REALPAGE INC
Form 10-Q
November 06, 2018
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)
ý QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended September 30, 2018
or
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to
Commission File Number: 001-34846

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

Delaware	75-2788861
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
2201 Lakeside Boulevard Richardson, Texas	75082-4305
(Address of principal executive offices)	(Zip Code)

(972) 820-3000
(Registrant's telephone number, including area code)
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ý No ¨
Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ý No ¨
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	ý	Accelerated filer	¨
Non-accelerated filer	¨	Smaller reporting company	¨
		Emerging growth company	¨

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ¨
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No ý
Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	October 19, 2018
Common Stock, $0.001 par value	93,911,615

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PART I—FINANCIAL INFORMATION
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RealPage, Inc.
Condensed Consolidated Balance Sheets
(in thousands, except share and per share data)

	September 30, 2018 (unaudited)	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents	$279,872	$69,343
Restricted cash	90,919	96,002
Accounts receivable, less allowance for doubtful accounts of $8,169 and $3,951 at September 30, 2018 and December 31, 2017, respectively	114,441	124,505
Prepaid expenses	20,215	12,107
Other current assets	17,834	6,622
Total current assets	523,281	308,579
Property, equipment, and software, net	151,213	148,428
Goodwill	1,009,462	751,052
Intangible assets, net	293,382	252,337
Deferred tax assets, net	42,397	44,887
Other assets	18,992	11,010
Total assets	$2,038,727	$1,516,293
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$27,422	$26,733
Accrued expenses and other current liabilities	94,588	79,379
Current portion of deferred revenue	110,507	116,622
Current portion of term loans	16,133	14,116
Convertible notes, net	289,868	—
Customer deposits held in restricted accounts	91,010	96,057
Total current liabilities	629,528	332,907
Deferred revenue	5,079	5,538
Revolving facility	—	50,000
Term loans, net	291,504	303,261
Convertible notes, net	—	281,199
Other long-term liabilities	36,893	41,513
Total liabilities	963,004	1,014,418
Commitments and contingencies (Note 9)		
Stockholders' equity:		
Preferred stock, $0.001 par value: 10,000,000 shares authorized and zero shares issued and outstanding at September 30, 2018 and December 31, 2017, respectively	—	—
Common stock, $0.001 par value: 250,000,000 and 125,000,000 shares authorized, 96,588,906 and 87,153,085 shares issued and 94,025,304 and 83,180,401 shares outstanding at September 30, 2018 and December 31, 2017, respectively	97	87
Additional paid-in capital	1,190,110	637,851
Treasury stock, at cost: 2,563,602 and 3,972,684 shares at September 30, 2018 and December 31, 2017, respectively	(70,319)	(61,260)
Accumulated deficit	(44,372)	(75,046)

Accumulated other comprehensive income	207	243
Total stockholders’ equity	1,075,723	501,875
Total liabilities and stockholders’ equity	$2,038,727	$1,516,293

See accompanying notes.

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RealPage, Inc.
Condensed Consolidated Statements of Operations
(in thousands, except per share data)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Revenue:				
On demand	$215,413	$161,578	$615,658	$462,518
Professional and other	9,540	7,480	26,848	20,765
Total revenue	224,953	169,058	642,506	483,283
Cost of revenue	85,540	65,794	240,319	189,000
Amortization of product technologies	8,946	5,497	26,368	14,750
Gross profit	130,467	97,767	375,819	279,533
Operating expenses:				
Product development	28,942	21,885	88,753	63,562
Sales and marketing	43,179	36,802	121,523	102,548
General and administrative	30,036	31,004	85,570	82,625
Amortization of intangible assets	9,738	3,838	26,323	10,601
Total operating expenses	111,895	93,529	322,169	259,336
Operating income	18,572	4,238	53,650	20,197
Interest expense and other, net	(8,816)	(4,677)	(25,004)	(8,549)
Income (loss) before income taxes	9,756	(439)	28,646	11,648
Income tax expense (benefit)	683	(7,273)	193	(9,594)
Net income	$9,073	$6,834	$28,453	$21,242
Net income per share attributable to common stockholders:				
Basic	$0.10	$0.09	$0.33	$0.27
Diluted	$0.09	$0.08	$0.31	$0.26
Weighted average common shares outstanding:				
Basic	91,222	79,838	85,874	79,045
Diluted	96,590	82,760	90,451	82,051

See accompanying notes.

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RealPage, Inc.
Condensed Consolidated Statements of Comprehensive Income
(in thousands)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net income	$9,073	$6,834	$28,453	$21,242
(Loss) gain on interest rate swaps, net	(126)	(10)	(3)	72
Foreign currency translation adjustment	80	88	(33)	86
Comprehensive income	$9,027	$6,912	$28,417	$21,400

See accompanying notes.

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RealPage, Inc.
Condensed Consolidated Statements of Stockholders' Equity
(in thousands)
(unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance as of December 31, 2017	87,153	$ 87	$637,851	$ 243	$ (75,046)	3,973	$(61,260)	$501,875
Cumulative effect of adoption of ASU 2014-09	—	—	—	—	2,221	—	—	2,221
Public offering of common stock, net of $17,056 of offering costs	8,050	8	441,786	—	—	—	—	441,794
Issuance of common stock in connection with our acquisitions	1,361	2	75,148	—	—	—	—	75,150
Stock option exercises	25	—	4,389	—	—	(472)	5,564	9,953
Issuance of restricted stock	—	—	(7,824)	—	—	(1,597)	7,824	—
Treasury stock purchases, at cost	—	—	325	—	—	660	(22,447)	(22,122)
Stock-based compensation	—	—	38,435	—	—	—	—	38,435
Interest rate swap agreements	—	—	—	410	—	—	—	410
Foreign currency translation	—	—	—	(33)	—	—	—	(33)
Reclassification of realized gain on cash flow hedge to earnings, net of tax	—	—	—	(413)	—	—	—	(413)
Net income	—	—	—	—	28,453	—	—	28,453
Balance as of September 30, 2018	96,589	$ 97	$1,190,110	$ 207	$ (44,372)	2,564	$(70,319)	$1,075,723

See accompanying notes.

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RealPage, Inc.
Condensed Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2018	2017
Cash flows from operating activities:		
Net income	$28,453	$21,242
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	74,018	45,814
Amortization of debt discount and issuance costs	9,272	4,340
Deferred taxes	(2,720)	(10,811)
Stock-based expense	37,492	35,732
Loss on disposal and impairment of other long-lived assets	3,439	472
Acquisition-related consideration	806	382
Changes in assets and liabilities, net of assets acquired and liabilities assumed in business combinations:		
Accounts receivable	6,933	773
Prepaid expenses and other current assets	(15,778)	(1,950)
Other assets	(2,757)	(106)
Accounts payable	4,044	3,702
Accrued compensation, taxes, and benefits	2,574	1,173
Deferred revenue	(5,193)	4,783
Customer deposits	(6,361)	(710)
Other current and long-term liabilities	740	1,047
Net cash provided by operating activities	134,962	105,883
Cash flows from investing activities:		
Purchases of property, equipment, and software	(37,287)	(38,576)
Acquisition of businesses, net of cash and restricted cash acquired	(230,474)	(347,550)
Purchase of other investment	(1,800)	—
Net cash used in investing activities	(269,561)	(386,126)
Cash flows from financing activities:		
Payments on term loans	(10,083)	(1,533)
Proceeds from revolving credit facility	140,000	—
Payments on revolving line of credit	(190,000)	—
Proceeds from borrowings on convertible notes	—	345,000
Purchase of convertible note hedges	—	(62,549)
Proceeds from issuance of warrants	—	31,499
Payments of deferred financing costs	(1,135)	(11,026)
Payments on capital lease obligations	(219)	(232)
Payments of acquisition-related consideration	(28,110)	(8,073)
Proceeds from public offering, net of underwriters’ discount and offering costs	441,794	—
Proceeds from exercise of stock options	9,953	21,614
Purchase of treasury stock related to stock-based compensation	(22,122)	(21,189)
Net cash provided by financing activities	340,078	293,511
Net increase in cash, cash equivalents and restricted cash	205,479	13,268
Effect of exchange rate on cash	(33)	86
Cash, cash equivalents and restricted cash:		

Beginning of period	165,345	188,540
End of period	$370,791	$201,894

See accompanying notes.

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RealPage, Inc.
Condensed Consolidated Statements of Cash Flows, continued
(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2018	2017
Supplemental cash flow information:		
Cash paid for interest	$12,274	$ 2,757
Cash paid for income taxes, net of refunds	$2,546	$ 1,705
Non-cash investing and financing activities:		
Fair value of stock consideration in connection with our acquisitions	$53,334	$ —
Redemption of noncontrolling interest in connection with acquisition of ClickPay	$21,816	$ —
Accrued property, equipment, and software	$1,837	$ 3,242

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the Condensed Consolidated Balance Sheets and that shown in the Condensed Consolidated Statements of Cash Flows:

	September 30, 2018	December 31, 2017
Cash and cash equivalents	$279,872	$ 69,343
Restricted cash	90,919	96,002
Total cash, cash equivalents and restricted cash shown in the Condensed Consolidated Statements of Cash flows	$370,791	$ 165,345

See accompanying notes.

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RealPage, Inc.
Notes to the Condensed Consolidated Financial Statements
(unaudited)

1. The Company

RealPage, Inc., a Delaware corporation (together with its subsidiaries, the “Company” or “we” or “us”), is a leading global provider of software and data analytics to the real estate industry. Our platform of data analytics and software solutions enables the rental real estate industry to manage property operations (such as marketing, pricing, screening, leasing, and accounting), identify opportunities through market intelligence, and obtain data-driven insight for better operational and financial decision-making. Our integrated, on demand platform provides a single point of access and a massive repository of real-time lease transaction data, including prospect, renter, and property data. By leveraging data as well as integrating and streamlining a wide range of complex processes and interactions among the rental real estate ecosystem (owners, managers, prospects, renters, service providers, and investors), our platform helps our clients improve financial and operational performance and prudently place and harvest capital.

