Maturity Condition applies) with respect to the $330.8 million of Series C Revolving Credit Commitments. The “Revolver Springing Maturity Condition” applies if (i) on the 2022 Springing Maturity Date, an aggregate principal amount of the Borrower’s 7.875% Senior Secured Notes Due 2022 (the “2022 Notes”) in excess of $350.0 million are either outstanding or have not been repaid or redeemed with certain qualifying proceeds specified in the Revolving Credit Agreement, (ii) on the 2023 Springing Maturity Date, an aggregate principal amount of the 2023 Notes in excess of $125.0 million are either outstanding or have not been repaid or redeemed with certain qualifying proceeds specified in the Revolving Credit Agreement or (iii) on the 2024 Springing Maturity Date, an aggregate principal amount of the Borrower’s 8.500% Senior Secured Notes Due 2024 (the “2024 Notes”) in excess of $125.0 million are either outstanding or have not been repaid or redeemed with certain qualifying proceeds specified in the Revolving Credit Agreement. The “2022 Springing Maturity Date” means the date that is 91 days before the maturity date with respect to the 2022 Notes, the “2023 Springing Maturity Date” means the date that is 91 days before the maturity date with respect to the 2023 Notes and the “2024 Springing Maturity Date” means the date that is 91 days before the maturity date with respect to the 2024 Notes.

2020 Notes

As of December 31, 2019, APX had $454.3 million outstanding aggregate principal amount of its 2020 notes. Subsequent to the year ended December 31, 2019, APX used the net proceeds from the 2027 Notes offering and Concurrent Refinancing Transactions, together with the proceeds from the Merger, to redeem all of the outstanding principal amount of the 2020 notes. Interest on the 2020 notes was payable semi-annually in arrears on each June 1 and December 1. The 2020 notes were to mature on December 1, 2020.

APX was permitted to 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 December 31, 2019, APX had $270 million outstanding aggregate principal amount of its 2022 private placement notes. Subsequent to the year ended December 31, 2019, APX used the net proceeds from the 2027 Notes offering and Concurrent Refinancing Transactions, together with the proceeds from the Merger, to redeem all of the outstanding principal amount of the 2022 private placement notes. Interest on the 2022 private placement notes was payable semi-annually in arrears on June 1 and December 1 of each year.

APX was permitted to, at its 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 were to 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 remained outstanding or had not been refinanced as permitted under the terms of the 2022 private placement notes, in which case the private placement notes were to mature on September 1, 2020.

2022 Notes

As of December 31, 2019, APX had $900.0 million outstanding aggregate principal amount of its 2022 notes. Subsequent to the year ended December 31, 2019, APX used the net proceeds from the 2027 Notes offering and Concurrent Refinancing Transactions, together with the proceeds from the Merger, to redeem $223.0 million of the outstanding principal amount of the 2022 notes. Interest on the 2022 notes is payable semi-annually in arrears on June 1 and December 1 of each year.

APX may, at its 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 December 31, 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.

From and after September 1, 2019, APX may, at its 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.

2024 Notes

As of December 31, 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.

APX may, at its 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, APX may, at its 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, APX may, at its 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, APX also may, at its 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, unless, under "Springing Maturity" provisions, (1) on September 1, 2020 (the 91st day prior to the maturity of the 2020 notes) more than an aggregate principal amount of $275.0 million of such 2020 notes remain outstanding or have not been refinanced as permitted under the note purchase agreement for the 2020 notes, in which case the 2024 notes will mature on September 1, 2020 or (2) on June 1, 2023 (the 91st day prior to the maturity of the 2023 notes) more than an aggregate principal amount of $125.0 million of such 2023 notes remain outstanding or have not been refinanced as permitted under the note purchase agreement for the 2023 notes, in which case the 2024 Notes will mature on June 1, 2023.

2025 Term Loan B

On September 6, 2018, APX incurred $810 million of 2024 Term Loan B. As of December 31, 2019, APX had $799.9 million outstanding aggregate principal amount of its 2024 Term Loan B. On February 14, 2020 APX Group incurred $950 million of term loans (the "2025 Term Loan B"), the proceeds of which were used, in part, to refinance the 2024 Term Loan B.

Pursuant to the terms of the 2025 Term Loan B, quarterly amortization payments are due in an amount equal to 0.25% of the aggregate principal amount of the 2025 Term Loan B outstanding on the closing date. The remaining principal amount outstanding under the 2025 Term Loan B will be due and payable in full on (x) if the Term Springing Maturity Condition (as defined below) does not apply, December 31, 2025 and (y) if the Term Springing Maturity Condition does apply, the 2023 Springing Maturity Date (which date is the date that is 91 days before the maturity date with respect to the 2023 Notes).

The "Term Springing Maturity Condition" applies if on the 2023 Springing Maturity Date (which date is the date that is 91 days before the maturity date with respect to 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.