During May 2018 and as disclosed in our Form 10-Q for the quarter ended March 31, 2018, we were the subject of a targeted email phishing campaign that led to a business email compromise, pursuant to which an unauthorized party gained access to an external third party system used by a subsidiary that we acquired in 2017. The incident resulted in the diversion of approximately $6.0 million, net of recovered funds, intended for disbursement to three clients. We immediately restored all funds to the client accounts. During the quarter ended June 30, 2018, we remediated the security weakness that gave rise to the incident and implemented additional preventive and detective control procedures. We maintain insurance coverage to limit our losses related to criminal and network security events. As of September 30, 2018, we recognized a receivable of $6.0 million included in “Other current assets” in the accompanying Condensed Consolidated Balance Sheet for losses and related expenses arising from this incident that we believe are probable of recovery from our insurance carriers. We have submitted a proof of loss notification to our insurance carriers. For the three and nine months ended September 30, 2018, we also recognized a charge of $0.1 million and $0.4 million, respectively, which is included in the line “General and administrative” in the accompanying Condensed Consolidated Statement of Operations for losses and related expenses that we do not expect to recover.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited Condensed Consolidated Financial Statements and footnotes have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission (“SEC”). The unaudited Condensed Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“GAAP”) for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. We believe that the disclosures made are appropriate and conform to those rules and regulations, and that the condensed or omitted information is not misleading.

The unaudited Condensed Consolidated Financial Statements included herein reflect all adjustments (consisting of normal, recurring adjustments) which are, in the opinion of management, necessary to state fairly the results for the interim periods presented. All intercompany balances and transactions have been eliminated in consolidation. The results of operations for the interim periods presented are not necessarily indicative of the operating results to be expected for any subsequent interim period or for the fiscal year.

Effective for the quarter ended September 30, 2018, we have changed the presentation of our Condensed Consolidated Statements of Operations to add “Amortization of product technologies” and “Amortization of intangible assets” as separate line items within such statements. Amounts shown as amortization of product technologies were previously included within “Cost of revenue”, and amounts shown as amortization of intangible assets were previously included within the “Sales and marketing” operating expense category. Amounts for prior periods have been reclassified in order to conform to the current period presentation. We believe this revised presentation helps readers of our financial statements isolate non-cash amortization expenses that arise from our acquisitions and internally developed software.

These financial statements should be read in conjunction with the financial statements and the notes thereto included in our Annual Report on Form 10-K filed with the SEC on March 1, 2018 (“Form 10-K”).

Segment and Geographic Information

Our chief operating decision maker is our Chief Executive Officer, who reviews financial information presented on a company-wide basis. As a result, we determined that the Company has a single reporting segment and operating unit structure.

Principally, all of our revenue for the three and nine months ended September 30, 2018 and 2017 was earned in the United States. Net property, equipment, and software located in the United States amounted to $141.2 million and $140.0 million at September 30, 2018 and December 31, 2017, respectively. Net property, equipment, and software located in our international subsidiaries amounted to $10.0 million and $8.4 million at September 30, 2018 and December 31, 2017, respectively.

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Substantially all of the net property, equipment, and software held in our international subsidiaries was located in the Philippines, Spain, and India at both September 30, 2018 and December 31, 2017.

Correction of an Immaterial Error in Previously Issued Financial Statements

During the three months ended September 30, 2018, we identified an error related to the misclassification of amortization expense related to intangible assets on certain acquired technologies, recognized as “Sales and marketing” expense. Such expense should have been recognized as a component of “Cost of revenue”. As a result, our cost of revenue was understated, and our sales and marketing expense was overstated by identical amounts, which also resulted in an overstatement of gross profit and total operating expenses by the same amount for the effected periods. There was no effect on reported revenues, net income, earnings per share, or cash flows. In accordance with Staff Accounting Bulletin (“SAB”) No. 99, Materiality, and SAB No. 108, Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements, we have evaluated the materiality of the error from a qualitative and quantitative perspective and concluded that the effect of the misclassification was not material to our previously issued financial statements.

We have corrected the presentation of the amortization expense for all prior periods presented in this Form 10-Q. Periods not presented herein will be revised, as applicable, in future filings. The immaterial error correction resulted in an increase of cost of revenue and reduction in sales and marketing expense for the three and six months ended June 30, 2018 by $5.3 million and $9.8 million, respectively; for the three months ended March 31, 2018 by $4.5 million; and for the three months ended December 31, 2017, September 30, 2017, June 30, 2017 and March 31, 2017 by $3.0 million, $1.9 million, $1.1 million and $0.8 million, respectively. There was no change in our accounting for amortization expense related to client relationship, non-compete agreements and trade name intangible assets. Such expense remains a component of sales and marketing expense in all periods.

Concentrations of Credit Risk

Our cash accounts are maintained at various financial institutions and may, from time to time, exceed federally insured limits. We have not experienced any losses in such accounts.

Concentrations of credit risk with respect to accounts receivable result from substantially all of our clients being in the residential rental housing market. Our clients, however, are dispersed across different geographic areas. We do not require collateral from clients. We maintain an allowance for doubtful accounts for credits we offer our clients in certain instances and to reflect our best estimate of the amount of consideration we will ultimately receive based on relevant factors such as our historical experience, current contractual requirements, age of the outstanding balance, and our clients’ ability to pay.

No single client accounted for 10% or more of our revenue or accounts receivable for the three or nine months ended September 30, 2018 or 2017.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires our management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities, and the disclosure of contingent assets and liabilities, at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. Significant estimates include the allowance for doubtful accounts; the useful lives of intangible assets and the recoverability or impairment of tangible and intangible asset values; fair value measurements; contingent commissions related to the sale of insurance products; valuation of net assets acquired and contingent consideration in connection with business combinations; revenue and deferred revenue and related reserves; stock-based expense; and our effective income tax rate and the recoverability of deferred tax assets, which are based upon our expectations of future taxable income and allowable deductions. Actual results could differ from these estimates. For greater detail regarding these accounting policies and estimates, refer to our Form 10-K.

Cash and Cash Equivalents

We consider all highly liquid investments with a maturity date, when purchased, of three months or less to be cash equivalents.

Restricted Cash

Restricted cash consists of cash collected from tenants that will be remitted primarily to our clients.

Business Combinations

We apply the guidance contained in ASC Topic 805, Business Combinations ("ASC 805") in determining whether an acquisition transaction constitutes a business combination. ASC 805 defines a business as consisting of inputs and processes applied to those inputs that have the ability to create outputs. The acquisition transactions in Note 3 were determined to constitute business combinations and were accounted for under ASC 805.

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Purchase consideration includes assets transferred, liabilities assumed, and/or equity interests issued by us, all of which are measured at their fair value as of the date of acquisition. Our business combination transactions may be structured to include a combination of up-front, deferred and contingent payments. These payments may include a combination of cash and common stock. Deferred and contingent payments are made at specified dates subsequent to the date of acquisition. Deferred cash payments and stock issuances are included in the acquisition consideration based on their fair value as of the acquisition date. The fair value of these obligations is estimated based on the present value, as of the date of acquisition, of the anticipated future payments. The future payments are discounted using a rate that considers an estimate of the return expected by a market-participant and a measurement of the risk inherent in the cash flows, among other inputs. These deferred obligations are generally subject to adjustments specified in the underlying purchase agreement related to the seller's indemnification obligations. Contingent consideration is an obligation to make future cash payments to the seller, the payment of which is contingent upon the achievement of stipulated operational or financial targets in the post-acquisition period. Contingent consideration is included in the purchase consideration at its fair value as of the acquisition date. The fair value of these payments is estimated using a probability weighted discount model based on the achievement of the specified targets. The fair value of these liabilities is re-evaluated on a quarterly basis, and any change is reflected in the line "General and administrative" in the accompanying Condensed Consolidated Statements of Operations. These estimates are inherently uncertain and unpredictable. Unanticipated events and circumstances may occur that would affect the accuracy or validity of these estimates.

The total purchase consideration is allocated to the assets acquired and liabilities assumed based on their estimated fair values. Any excess consideration is classified as goodwill. Acquired intangibles are recorded at their estimated fair value based on the income approach using market-based estimates. Acquired intangibles generally include developed product technologies, which are amortized over their useful life on a straight-line basis, and client relationships, which are amortized over their useful life proportionately to the expected discounted cash flows derived from the asset. When trade names acquired are not classified as indefinite-lived, they are amortized on a straight-line basis over their expected useful life.

Acquisition costs are expensed as incurred and are included in the line "General and administrative" in the accompanying Condensed Consolidated Statements of Operations. We include the results of operations from acquired businesses in our Condensed Consolidated Financial Statements from the effective date of the acquisition.

Derivative Financial Instruments

We are exposed to interest rate risk related to our variable rate debt. We manage this risk through a program that includes the use of interest rate derivatives, the counterparties to which are major financial institutions. Our objective in using interest rate derivatives is to add stability to interest cost by reducing our exposure to interest rate movements. We do not use derivative instruments for trading or speculative purposes.

Our interest rate derivatives are designated as cash flow hedges and are carried in the Condensed Consolidated Balance Sheets at their fair value. Unrealized gains and losses resulting from changes in the fair value of these instruments are classified as either effective or ineffective. The effective portion of such gains or losses is recorded as a component of accumulated other comprehensive income ("AOCI"), while the ineffective portion is recorded as a component of interest expense in the period of change. Amounts reported in AOCI related to interest rate derivatives are reclassified into interest expense as interest payments are made on our variable-rate debt. If an interest rate derivative agreement is terminated prior to its maturity, the amounts previously recorded in AOCI are recognized into earnings over the period that the forecasted transactions impact earnings. If the hedging relationship is discontinued because it is probable that the forecasted transactions will not occur according to our original strategy, any related amounts previously recorded in AOCI are recognized in earnings immediately.

Accounts Receivable

Accounts receivable primarily represent trade receivables from clients that are recorded at the invoice amount, net of an allowance for doubtful accounts and credits. For certain transactions, we have met the requirements to recognize revenue in advance of invoicing the client. In these instances, we record unbilled receivables for the amount that will be due from the client upon invoicing.

We maintain an allowance for doubtful accounts for credits we offer our clients in certain instances that reflects our best estimate of the amount of consideration to which we are entitled and that we will ultimately receive. In evaluating the sufficiency of the allowance for doubtful accounts, we consider relevant factors such as our historical experience, current contractual requirements, age of the outstanding balance, and our clients' ability to pay. Any change in the assumptions used in analyzing a specific account receivable might result in an additional allowance for doubtful accounts being recognized in the period in which the change occurs. A portion of our allowance is for services not yet rendered and is therefore classified as an offset to deferred revenue.

Accounts receivable are written off upon determination of non-collectability following established Company policies. We incurred bad debt expense of $0.9 million for both of the three month periods ended September 30, 2018 and 2017, and $3.0 million and $2.2 million for the nine months ended September 30, 2018 and 2017, respectively.

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Accounts receivable includes commissions due to us related to the sale of insurance products to residents and commissions which are contingent based upon the activity in the underlying policies. Contingent commissions receivables are recorded at their estimated net realizable value, based on estimates and considerations which include, but are not limited to, the historical and projected loss rates incurred by the underlying policies.

Deferred Revenue

Deferred revenue primarily consists of billings issued or payments received for service obligations we have not yet completed. For several of our solutions, we invoice our clients in annual, monthly, or quarterly installments in advance of the commencement of the service period. Accordingly, the deferred revenue balance does not represent the total contract value of annual or multi-year, non-cancellable subscription agreements. Deferred revenue that will be recognized during the succeeding twelve-month period is recorded as current deferred revenue and the remaining portion is recorded as noncurrent.

Revenue Recognition

We derive our revenue from two primary sources: (1) on demand software solutions and (2) professional services and other goods and services. We recognize revenue as we satisfy one or more service obligations under the terms of a contract, generally as control of goods and services are transferred to our clients. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. We include estimates of variable consideration in revenue to the extent that it is probable that a significant reversal of cumulative revenue will not occur.

We determine revenue recognition through the following steps:

- identification of the contract, or contracts, with a client;
- identification of the performance obligations in the contract;
- determination of the transaction price;
- allocation of the transaction price to the performance obligations in the contract; and
- recognition of revenue when, or as, we satisfy a performance obligation.

On Demand Revenue

Our on demand revenue consists of license and subscription fees, transaction fees related to certain of our software-enabled value-added services, and commissions derived from our sales of certain risk mitigation services.

We generally recognize revenue from subscription fees on a straight-line basis over the access period beginning on the date that we make our service available to the client. Our subscription agreements generally are non-cancellable, have an initial term of one year or longer and are billed either monthly, quarterly or annually in advance. Non-refundable upfront fees billed at the initial order date that are not associated with an upfront service obligation are recognized as revenue on a straight-line basis over the period over which the client is expected to benefit, which we consider to be three years.

We recognize revenue from transaction fees in the month the related services are performed based on the amount we have a right to invoice.

As part of our resident services offerings, we offer risk mitigation services to our clients by acting as an insurance agent and derive commission revenue from the sale of insurance products to our clients' residents. The commissions are based upon a percentage of the premium that our insurance company underwriting partners charge to the policyholder and are subject to forfeiture in instances where a policyholder cancels prior to the end of the policy. Our contracts with our underwriting partners also provide for contingent commissions to be paid to us in accordance with the agreements. Our estimate of contingent commission revenue considers the variable factors identified in the terms of the applicable agreement. We recognize commissions related to these services as earned ratably over the policy term.

Professional and Other Revenue

Professional services and other revenues generally consist of the fees we receive for providing implementation and consulting services, submeter equipment and ongoing maintenance of our existing on premise licenses.

Professional services are billed either on a time and materials basis or on a fixed price basis, and revenue is recognized over time as we perform the obligation. Professional services are typically sold bundled in a contract with other on demand solutions but may be sold separately. Professional service contracts sold separately generally have terms of

one year or less. For bundled arrangements, where we account for individual services as a separate performance obligation, the transaction price is allocated between separate services in the bundle based on their relative standalone selling prices.

Other revenues consist primarily of submeter equipment sales that include related installation services. Such sales are considered bundled, and revenue from these bundled sales is recognized in proportion to the number of fully installed units completed to date as compared to the total contracted number of units to be provided and installed. For all other equipment sales, we generally recognize revenue when control of the hardware has transferred to our client. Revenue recognized for on

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premise software sales generally consists of annual maintenance renewals on existing term or perpetual licenses, which is recognized ratably over the service period.

Contracts with Multiple Performance Obligations

The majority of the contracts we enter into with clients, including multiple contracts entered into at or near the same time with the same client, require us to provide one or more on demand software solutions, professional services and/or equipment. For these contracts, we account for individual performance obligations separately i) if they are distinct or ii) if the promised obligations represent a series of distinct services that are substantially the same and have the same pattern of transfer to the client. Once we determine the performance obligations, we determine the transaction price, which includes estimating the amount of variable consideration, if any, to be included in the transaction price. For contracts with multiple performance obligations, we allocate the transaction price to the separate performance obligations on a relative standalone selling price basis. The standalone selling prices of our services are estimated using a market assessment approach based on our overall pricing objectives taking into consideration market conditions and other factors including the number of solutions sold, client demographics, and the number and types of users within our contracts.

Sales, value add, and other taxes we collect from clients and remit to governmental authorities are excluded from revenues.

Deferred Commissions

Sales commissions, including sales-based incentive payments, earned by our direct sales force are considered incremental and recoverable costs of obtaining a contract with a client. These costs are deferred in “Other current assets” and “Other assets” and amortized into “Sales and marketing expense” on a straight line basis over a period of benefit that we have determined to be three years. We determined the period of benefit by taking into consideration our client contracts, our technology, historical pricing practices and other factors. We periodically review these capitalized costs for impairment.

Fair Value Measurements

Certain assets and liabilities are carried at fair value under GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date.

Legal Contingencies

We review the status of each legal matter and record a provision for a liability when we consider that it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. We review these provisions quarterly and make adjustments where needed as additional information becomes available. If either or both of the criteria are not met, we assess whether there is at least a reasonable possibility that a loss, or additional losses beyond those already accrued, may be incurred. If there is a reasonable possibility that a material loss (or additional material loss in excess of any accrual) may be incurred, we disclose an estimate of the amount of loss or range of losses, either individually or in the aggregate, as appropriate, if such an estimate can be made, or disclose that an estimate of loss cannot be made.

Recently Adopted Accounting Standards

Accounting Standards Update 2014-09

In May 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2014-09, Revenue from Contracts with Customers (Topic 606). ASU 2014-09, as amended by certain supplementary ASU’s released in 2016, replaces all current GAAP guidance on this topic and eliminates all industry-specific guidance. The new revenue recognition standard requires the recognition of revenue when promised goods or services are transferred to clients in an amount that reflects the consideration for which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 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 client. Collectively, we refer to Topic 606 and Subtopic 340-40 as the “new revenue standard” or “ASC 606.”

We adopted the requirements of the new revenue standard on January 1, 2018 using the modified retrospective method and applied the guidance to contracts not substantially completed as of the date of initial application, or open contracts. We recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the

opening balance of retained earnings at the beginning of 2018. Comparative information from prior year periods has not been restated and continues to be reported under the accounting standards in effect for those periods. The cumulative effects of the changes made to our condensed consolidated January 1, 2018 balance sheet for the adoption of the new revenue standard were as follows:

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	Balance at December 31, 2017	Adjustments due to ASU 2014-09	Balance at January 1, 2018
	(in thousands)		
Assets			
Accounts receivable, less allowance for doubtful accounts	$124,505	$ (7,925)	$116,580
Other current assets	$6,622	$ 2,771	$9,393
Deferred tax assets, net	$44,887	$ (780)	$44,107
Other assets	$11,010	$ 4,459	$15,469
Liabilities			
Current portion of deferred revenue	$116,622	$ (3,696)	$112,926
Stockholders' Equity			
Accumulated deficit	$(75,046)	$ 2,221	$(72,825)

Adoption of the new revenue standard resulted in changes to our accounting policies for revenue recognition, certain variable considerations, and commissions expense. The adoption of the new revenue standard did not have a significant effect on our revenue; however, it did have an impact on the timing of when we expense commission costs incurred to obtain a contract and the reserves we establish for variable consideration from credits or other pricing accommodations we provide our clients. We expect the effect of the new revenue standard to be immaterial to our revenue on an ongoing basis. The primary effect to our net income on an ongoing basis relates to the reserve for credit accommodations and deferral of incremental commission costs incurred to obtain new contracts. Under the new revenue standard, we accrue for credit accommodations in our reserve during the month of billing and credits reduce this reserve when issued. Further, we now initially defer commission costs and amortize these costs to expense over a period of benefit that we have determined to be three years. Deferred commissions were capitalized for open contracts at the date of initial application and will be capitalized for new contracts in 2018. As a result, there will be a net benefit to "Operating income" in our Condensed Consolidated Statements of Operations during 2018 as capitalization of costs exceed amortization. As capitalized costs amortize into expense over time, the accretive benefit in 2018 is expected to moderate in 2019 and normalize in 2020.

See Note 4 for additional required disclosures related to the impact of adopting the new revenue standard and our accounting for costs to obtain a contract.

Accounting Standards Update 2016-18

In November 2016, the FASB issued ASU 2016-18, Statement of Cash Flows - Restricted Cash, which requires entities to show the changes in the total of cash, cash equivalents, restricted cash and restricted cash equivalents in the statement of cash flows. This ASU must be adopted retrospectively.

We adopted ASU 2016-18 effective January 1, 2018. As a result of our adoption, changes in customer deposits held in restricted accounts will result in an increase or reduction in our cash flows from operating activities. Under previous rules, such changes were largely offset by the corresponding change in restricted cash and had a minimal impact on our statement of cash flows. The prior period financial statements included in this filing have been adjusted to reflect the adoption of ASU 2016-18. The effects of those adjustments to the Condensed Consolidated Statements of Cash Flows have been summarized in the table below:

	Originally Reported	Effect of Change	As Adjusted
	(in thousands)		
Statement of Cash Flows for the nine months ended September 30, 2017			
Net cash provided by operating activities	$106,288	$(405)	$105,883
Net cash used in investing activities	$(395,437)	$9,311	$(386,126)
Cash, cash equivalents and restricted cash at end of period	$109,334	$92,560	$201,894

Accounting Standards Update 2017-09

In May 2017, the FASB issued ASU 2017-09, Compensation - Stock Compensation (Topic 718): Scope of Modification Accounting, which provides clarification on when modification accounting should be used for changes to the terms or conditions of a share-based payment award. This ASU does not change the accounting for modifications but clarifies that modification accounting guidance should only be applied if there is a change to the fair value, vesting conditions, or award classification (as equity or liability) and would not be required if the changes are considered non-substantive. We adopted this

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standard effective January 1, 2018. Adoption of ASU 2017-09 did not have a material impact on our consolidated financial statements.