Guarantees and Security (Revolving Credit Facility, 2025 Term Loan B and Notes)

All of the obligations under the credit agreement governing the revolving credit facility, the credit agreement governing the 2025 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 2025 Term Loan B or our other indebtedness. See Note 19 of the 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, 2025 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 2025 Term Loan B receive any such proceeds.

Debt Covenants

The credit agreement governing the revolving credit facility, the credit agreement governing the 2025 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 2025 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 December 31, 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 2025 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.

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 this report. If those factors significantly change or other unexpected factors adversely affect us, our business may not generate sufficient cash flow from operations or APX may not be able to obtain future financings to meet our liquidity needs. APX anticipates that to the extent additional liquidity is necessary to fund its 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. APX 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 2025 Term Loan B and the debt agreements governing the existing notes, APX'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 our ability to satisfy tests based on Covenant Adjusted EBITDA (which measure is defined as "Consolidated EBITDA" in the credit agreements governing the revolving credit facility and 2025 Term Loan B and "EBITDA" in the debt agreements governing the existing notes) 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 5.95 to 1.0, each as determined in accordance with the credit agreement governing the revolving credit facility, the credit agreement governing the 2025 Term Loan B and the debt agreements governing the Notes, as applicable. 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 2025 Term Loan B and the debt agreements governing the existing notes. As of December 31, 2019, Legacy Vivint Smart Home's consolidated first lien secured debt ratio was 3.81 to 1.0, consolidated total debt ratio was 5.14 to 1.0 and the fixed charge coverage ratio was 2.56 to 1.0, in each case based on Covenant Adjusted EBITDA for the year ended December 31, 2019 and as calculated in accordance with the applicable debt agreements.

We refer to "Covenant Adjusted EBITDA" as meaning 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 2025 Term Loan B and the credit agreement governing our revolving credit facility.

We believe that the presentation of Covenant 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 2025 Term Loan B. We caution investors that amounts presented in accordance with our definition of Covenant Adjusted EBITDA may not be comparable to similar measures disclosed by other issuers, because not all issuers and analysts calculate Covenant Adjusted EBITDA in the same manner.

Covenant Adjusted EBITDA is not a measurement of Legacy Vivint Smart Home's 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 Legacy Vivint Smart Home's liquidity.

The following table sets forth a reconciliation of Legacy Vivint Smart Home's net loss to Covenant Adjusted EBITDA (in thousands):

	Year ended December 31,		
	2019	2018	2017
Net loss	$(395,924)	$(472,635)	$(410,199)
Interest expense, net	259,991	244,789	225,642
Non-capitalized subscriber acquisition costs (1)	273,835	276,437	255,456
Amortization of capitalized subscriber acquisition costs	437,285	398,174	206,153
Depreciation and amortization (2)	106,155	115,908	123,102
Gain on sale of spectrum (3)	—	(50,389)	—
Other (income) expense	(7,665)	33,066	27,986
Non-cash compensation (4)	3,737	2,217	1,377
Restructuring and asset impairment charge (5)	—	4,683	—
Income tax (benefit) expense	1,313	(1,611)	1,078
Other adjustments (6)	53,383	64,240	59,733
Adjustment for a change in accounting principle (Topic 606) (7)	(88,875)	(77,173)	—
Covenant Adjusted EBITDA	$ 643,235	$ 537,706	$ 490,328

(1) 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.

(2) Excludes loan amortization costs that are included in interest expense.

(3) Gain on sale of spectrum intangible assets in 2018. (See Note 8 to the accompanying 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) Restructuring employee severance and termination benefits expenses. (See Note 10 to the accompanying consolidated financial statements).

(6) Other adjustments represent primarily the following items (in thousands):

	Year ended December 31,		
	2019	2018	2017
Product development (a)	$ 18,772	$ 22,253	$ 26,767
Consumer financing fees (b)	11,901	6,661	1,682
Litigation settlement (c)	—	—	10,012
Certain legal and professional fees (d)	7,869	8,965	4,986
Monitoring fee (e)	5,605	4,068	3,506
Start-up of new strategic initiatives (f)	—	—	3,486
Purchase accounting deferred revenue fair value adjustment (g)	—	1,336	3,280
Information technology implementation (h)	—	—	3,188
Hiring and termination payments (i)	7,870	9,373	386
Projected run-rate restructuring cost savings (j)	—	5,756	—
All other adjustments (k)	1,366	5,828	2,440
Total other adjustments	$ 53,383	$ 64,240	$ 59,733

(a) Costs related to the development of control panels, including associated software, peripheral devices and Wireless Internet Technology.

(b) Monthly financing fees paid under the Consumer Financing Program.

(c) ADT litigation settlement.

(d) Legal and professional fees associated with strategic initiatives and financing transactions.