Accounting Standards Update 2017-01

In January 2017, the FASB issued ASU 2017-01, Business Combinations (Topic 805): Clarifying the Definition of a Business to assist entities with evaluating whether a set of transferred assets and activities (a "set") is a business. Under the new guidance, an entity first determines whether substantially all of the fair value of the set is concentrated in a single identifiable asset or a group of similar identifiable assets. If this threshold is met, the set is not a business. If the threshold is not met, the entity evaluates whether the set meets the requirements that a business include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs. We adopted the provisions of this ASU effective January 1, 2018, and the adoption did not have a significant impact on our classification of businesses and complementary technologies acquired.

Accounting Standards Update 2016-01

In January 2016, the FASB issued ASU 2016-01, Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities and ASU 2018-03, Technical Corrections and Improvements to Financial Instruments - Overall (Subtopic 825-10) in February 2018, which provides clarification on certain guidance issued under ASU 2016-01. Among other things, ASU 2016-01 eliminates the cost method of accounting and requires that investments in equity securities that were previously accounted for under the cost method must now be measured at fair value, with changes in fair value recognized in net income. Equity instruments that do not have readily determinable fair values may be measured at cost less impairment, plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. This ASU became effective on January 1, 2018. We hold an investment which was accounted for under the cost method of accounting prior to January 1, 2018, which does not have a readily determinable fair value and has had no observable price change. Therefore, we continue to measure this investment at cost, less any impairment. The adoption of this standard did not have a material impact on our consolidated financial statements.

Accounting Standards Update 2018-07

In June 2018, the FASB issued ASU 2018-07, Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting, which simplifies the accounting for share-based payments granted to nonemployees for goods and services. Under this ASU, most of the guidance on such payments to nonemployees would be aligned with the requirements for share-based payments granted to employees. ASU 2018-07 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and early adoption is permitted. We early adopted ASU 2018-07 effective July 1, 2018, and the adoption did not have a material impact on our consolidated financial statements.

Recently Issued Accounting Standards

In August 2018, the FASB issued ASU 2018-15, Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract. This ASU aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. ASU 2018-15 is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, and early adoption is permitted. The amendments in this update will be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. We are currently evaluating the impact of this ASU on our consolidated financial statements.

In February 2018, the FASB issued ASU 2018-02, Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income, which provides companies the option to reclassify tax effects stranded in accumulated other comprehensive income as a result of the 2017 Tax Cuts and Jobs Act (“Tax Reform Act”) to retained earnings. ASU 2018-02 is effective for annual reporting periods beginning after December 15, 2018, including interim periods within those fiscal years, and should be applied either in the period of adoption or retrospectively to each period in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Reform Act is recognized. Early adoption is permitted. We are currently evaluating this ASU, but the adoption is not expected to have a material impact on our consolidated financial

statements.
In August 2017, the FASB issued ASU 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities, which expands an entity's ability to apply hedge accounting for nonfinancial and financial risk components and allows for a simplified approach for fair value hedging of interest rate risk. Certain of the amendments in this ASU as they relate to cash flow hedges, eliminate the requirement to separately record hedge ineffectiveness currently in earnings. Instead, the entire change in the fair value of the hedging instrument is recorded in Other Comprehensive Income ("OCI"), and amounts deferred in OCI will be reclassified to earnings in the same income statement line item in which the

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earnings effect of the hedged item is reported. Additionally, this ASU simplifies the hedge documentation and effectiveness assessment requirements under the previous guidance. ASU 2017-12 is effective for annual reporting periods beginning after December 15, 2018, including interim periods within those fiscal years, and early adoption is permitted. The changes in this ASU will be applied on a modified retrospective basis through a cumulative effect adjustment to the opening balance of retained earnings as of the initial application date.

While we are continuing to assess all potential impacts of ASU 2017-12 on our consolidated financial statements, its most immediate effect will be the initial recognition of the entire change in the fair value of our interest rate swaps in other comprehensive income. Similar to our current treatment of the effective portion of a change in fair value, the ineffective portion will be reclassified into interest expense as interest payments are made on our variable rate debt. Under our current practice, the ineffective portion is initially recorded as a component of interest expense in the period of change. We will adopt this standard effective January 1, 2019 and do not expect the changes in the ASU to have a material impact on our consolidated financial statements.

In July 2017, the FASB issued ASU 2017-11, Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480), Derivatives and Hedging (Topic 815). The amendments of this ASU allow companies to exclude a down round feature when determining whether a financial instrument (or embedded conversion feature) is considered indexed to the entity's own stock. As a result, financial instruments (or embedded conversion features) with down round features may no longer be required to be accounted for as derivative liabilities. A company will recognize the value of a down round feature only when it is triggered and the strike price has been adjusted downward. For equity-classified freestanding financial instruments, an entity will treat the value of the effect of the down round as a dividend and a reduction of income available to common shareholders in computing basic earnings per share. For convertible instruments with embedded conversion features containing down round provisions, entities will recognize the value of the down round as a beneficial conversion discount to be amortized to earnings. ASU 2017-11 is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted, and the guidance is to be applied using a full or modified retrospective approach. We are currently evaluating the impact of adopting ASU 2017-11 on our consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. The amendments in this ASU replace the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. ASU 2016-13 is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted in fiscal years beginning after December 15, 2018. The amendments in this ASU are to be applied through a cumulative-effect adjustment to retained earnings as of the first reporting period in which the ASU is effective. We have not yet selected a transition date and are currently evaluating the impact of adopting ASU 2016-13 on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842). The new guidance requires lessees to recognize assets and liabilities arising from all leases with a lease term of more than 12 months, including those classified as operating leases under previous accounting guidance. It also requires disclosure of key information about leasing arrangements to increase transparency and comparability among organizations.

ASU 2016-02 is effective for interim and annual periods beginning after December 15, 2018. Early adoption is permitted. In July 2018, the FASB issued ASU 2018-11, Leases - Targeted Improvements, which provides for an optional transition method to allow companies to initially account for the impact of the adoption with a cumulative-effect adjustment to the opening balance of retained earnings on January 1, 2019. This eliminates the requirement to restate amounts presented prior to January 1, 2019. We will adopt the standard effective January 1, 2019, and we expect to elect this optional transition method, as well as certain practical expedients permitted under the transition guidance. As previously disclosed, we anticipate that the standard will have a material impact on our balance sheet from the recognition of right of use assets and lease liabilities for operating leases. We believe the adoption of this guidance will modify our ongoing analysis and disclosures of lease agreements. We are in the latter stages of implementing a new lease software solution and continue to evaluate the impact to our consolidated financial statements.

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3. Acquisitions

Current Acquisition Activity

LeaseLabs

In September 2018, we acquired substantially all of the assets of LeaseLabs, Inc. ("LeaseLabs"), a full-stack marketing solutions provider to the multifamily housing industry. LeaseLabs provides online, social media and website marketing services to property management companies. Aggregate purchase consideration was $112.7 million, including contingent consideration of up to $10.0 million based on the collection of acquisition date accounts receivable balances during the six-month period after the acquisition date. The fair value of the contingent consideration was $7.0 million on the date of acquisition. We issued 86,745 shares of our common stock at closing, which had a fair value of $5.3 million on the date of acquisition. We will issue shares of our common stock with a fair value of $5.0 million on the first anniversary date of the acquisition. A liability of $4.8 million has been recorded for the obligation to issue these shares. The acquisition was financed using cash on hand.

The acquired identified intangible assets consisted of client relationships, developed technology and trade names and were assigned estimated useful lives of ten, seven and ten years, respectively. Preliminary goodwill recognized of $84.1 million is primarily comprised of anticipated synergies from the expansion of our marketing platform with LeaseLabs' marketing solutions and the combination of our marketing content, websites and lead management with LeaseLabs' marketing solutions. Goodwill and acquired intangible assets are deductible for tax purposes. Accounts receivable acquired have a gross value of $3.1 million, of which $0.5 million is estimated to be uncollectible. Acquisition costs associated with this transaction totaled $0.3 million and were expensed as incurred.

BluTrend

In July 2018, we acquired substantially all of the assets of Blu Trend, LLC ("BluTrend"), a provider of utility management services for the multifamily housing industry. The acquired assets will be integrated with our existing resident utility management platform. Purchase consideration was $8.5 million of cash, deferred cash obligations of up to $1.0 million, and deferred stock obligations of up to $1.0 million. The $2.0 million of deferred obligations are subject to indemnification claims as well as continued employment of certain BluTrend employees and will be released on the first and second anniversary dates of the closing date. The deferred obligations will be recognized as compensation expense over the two-year period after the acquisition date. The acquisition was financed using cash on hand.

The acquired identifiable intangible assets consisted of client relationships, developed technology and trade names and were assigned estimated useful lives of ten, five and two years, respectively. Preliminary goodwill recognized of $3.9 million is primarily comprised of anticipated synergies from integrating the BluTrend business into our utility management platform. Goodwill and the acquired identified intangible assets are deductible for tax purposes. Acquisition costs associated with this transaction totaled $0.1 million and were expensed as incurred.

ClickPay

In April 2018, we acquired substantially all of the outstanding membership units of NovelPay, LLC ("NovelPay"), other than those owned by ClickPay Services, Inc. On the same day, we acquired all of the outstanding stock of ClickPay Services, Inc. (collectively with NovelPay, "ClickPay"). ClickPay provides an electronic payment platform servicing resident units across multiple segments of real estate, which offers integrated payment services to increase operational efficiencies for property owners and managers. The acquisition of ClickPay broadens our presence in the real estate industry, and solidifies the integration of our leasing platform with third-party property management systems.

We acquired ClickPay for purchase consideration of $221.0 million. The purchase consideration consisted of $138.8 million of cash, net of cash acquired of $7.5 million, the issuance of 870,168 shares of our common stock valued at $48.0 million, a deferred obligation of up to $10.2 million, which had a fair value of $9.8 million on the date of acquisition, and a liability of $24.7 million related to put and call option agreements, which had a fair value of $24.4 million on the date of acquisition. Approximately 187,480 shares of common stock issued at closing are subject to a holdback. Subject to any indemnification claims made, the 187,480 shares of common stock issued at closing and the deferred obligation will be released on the first and second anniversary dates of the closing date, respectively. The acquisition of ClickPay was financed using funds available under our Credit Facility, as defined in Note 7, and cash on hand.

Pursuant to the acquisition agreement, certain holders initially retained units representing approximately 12% of the membership units of NovelPay, subject to put rights that could be exercised by the holders on or after September 1, 2018, and call rights that could be exercised by us on or after October 1, 2018. The exercise price of the put and call rights was the same as the per unit price of the membership units purchased at the closing. We evaluated the put and call options and determined the put and call options were embedded within the noncontrolling interests, and the economic substance represented a financing arrangement of the noncontrolling interests because of the substantially fixed exercise price and stated exercise dates. In June 2018, we and one of the remaining NovelPay noncontrolling interest holders agreed to waive the put and call exercise date, and we completed the purchase of such holder's membership units for 395,206 shares of common stock valued at $21.8 million. In

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September 2018, the remaining NovelPay noncontrolling interest holders exercised their put rights, and we completed the purchase of the noncontrolling interest holders' membership units for $2.9 million in cash. As of September 30, 2018, all outstanding membership units of NovelPay have been acquired. No earnings were attributed to the noncontrolling interests in the accompanying Condensed Consolidated Statements of Operations.
The acquired identified intangible assets consisted of developed technology, client relationships, and trade names. These intangible assets were assigned estimated useful lives of seven, ten, and ten years, respectively. Preliminary goodwill recognized of $172.6 million is primarily comprised of anticipated synergies from leveraging ClickPay's electronic payment platform, which is compatible with multiple third-party property management systems. Goodwill of $105.0 million arising from the acquisition of NovelPay is deductible for tax purposes; goodwill arising from the acquisition of ClickPay Services, Inc. is not. Accounts receivable acquired had a gross contractual value of $2.8 million at acquisition, of which $0.5 million was estimated to be uncollectible. Acquisition costs associated with this transaction totaled $1.6 million and were expensed as incurred.
Purchase Consideration and Purchase Price Allocations
The estimated fair values of assets acquired and liabilities assumed are provisional and are based primarily on the information available as of the acquisition date. We believe this information provides a reasonable basis for estimating the fair values of assets acquired and liabilities assumed, but we are awaiting additional information necessary to finalize those values. Therefore, the provisional measurements of fair value are subject to change, and such changes could be significant. We expect to finalize the valuation of these assets and liabilities as soon as practicable, but no later than one year from the acquisition date. The components of the purchase consideration and the preliminary allocation of each purchase price, including the effects of measurement period adjustments recorded as of September 30, 2018, are as follows:

	ClickPay	BluTrend	LeaseLabs
	(in thousands)		
Fair value of total purchase consideration:			
Cash, net of cash acquired	$138,787	$8,500	$84,500
Common stock issued at closing	48,034	—	5,300
Deferred obligations, net	9,821	—	15,888
Noncontrolling interest financing	24,369	—	—
Contingent consideration	—	—	7,000
Total purchase consideration	$221,011	$8,500	$112,688
Fair value of net assets acquired:			
Restricted cash	$1,313	$—	$—
Accounts receivable	2,288	226	2,625
Property, equipment, and software	89	—	865
Intangible assets:			
Developed product technologies	29,100	730	8,300
Client relationships	20,700	3,510	17,800
Trade names	2,900	30	1,100
Goodwill	172,618	3,887	84,127
Other assets	443	122	363
Accounts payable and accrued liabilities	(2,697)	(5)	(167)
Client deposits held in restricted accounts	(1,313)	—	—
Deferred revenue	—	—	(2,325)
Deferred tax liability, net	(4,430)	—	—
Total fair value of net assets acquired	$221,011	$8,500	$112,688

2017 Acquisitions
Lease Rent Options

In February 2017, we entered into an agreement with The Rainmaker Ventures, LLC ("Rainmaker") to acquire substantially all of the assets and liabilities that comprised Rainmaker's multifamily revenue optimization business ("LRO").

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The transaction closed in December 2017 for purchase consideration of $299.9 million.

PEX Software

In October 2017, we acquired all of the issued and outstanding shares of PEX Software Limited (“PEX”) based in the United Kingdom, for purchase consideration of $6.0 million.

On-Site

In September 2017, we acquired certain assets of On-Site Manager, Inc., including its majority ownership interest in its subsidiary, DepositIQ & RentersIQ Insurance Agency, LLC (“DIQ”). We also acquired the remaining minority interest in DIQ (collectively, “On-Site”). We acquired On-Site for aggregate purchase consideration of $251.1 million.

American Utility Management

In June 2017, we acquired substantially all of the assets of American Utility Management, Inc. (“AUM”) for purchase consideration of $69.4 million.

Axiometrics LLC

In January 2017, we acquired substantially all of the assets of Axiometrics LLC (“Axiometrics”) for purchase consideration of $73.8 million.

We recorded the purchase of the acquisitions described above using the acquisition method of accounting and, accordingly, recognized the assets acquired and liabilities assumed at their fair values as of the date of the acquisition. Tangible assets were valued at their respective carrying amounts, which approximated their estimated fair value. The valuation of identified intangible assets reflects management’s estimates based on, among other factors, use of established valuation methods. Acquisition costs were expensed as incurred. These acquisitions were financed using cash on hand, and in the case of LRO, funds available under our credit facility. For more information regarding these acquisitions, refer to our 2017 Form 10-K.

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Purchase Price Allocations

For certain of the acquisitions in the table below, the estimated fair values of assets acquired and liabilities assumed are provisional and are based primarily on the information available as of the acquisition dates. The allocation of each purchase price, including the effects of measurement period adjustments recorded as of September 30, 2018, was as follows:

	Axiometrics (Final)	AUM (Final)	On-Site (Final)	PEX (Provisional)	LRO (Provisional)
	(in thousands)				
Fair value of total purchase consideration:					
Cash, net of cash acquired	$66,050	$64,775	$225,300	$ 5,103	$ 298,040
Liabilities assumed	—	—	—	—	377
Deferred cash obligations, net	6,895	4,637	25,809	928	1,506
Contingent consideration	812	—	—	—	—
Total purchase consideration	$73,757	$69,412	$251,109	$ 6,031	$ 299,923
Fair value of net assets acquired:					
Restricted cash	$—	$5,954	$3,458	$ —	$ —
Accounts receivable	1,620	2,409	4,484	107	4,460
Property, equipment, and software	400	319	789	—	1,507
Intangible assets:					
Developed product technologies	15,500	10,800	16,960	2,350	42,000
Client relationships	6,830	7,470	41,360	590	49,000
Trade names	3,200	208	7,000	160	666
Non-compete agreements	—	3,920	—	—	—
Goodwill	54,190	45,907	182,592	3,300	202,868
Other assets	273	850	853	95	475
Accounts payable and accrued liabilities	(367)	(2,150)	(1,124)	(242)	(192)
Client deposits held in restricted accounts	—	(5,954)	(3,458)	—	—
Deferred revenue	(7,115)	(321)	(565)	(221)	(861)
Other long-term liabilities	(774)	—	—	—	—
Deferred tax liability	—	—	(1,240)	(108)	—
Total fair value of net assets acquired	$73,757	$69,412	$251,109	$ 6,031	$ 299,923

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Deferred Obligations and Contingent Consideration Activity

The following table presents changes in the Company's deferred cash and stock obligations and contingent consideration for the nine months ended September 30, 2018 and the year ended December 31, 2017:

	Deferred Cash and Stock Obligations	Contingent Consideration	Total
	(in thousands)		
Balance at January 1, 2017	$14,150	$ 541	$14,691
Additions, net of fair value discount	42,104	812	42,916
Cash payments	(8,215)	(700)	(8,915)
Accretion expense	1,049	—	1,049
Change in fair value	—	(239)	(239)
Indemnification claims and other adjustments	(2,072)	—	(2,072)
Balance at December 31, 2017	47,016	414	47,430
Additions, net of fair value discount	25,709	7,000	32,709
Cash payments	(26,734)	(247)	(26,981)
Accretion expense	1,491	—	1,491
Change in fair value	—	(167)	(167)
Indemnification claims and other adjustments	(2,753)	—	(2,753)
Balance at September 30, 2018	$44,729	$ 7,000	$51,729

Pro Forma Results of Acquisitions

The following table presents unaudited pro forma results of operations for the three and nine months ended September 30, 2018 and 2017, as if the aforementioned 2018 and 2017 acquisitions had occurred as of January 1, 2017 and January 1, 2016, respectively. The pro forma information includes the business combination accounting effects resulting from these acquisitions, including interest expense, tax expense or benefit, issuance of our common shares, and additional amortization resulting from the valuation of amortizable intangible assets. We prepared the pro forma financial information for the combined entities for comparative purposes only, and it is not indicative of what actual results would have been if the acquisitions had occurred at the beginning of the periods presented, or of future results.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018 Pro Forma	2017 Pro Forma	2018 Pro Forma	2017 Pro Forma
	(unaudited)			
	(in thousands, except per share amounts)			
Total revenue	$228,588	$202,957	$667,668	$598,560
Net income	$9,072	$7,221	$26,431	$11,132
Net income per share:				
Basic	$0.10	$0.09	$0.31	$0.14
Diluted	$0.09	$0.09	$0.29	$0.13

4. Revenue Recognition

On January 1, 2018, we adopted the new revenue standard using the modified retrospective method for those contracts with remaining service obligations as of January 1, 2018. Results for reporting periods beginning after January 1, 2018 are presented under the new revenue standard, while prior period amounts are not adjusted and continue to be reported under the accounting standards in effect for the prior period.

We recorded a net increase to opening equity of $2.2 million as of January 1, 2018 as the cumulative effect of adopting the new revenue standard. The effect on revenues of adopting the new revenue standard for the three and nine months ended September 30, 2018 is presented in the “Impact on Consolidated Financial Statements” section below.

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Disaggregation of Revenue

The following table presents our revenues disaggregated by major revenue source. Sales and usage-based taxes are excluded from revenues.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
On demand				
Property management	$47,307	$42,175	$139,149	$123,921
Resident services	94,085	70,527	256,592	196,356
Leasing and marketing	41,842	29,334	124,099	86,474
Asset optimization	32,179	19,542	95,818	55,767
Total on demand revenue	215,413	161,578	615,658	462,518
Professional and other	9,540	7,480	26,848	20,765
Total revenue	$224,953	$169,058	$642,506	$483,283

On Demand Revenue

We generate the majority of our on demand revenue by licensing software-as-a-service (“SaaS”) solutions to our clients on a subscription basis. Our SaaS solutions are provided pursuant to contractual commitments that typically include a promise that we will stand ready, on a monthly basis, to deliver access to our technology platform over defined service delivery periods. These solutions represent a series of distinct services that are substantially the same and have the same pattern of transfer to the client. Revenue from our SaaS solutions is generally recognized ratably over the term of the arrangement.