(e) Blackstone Management Partners L.L.C. monitoring fee (See Note 15 to the accompanying consolidated financial statements).
(f) Costs related to the start-up of potential new service offerings and sales channels.
(g) Add back revenue reduction directly related to purchase accounting deferred revenue adjustments.
(h) Costs related to the implementation of new information technologies.
(i) Expenses associated with retention bonus, relocation and severance payments to management.
(j) Projected run-rate savings related to June 2018 reduction-in-force.
(k) Other adjustments primarily reflect adjustments to eliminate the impact of changes in other accounting principles, costs associated with payments to third parties related to various strategic and financing activities and costs to implement Sarbanes-Oxley Section 404.

(7) The adjustments to eliminate the impact of Legacy Vivint Smart Home's adoption of Topic 606, are as follows (in thousands):

	Year ended December 31,		
	2019	2018	2017
Net loss	$ 62,008	$ 66,613	$—
Amortization of capitalized contract costs	(437,285)	(398,174)	—
Amortization of subscriber acquisition costs	284,574	251,971	—
Income tax (benefit) expense	1,828	2,417	—
Topic 606 adjustments	$ (88,875)	$ (77,173)	$—

See Note 3 "Revenue and Capitalized Contract Costs" in the accompanying notes to the consolidated financial statements for additional information related to the impact of adopting this standard and a discussion of our updated policies related to revenue recognition and accounting for costs to obtain and fulfill a customer contract.

Other Factors Affecting Liquidity and Capital Resources

Vivint Flex Pay. Vivint Flex Pay became Legacy Vivint Smart Home's primary sales model beginning in March 2017. 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%, based on the customer's credit quality, and are either installment loans or revolving loans with a 42 or 60 month term.

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, with our Company being responsible for between 5% to 100% of lost principal balances, depending on factors specified in the agreement with such provider. 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. As of December 31, 2019 and 2018, the fair value of this derivative liability was $136.9 million and $117.6 million, respectively. As we continue to use Vivint Flex Pay as our primary sales model, we expect our liability to third-party providers to continue to increase substantially and the rate of such increases may accelerate.

For other third-party provider 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.

Vehicle Leases. Since 2010, Legacy Vivint Smart Home has leased, and expect to continue leasing, vehicles primarily for use by its Smart Home Pros. For the most part, these leases have 36 to 48 month durations and are accounted for 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 December 31, 2019, Legacy Vivint Smart Home's total finance lease obligations were $13.2 million, of which $7.7 million is due within the next 12 months.

Aircraft Lease. In December 2012, Legacy Vivint Smart Home 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, Legacy Vivint Smart Home paid a $5.9 million security deposit which is refundable at the end of the lease term. Beginning January 2013, Legacy Vivint Smart Home is 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. Legacy Vivint Smart Home also has 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.

Contractual Obligations

The following table summarizes Legacy Vivint Smart Home's contractual obligations as of December 31, 2019, without giving effect to the Merger or the Concurrent Refinancing Transactions. Certain contractual obligations are reflected on Legacy Vivint Smart Home's consolidated balance sheet, while others are disclosed as future obligations under GAAP.

	Payments Due by Period				
	Total	2020	2021 - 2022	2023 - 2024	After 2024
	(dollars in thousands)				
Long-term debt obligations (1)	$3,294,174	$462,399	$1,431,200	$1,400,575	$ —
Interest on long-term debt (2)	825,685	263,509	418,318	143,858	—
Finance lease obligations	13,643	8,202	5,438	3	—
Operating lease obligations	94,848	17,044	31,005	29,055	17,744
Purchase obligations (3)	48,563	14,721	14,261	14,113	5,468
Other long-term obligations	38,644	8,867	9,589	7,193	12,995
Total contractual obligations	$4,315,557	$774,742	$1,909,811	$1,594,797	$ 36,207

(1) As of December 31, 2019, Legacy Vivint Smart Home had $245.0 million of borrowings under its revolving credit facility. The principal amount outstanding under the revolving credit facility will be due and payable in full on March 31, 2021. As of December 31, 2019, there was approximately $32.1 million of availability under Legacy Vivint Smart Home's revolving credit facility (after giving effect to $11.1 million of outstanding letters of credit and $245.0 million of borrowings).

(2) Represents aggregate interest payments on aggregate principal amounts of $454.3 million of outstanding 2020 notes, $270.0 million of the outstanding 2022 private placement notes, $900.0 million of the outstanding 2022 notes, $400.0 million of the outstanding 2023 notes, $225.0 million of outstanding 2024 notes, and $799.9 million of the 2024 Term Loan B as well as letter of credit and commitment fees for the unused portion of the revolving credit facility. Does not reflect interest payments on future borrowings under the revolving credit facility.

(3) Purchase obligations consist of commitments for purchases of goods and services that are not already included in Legacy Vivint Smart Home's consolidated balance sheet as of December 31, 2019. Legacy Vivint Smart Home has contingent liabilities related to legal proceedings and other matters arising in the ordinary course of business. Although it is reasonably possible we may incur losses upon conclusion of such matters, an estimate of any loss or range of loss cannot be made at this time. In the opinion of management, it is expected that amounts, if any, which may be required to satisfy such contingencies will not be material in relation to the accompanying consolidated financial statements.