Consideration for our on demand subscription services consist of fixed, variable and usage-based fees. We invoice a portion of our fees at the initial order date and then monthly or annually thereafter. Subscription fees are generally fixed based on the number of sites and the level of services selected by the client.

We sell certain usage-based services, primarily within our property management, resident services and leasing and marketing solutions, to clients based on a fixed rate per transaction. Revenues are calculated based on the number of transactions processed monthly and will vary from month to month based on actual usage of these transaction-based services over the contract term, which is typically one year in duration. The fees for usage-based services are not associated with every distinct service promised in the series of distinct services we provide our clients. As a result, we allocate variable usage-based fees only to the related transactions and recognize them in the month that usage occurs.

As part of our resident services offerings, we offer risk mitigation services to our clients by acting as an insurance agent and derive commission revenue from the sale of insurance products to our clients’ residents. The commissions are based upon a percentage of the premium that the insurance company underwriting partners charge to the policyholder and are subject to forfeiture in instances where a policyholder cancels prior to the end of the policy. The overall insurance services we provide represent a single performance obligation that qualifies as a separate series in accordance with the new revenue standard. Our contracts with our underwriting partners also provide for contingent commissions to be paid to us in accordance with the agreements. The contingent commissions are not associated with every distinct service promised in the series of distinct insurance services we provide. We generally accrue and recognize contingent commissions monthly based on estimates of the variable factors identified in the terms of the applicable agreements.

Professional Services and Other Revenues

Professional services and other revenues generally consist of the fees we receive for providing implementation and consulting services, submeter equipment and ongoing maintenance of our existing on premise licenses.

Professional services revenues primarily consist of fees for implementation services, consulting services and training. Professional services are billed either on a fixed rate per hour (time) and materials basis or on a fixed price basis. Professional services are typically sold bundled in a contract with other on demand solutions but may be sold

separately. For bundled arrangements, we allocate the transaction price to separate services based on their relative standalone selling prices if a service is separately identifiable from other items in the bundled arrangement and if a client can benefit from it on its own or with other resources readily available to the client.

Other revenues consist of submeter equipment sales that include related installation services, sales of other equipment and on premise software sales. Submeter hardware and installation services are considered to be part of a single performance obligation due to the significance of the integration and interdependency of the installation services with the meter equipment.

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Our typical payment terms for submeter installations require a percentage of the overall transaction price to be paid upfront, with the remainder billed as progress payments. We recognize submeter revenue in proportion to the number of fully installed units completed to date as compared to the total contracted number of units to be provided and installed. For all other equipment sales, we generally recognize revenue when control of the hardware has transferred to our client, which occurs at a point in time, typically upon delivery to the client.

The majority of on premise revenue consists of maintenance renewals from clients who renew for an additional one-year term. Maintenance renewal revenue is recognized ratably over the service period based upon the standalone selling price of that service obligation.

Contract Balances

Contract assets generally consist of amounts recognized as revenue before they can be invoiced to clients or amounts invoiced to clients prior to the period in which the service is provided where the right to payment is subject to conditions other than just the passage of time. These contract assets are included in "Accounts receivable" in the accompanying Condensed Consolidated Financial Statements and related disclosures. Contract liabilities are comprised of billings or payments received from our clients in advance of performance under the contract. We refer to these contract liabilities as "Deferred revenue" in the accompanying Condensed Consolidated Financial Statements and related disclosures. We recognized $102.9 million of on demand revenue during the nine months ended September 30, 2018, which was included in the line "Deferred revenue" in the accompanying Condensed Consolidated Balance Sheet as of the beginning of the period.

Contract Acquisition Costs

We capitalize certain commissions as incremental costs of obtaining a contract with a client if we expect to recover those costs. The commissions are capitalized and amortized over a period of benefit determined to be three years. As of September 30, 2018, the current and noncurrent balance of capitalized commissions costs recorded in the lines "Other current assets" and "Other assets" in the accompanying Condensed Consolidated Balance Sheet was $5.8 million and $7.5 million, respectively. During the three and nine months ended September 30, 2018, we amortized commission costs totaling $1.3 million and $3.0 million, respectively. No impairment loss was recognized in relation to these capitalized costs.

Remaining Performance Obligations

Certain clients commit to purchase our solutions for terms ranging from two to seven years. We expect to recognize approximately $385.6 million of revenue in the future related to performance obligations for on demand contracts with an original duration greater than one year that were unsatisfied or partially unsatisfied as of September 30, 2018. Our estimate does not include amounts related to:

- professional and usage-based services that are billed and recognized based on services performed in a certain period;
- amounts attributable to unexercised contract renewals that represent a material right; or
- amounts attributable to unexercised client options to purchase services that do not represent a material right.

We expect to recognize revenue on approximately 67.0% of the remaining performance obligations over the next 24 months, with the remainder recognized thereafter. Revenue from remaining performance obligations for professional service contracts as of September 30, 2018 was immaterial.

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Impact on Consolidated Financial Statements

The following tables summarize the effects of the adoption of ASU 2014-09 on selected unaudited line items within our Condensed Consolidated Statements of Operations and Balance Sheet:

	Three Months Ended September 30, 2018			Nine Months Ended September 30, 2018		
	As reported	Balances without adoption of ASU 2014-09	Effect of Change on Net Income Higher/(Lower)	As reported	Balances without adoption of ASU 2014-09	Effect of Change on Net Income Higher/(Lower)
	(in thousands)					
Revenue						
On demand	$215,413	$215,912	$ (499)	$615,658	$616,788	$ (1,130)
Professional and other	9,540	8,644	896	26,848	24,739	2,109
Total revenue	$224,953	$224,556	$ 397	$642,506	$641,527	$ 979
Operating expenses						
Sales and marketing	$43,179	$45,213	$ 2,034	$121,523	$127,714	$ 6,191
Net income before income taxes	$9,756	$7,325	$ 2,431	$28,646	$21,476	$ 7,170
Income tax expense (benefit)	683	(216)	(899)	193	(2,459)	(2,652)
Net income	$9,073	$7,541	$ 1,532	$28,453	$23,935	$ 4,518

	Balances at September 30, 2018 - as reported	Balances at September 30, 2018 without adoption of ASU 2014-09	Effect of Change Higher/(Lower)
	(in thousands)		
Assets			
Accounts receivable, less allowance for doubtful accounts	$114,441	$ 121,816	$ (7,375)
Other current assets	$17,834	$ 11,997	$ 5,837
Other assets	$18,992	$ 11,446	$ 7,546
Liabilities			
Current portion of deferred revenue	$110,507	$ 114,779	$ (4,272)
Deferred revenue	$5,079	$ 5,079	$ —

The adoption of ASU 2014-09 had no net effect on the Condensed Consolidated Statement of Cash Flows for the nine months ended September 30, 2018.

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5. Property, Equipment, and Software

Property, equipment, and software consisted of the following at September 30, 2018 and December 31, 2017:

	September 30, 2018	December 31, 2017
	(in thousands)	
Leasehold improvements	$61,879	$ 59,179
Data processing and communications equipment	66,528	83,922
Furniture, fixtures, and other equipment	33,532	28,752
Software	125,616	107,924
Property, equipment, and software, gross	287,555	279,777
Less: Accumulated depreciation and amortization	(136,342)	(131,349)
Property, equipment, and software, net	$151,213	$ 148,428

Depreciation and amortization expense for property, equipment, and purchased software was $6.9 million for both of the three month periods ended September 30, 2018 and 2017, and $21.3 million and $20.4 million for the nine months ended September 30, 2018 and 2017, respectively.

The carrying amount of capitalized software development costs was $89.0 million and $73.4 million at September 30, 2018 and December 31, 2017, respectively. Total accumulated amortization related to these assets was $36.5 million and $27.8 million at September 30, 2018 and December 31, 2017, respectively. Amortization expense related to capitalized software development costs totaled $3.2 million and $2.2 million for the three months ended, and $8.7 million and $5.7 million for the nine months ended September 30, 2018 and 2017, respectively.

6. Goodwill and Intangible Assets

Changes in the carrying amount of goodwill during the nine months ended September 30, 2018 were as follows, in thousands:

Balance as of December 31, 2017	$751,052
Goodwill acquired	260,632
Measurement period adjustments	(2,222)
Balance as of September 30, 2018	$1,009,462

Identified intangible assets consisted of the following at September 30, 2018 and December 31, 2017:

	September 30, 2018			December 31, 2017		
	Carrying Amount	Accumulated Amortization	Net	Carrying Amount	Accumulated Amortization	Net
	(in thousands)					
Finite-lived intangible assets:						
Developed technologies	$203,686	$ (94,230)	$109,456	$164,640	$ (76,577)	$88,063
Client relationships	255,728	(99,405)	156,323	213,728	(78,390)	135,338
Vendor relationships	5,650	(5,650)	—	5,650	(5,650)	—
Trade names	21,536	(9,042)	12,494	17,556	(4,325)	13,231
Non-compete agreements	4,173	(1,198)	2,975	4,173	(605)	3,568
Total finite-lived intangible assets	490,773	(209,525)	281,248	405,747	(165,547)	240,200
Indefinite-lived intangible assets:						
Trade names	12,134	—	12,134	12,137	—	12,137
Total intangible assets	$502,907	$ (209,525)	$293,382	$417,884	$ (165,547)	$252,337

Amortization expense related to finite-lived intangible assets was $15.5 million and $7.1 million for the three months ended September 30, 2018 and 2017, respectively. For the nine months ended September 30, 2018 and 2017, amortization expense related to finite-lived intangible assets was $44.0 million and $19.7 million, respectively.

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7. Debt

Credit Facility

On September 30, 2014, we entered into an agreement for a secured credit facility to refinance our outstanding revolving loans. The credit facility agreement was subsequently amended during the years ended 2016 and 2017, and was further amended in March 2018 by the Seventh Amendment, discussed below (inclusive of these amendments, the "Credit Facility"). For more information regarding these amendments, refer to our 2017 Form 10-K. The Credit Facility matures on February 27, 2022, and includes the following:

Revolving Facility: The Credit Facility provides $350.0 million in aggregate commitments for revolving loans, with sublimits of $10.0 million for the issuance of letters of credit and $20.0 million for swingline loans ("Revolving Facility").

Term Loan: In February 2016, we originated a term loan in the original principal amount of $125.0 million under the Credit Facility ("Term Loan"). We made quarterly principal payments of $0.8 million through March 31, 2018, which increased to $1.5 million beginning on June 30, 2018, and will increase again to $3.1 million beginning on June 30, 2020.

Delayed Draw Term Loan: In December 2017, we drew funds of $200.0 million available under the delayed draw term loan ("Delayed Draw Term Loan"). Subsequent to disbursal of the Delayed Draw Term Loan funds, we began making quarterly principal payments on the Delayed Draw Term Loan equal to an initial amount of $1.3 million through March 31, 2018. The quarterly principal payments increased to $2.5 million beginning on June 30, 2018, and will increase again to $5.0 million beginning on June 30, 2020.

Revolving loans under the Credit Facility may be voluntarily prepaid and re-borrowed. Principal payments on the Term Loan and Delayed Draw Term Loan (collectively, the "Term Loans") are due in quarterly installments, as described above, and may not be re-borrowed. All outstanding principal and accrued but unpaid interest is due on the maturity date. The Term Loans are subject to mandatory repayment requirements in the event of certain asset sales or if certain insurance or condemnation events occur, subject to customary reinvestment provisions. The Company may prepay the Term Loans in whole or in part at any time, without premium or penalty, with prepayment amounts to be applied to remaining scheduled principal amortization payments as specified by the Company.

Accordion Feature: The Credit Facility also allows us, subject to certain conditions, to request additional term loans or revolving commitments up to an aggregate principal amount of $150.0 million, plus an amount that would not cause our Senior Leverage Ratio, as defined below, to exceed 3.50 to 1.00.

At our option, amounts outstanding under the Credit Facility accrue interest at a per annum rate equal to either LIBOR, plus a margin ranging from 1.25% to 2.25%, or the Base Rate, plus a margin ranging from 0.25% to 1.25% ("Applicable Margin"). The base LIBOR is, at our discretion, equal to either one, two, three, or six month LIBOR. The Base Rate is defined as the greater of Wells Fargo's prime rate, the Federal Funds Rate plus 0.50%, or one month LIBOR plus 1.00%. In each case, the Applicable Margin is determined based upon our Net Leverage Ratio, as defined below. Accrued interest on amounts outstanding under the Credit Facility is due and payable quarterly, in arrears, for loans bearing interest at the Base Rate and at the end of the applicable interest period in the case of loans bearing interest at the adjusted LIBOR.

Certain of our existing and future material domestic subsidiaries are required to guarantee our obligations under the Credit Facility, and the obligations under the Credit Facility are secured by substantially all of our assets and the assets of the subsidiary guarantors. The Credit Facility contains customary covenants, subject in each case to customary exceptions and qualifications. Our covenants include, among other limitations, a requirement that we comply with a maximum Consolidated Net Leverage Ratio, a minimum Consolidated Interest Coverage Ratio, and a maximum Consolidated Senior Secured Net Leverage Ratio.

Consolidated Net Leverage Ratio: The Consolidated Net Leverage Ratio ("Net Leverage Ratio") is the ratio of consolidated funded indebtedness, as defined in the Credit Facility, on the last day of each fiscal quarter to the sum of the four previous consecutive fiscal quarters' consolidated EBITDA, as defined in the Credit Facility. As modified by the Seventh Amendment, this ratio generally may not exceed 5.00 to 1.00. The Net Leverage Ratio may increase, at our option, to 5.50 to 1.00 following an acquisition having aggregate consideration greater than $150.0 million and occurring within a specified time period following the Seventh Amendment Effective Date, defined below. The option

to increase this ratio may be elected no more than one time during any consecutive 24 month period over the term of the Credit Facility, and lasts for four consecutive fiscal quarters. As of September 30, 2018, we had not exercised our option to increase the Net Leverage Ratio.

Consolidated Interest Coverage Ratio: The Consolidated Interest Coverage Ratio (“Interest Coverage Ratio”) is the ratio of the sum of our four previous fiscal quarters’ consolidated EBITDA to consolidated interest expense, as defined in the Credit Facility, for the same period. The Interest Coverage Ratio must not be less than 3.00 to 1.00 on the last day of each fiscal quarter. The Interest Coverage Ratio excludes non-cash interest attributable to the Convertible Notes (see Convertible Notes below).

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Consolidated Senior Secured Net Leverage Ratio: The Consolidated Senior Secured Net Leverage Ratio ("Senior Leverage Ratio") is the ratio of consolidated senior secured indebtedness, as defined in the Credit Facility, on the last day of each fiscal quarter to the sum of the four previous consecutive fiscal quarters' consolidated EBITDA and, as modified by the Seventh Amendment, may not exceed 3.75 to 1.00. At our option, this ratio may be increased to 4.25 to 1.00 for four consecutive fiscal quarters following the completion of an acquisition having aggregate consideration greater than $150.0 million and occurring within a specified time period following the Seventh Amendment Effective Date, defined below. We are not permitted to exercise this option more than one time during any consecutive 24 month period. As of September 30, 2018, we had not exercised our option to increase the Senior Leverage Ratio.

As of September 30, 2018, we were in compliance with the covenants under our Credit Facility.

Seventh Amendment: On March 12, 2018 ("Seventh Amendment Effective Date"), we entered into the seventh amendment ("Seventh Amendment") to the Credit Facility. This amendment allowed for an increase of $150.0 million in available credit under our Revolving Facility, consequently providing aggregate commitments for revolving loans up to $350.0 million. Among other modifications, the Seventh Amendment provided for an increase in the maximum Net Leverage Ratio and Senior Leverage Ratio to 5.00 to 1.00 and 3.75 to 1.00, respectively. The Seventh Amendment also modified the Accordion Feature definition to allow for incremental commitments which would not cause our Senior Leverage Ratio to exceed 3.50 to 1.00. We incurred debt issuance costs in the amount of $1.1 million related to the execution of this amendment.

As of September 30, 2018, we had $350.0 million of available credit under our Revolving Facility. Principal outstanding for the Revolving Facility was $50.0 million at December 31, 2017. No principal remained outstanding for the Revolving Facility at September 30, 2018. We incur commitment fees on the unused portion of the Revolving Facility.

Principal outstanding, and unamortized debt issuance costs for the Term Loans, were as follows at September 30, 2018 and December 31, 2017:

	September 30, 2018		December 31, 2017	
	Term Loan	Delayed Draw Term Loan	Term Loan	Delayed Draw Term Loan
	(in thousands)			
Principal outstanding	$116,524	$192,500	$120,356	$198,750
Unamortized issuance costs	(186)	(659)	(233)	(821)
Unamortized discount	(149)	(393)	(185)	(490)
Carrying value	$116,189	$191,448	$119,938	$197,439

Unamortized debt issuance costs for the Revolving Facility were $1.4 million and $0.6 million at September 30, 2018 and December 31, 2017, respectively, and are included in the line "Other assets" in the Condensed Consolidated Balance Sheets.

Future maturities of principal under the Term Loans are as follows for the years ending December 31, in thousands:

	Term Loans
2018	$4,033
2019	16,133
2020	28,232
2021	32,266
2022	228,360
	$309,024

Convertible Notes

In May 2017, we issued convertible senior notes with aggregate principal of $345.0 million (including the underwriters' exercise in full of their over-allotment option of $45.0 million) which mature on November 15, 2022 ("Convertible Notes"). The Convertible Notes were issued under an indenture dated May 23, 2017 ("Indenture"), by and

between the Company and Wells Fargo Bank, N.A., as Trustee. We received net proceeds from the offering of approximately $304.2 million after adjusting for debt issuance costs, including the underwriting discount, the net cash used to purchase the Note Hedges and the proceeds from the issuance of the Warrants which are discussed below.
The Convertible Notes accrue interest at a rate of 1.50%, payable semi-annually on May 15 and November 15 of each year beginning on November 15, 2017. On or after May 15, 2022, and until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert their Convertible Notes at their option. The Convertible Notes are convertible at an initial rate of 23.84 shares per $1,000 of principal (equivalent to an initial conversion

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price of approximately $41.95 per share of our common stock). The conversion rate is subject to customary adjustments for certain events as described in the Indenture. Upon conversion, we will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election. It is our current intent to settle conversions of the Convertible Notes through combination settlement, which involves repayment of the principal portion in cash and any excess of the conversion value over the principal amount in shares of our common stock. Based on our closing stock price of $65.90 on September 30, 2018, the if-converted value exceeded the aggregate principal amount of the Convertible Notes by $197.0 million. As described below, we entered into convertible note hedge transactions, which are expected to reduce the potential dilution with respect to our common stock upon conversion of the Convertible Notes.

Holders may convert their Convertible Notes, at their option, prior to May 15, 2022 only under the following circumstances:

- during any calendar quarter commencing after the calendar quarter ending on June 30, 2017 (and only during such calendar quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;
- during the five business day period after any five consecutive trading day period (the “Measurement Period”) in which the trading price per $1,000 principal amount of the Convertible Notes for each trading day of the Measurement Period was less than 98% of the product of the last reported sales price of our common stock and the conversion rate on each such trading day; or
- upon the occurrence of specified corporate events, as defined in the Indenture.

We may not redeem the Convertible Notes prior to their maturity date, and no sinking fund is provided for them. If we undergo a fundamental change, as described in the Indenture, subject to certain conditions, holders may require us to repurchase for cash all or any portion of their Convertible Notes. The fundamental change repurchase price is equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus accrued and unpaid interest to, but excluding, the fundamental change repurchase date. If holders elect to convert their Convertible Notes in connection with a make-whole fundamental change, as described in the Indenture, we will, to the extent provided in the Indenture, increase the conversion rate applicable to the Convertible Notes.

The Convertible Notes are senior unsecured obligations and rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the Convertible Notes and equal in right of payment to any of our existing and future unsecured indebtedness that is not subordinated. The Convertible Notes are effectively junior in right of payment to any of our secured indebtedness (to the extent of the value of assets securing such indebtedness) and structurally junior to all existing and future indebtedness and other liabilities, including trade payables, of our subsidiaries. The Indenture does not limit the amount of debt that we or our subsidiaries may incur. The Convertible Notes are not guaranteed by any of our subsidiaries.

The Indenture does not contain any financial or operating covenants or restrictions on the payments of dividends, the incurrence of indebtedness, or the issuance or repurchase of securities by us or any of our subsidiaries. The Indenture contains customary events of default with respect to the Convertible Notes and provides that upon certain events of default occurring and continuing, the Trustee may, and the Trustee at the request of holders of at least 25% in principal amount of the Convertible Notes shall, declare all of principal and accrued and unpaid interest, if any, of the Convertible Notes to be due and payable. In case of certain events of bankruptcy, insolvency or reorganization, involving us or a significant subsidiary, all of the principal of and accrued and unpaid interest on the Convertible Notes will automatically become due and payable.

In accounting for the issuance of the Convertible Notes, we separated the Convertible Notes into liability and equity components. We allocated $282.5 million of the Convertible Notes to the liability component, and $62.5 million to the equity component. The excess of the principal amount of the liability component over its carrying amount is amortized to interest expense over the term of the Convertible Notes using the effective interest method. The equity component will not be remeasured as long as it continues to meet the conditions for equity classification.

We incurred issuance costs of $9.8 million related to the Convertible Notes. Issuance costs were allocated to the liability and equity components based on their relative values. Issuance costs attributable to the liability component are being amortized to interest expense over the term of the Convertible Notes, and issuance costs attributable to the equity component are included along with the equity component in stockholders' equity.
During the second and third quarters of 2018, the closing price of our common stock exceeded 130% of the conversion price of the Convertible Notes for more than 20 trading days during the last 30 consecutive trading days of the quarter, thereby satisfying one of the early conversion events. As a result, the Convertible Notes are convertible at any time during the fourth quarter of 2018.

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Accordingly, as of September 30, 2018, the carrying amount of the Convertible Notes of $289.9 million was classified as a current liability in the accompanying Condensed Consolidated Balance Sheets. No gain or loss was recognized when the debt became convertible.

The net carrying amount of the Convertible Notes at September 30, 2018 and December 31, 2017, was as follows:

	September 30, 2018	December 31, 2017
	(in thousands)	
Liability component:		
Principal amount	$345,000	$345,000
Unamortized discount	(48,872)	(56,557)
Unamortized debt issuance costs	(6,260)	(7,244)
	$289,868	$281,199
Equity component, net of issuance costs and deferred tax:	$61,390	$61,390

The following table sets forth total interest expense related to the Convertible Notes for the three and nine months ended September 30, 2018 and 2017:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Contractual interest expense	$1,294	$1,265	$3,881	$1,826
Amortization of debt discount	2,599	2,451	7,685	3,503
Amortization of debt issuance costs	333	313	984	447
	$4,226	$4,029	$12,550	$5,776

The effective interest rate of the liability component for the three and nine months ended September 30, 2018 and 2017 was 5.87%.

Convertible Note Hedges and Warrants

On May 23, 2017, we entered into privately negotiated transactions to purchase hedge instruments (“Note Hedges”), covering approximately 8.2 million shares of our common stock at a cost of $62.5 million. The Note Hedges are subject to anti-dilution provisions substantially similar to those of the Convertible Notes, have a strike price of approximately $41.95 per share, are exercisable by us upon any conversion under the Convertible Notes, and expire on November 15, 2022.

The Note Hedges are generally expected to reduce the potential dilution to our common stock (or, in the event the conversion is settled in cash, to reduce our cash payment obligation) in the event that at the time of conversion our stock price exceeds the conversion price under the Convertible Notes. The cost of the Note Hedges is expected to be tax deductible as an original issue discount over the life of the Convertible Notes, as the Convertible Notes and the Note Hedges represent an integrated debt instrument for tax purposes. The cost of the Note Hedges was recorded as a reduction of our additional paid-in capital in the accompanying Condensed Consolidated Financial Statements.

On May 23, 2017, we also sold warrants for the purchase of up to 8.2 million shares of our common stock for aggregate proceeds of $31.5 million (“Warrants”). The Warrants have a strike price of $57.58 per share and are subject to customary anti-dilution provisions. The Warrants will expire in ratable portions on a series of expiration dates commencing on February 15, 2023. The proceeds from the issuance of the Warrants were recorded as an increase to our additional paid-in capital in the accompanying Condensed Consolidated Financial Statements.

The Note Hedges are transactions that are separate from the terms of the Convertible Notes and the Warrants, and holders of the Convertible Notes and the Warrants have no rights with respect to the Note Hedges. The Warrants are similarly separate in both terms and rights from the Note Hedges and the Convertible Notes. As of September 30, 2018, no Note Hedges or Warrants had been exercised.

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8. Stock-based Expense

During the three and nine months ended September 30, 2018, we made the following grants of time-based restricted stock:

Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018	Vesting
62,196	1,040,640	Shares vest ratably over a period of twelve quarters beginning on the first day of the second calendar quarter immediately following the grant date.
—	3,600	Shares fully vested on the first day of the calendar quarter immediately following the grant date.
1,500	35,346	Shares vest ratably over a period of four quarters beginning on the first day of the calendar quarter immediately following the grant date.

During the nine months ended September 30, 2018, we granted 517,364 shares of restricted stock that become eligible to vest based on the achievement of certain market-based conditions, as described below:

Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018	Condition to Become Eligible to Vest
—	129,341	After the grant date and prior to July 1, 2021, the average closing price per share of our common stock equals or exceeds $60.89 for twenty consecutive trading days.
—	129,341	After the grant date and prior to July 1, 2021, the average closing price per share of our common stock equals or exceeds $66.98 for twenty consecutive trading days.
—	129,341	After the grant date and prior to July 1, 2021, the average closing price per share of our common stock equals or exceeds $73.07 for twenty consecutive trading days.
—	129,341	After the grant date and prior to July 1, 2021, the average closing price per share of our common stock equals or exceeds $85.24 for twenty consecutive trading days.

Shares that become eligible to vest, if any, become Eligible Shares. These awards vest ratably over four calendar quarters beginning on the first day of the next calendar quarter immediately following the date on which they become Eligible Shares. Vesting is conditional upon the recipient remaining a service provider, as defined in the plan document, to the Company through each applicable vesting date.

Grants of restricted stock may be fulfilled through the issuance of previously authorized but unissued common stock shares, or the reissuance of shares held in treasury. All awards were granted under the Amended and Restated 2010 Equity Incentive Plan.

We capitalized stock-based expense for software development costs of $0.4 million and $0.2 million for the three months ended, and $0.9 million and $0.2 million for the nine months ended September 30, 2018 and 2017, respectively.

9. Commitments and Contingencies

Lease Commitments

We lease office facilities and equipment for various terms under long-term, non-cancellable operating lease agreements. The leases expire at various dates through 2028 and provide for renewal options. The agreements generally require us to pay for executory costs such as real estate taxes, insurance, and repairs. At September 30, 2018, minimum annual rental commitments under non-cancellable operating leases were as follows for the years ending December 31, in thousands:

2018	$4,259
2019	15,318

2020	12,932
2021	12,031
2022	10,172
Thereafter	47,291
	$ 102,003

Guarantor Arrangements

We have agreements whereby we indemnify our officers and directors for certain events or occurrences while the officer or director is or was serving at our request in such capacity. The term of the indemnification period is for the officer or

director's lifetime. The maximum potential amount of future payments we could be required to make under these indemnification agreements is unlimited; however, we have a director and officer insurance policy that limits our exposure and enables us to recover a portion of any future amounts paid. As a result of our insurance policy coverage, we believe the estimated fair value of these indemnification agreements is minimal. Accordingly, we had no liabilities recorded for these agreements as of September 30, 2018 or December 31, 2017.

In the ordinary course of our business, we include standard indemnification provisions in our agreements with clients. Pursuant to these provisions, we indemnify our clients for losses suffered or incurred in connection with third-party claims that our products infringed upon any U.S. patent, copyright, trademark, or other intellectual property right. Where applicable, we generally limit such infringement indemnities to those claims directed solely to our products and not in combination with other software or products. With respect to our products, we also generally reserve the right to resolve any such claims by designing a non-infringing alternative, by obtaining a license on reasonable terms, or by terminating our relationship with the client and refunding the client's fees.

The potential amount of future payments to defend lawsuits or settle indemnified claims under these indemnification provisions is unlimited in certain agreements; however, we believe the estimated fair value of these indemnification provisions is minimal, and, accordingly, we had no liabilities recorded for these agreements as of September 30, 2018 or December 31, 2017.

Litigation

From time to time, in the normal course of our business, we are a party to litigation matters and claims. Litigation can be expensive and disruptive to our normal business operations. Moreover, the results of complex legal proceedings are difficult to predict, and our view of these matters may change in the future as the litigation and events related thereto unfold. We expense legal fees as incurred. Insurance recoveries associated with legal costs incurred are recorded when they are deemed probable of recovery.

On February 23, 2015, we received from the Federal Trade Commission ("FTC") a Civil Investigative Demand consisting of interrogatories and a request to produce documents relating to our compliance with the Fair Credit Reporting Act ("FCRA"). We responded to the request and requests for additional information by the FTC. On November 2, 2017, the FTC staff informed us of its belief that there was a basis for claims that could include monetary and injunctive relief against us for failing to follow reasonable procedures to assure maximum possible accuracy of our tenant screening reports. We believe that our business practices did not, and do not, violate the FCRA or any other laws.

In October 2018, we reached a settlement with the FTC resolving all issues raised by the FTC related to this matter. Under the settlement, we paid $3.0 million to the FTC and agreed to continue to comply with the FCRA. The settlement does not require any changes to our current business practices. We previously recognized an accrual of $1.9 million during the three months ended March 31, 2018, and as a result of this settlement, we recognized an additional accrual of $1.1 million during the three months ended September 30, 2018. The accrual is included in the line "Accrued expenses and other current liabilities" in the accompanying Condensed Consolidated Balance Sheet.

At September 30, 2018 and December 31, 2017, we had accrued amounts for estimated settlement losses related to legal matters. The Company does not believe there is a reasonable possibility that a material loss exceeding amounts already recognized may have been incurred as of the date of the balance sheets presented herein.

We are involved in other litigation matters, including purported class action lawsuits, not described above that are not likely to be material either individually or in the aggregate based on information available at this time. Our view of these matters may change as the litigation and events related thereto unfold.

10. Net Income per Share

Basic net income per share is computed by dividing net income by the weighted average number of common shares outstanding during the period. Diluted net income per share is computed by using the weighted average number of common shares outstanding, after giving effect to all potential dilutive common shares outstanding during the period. Included within diluted net income per share is the dilutive effect of outstanding stock options and restricted stock using the treasury stock method. Weighted average shares from common share equivalents in the amount of 15,137 and 36,028 for the three months ended, and 193,498 and 245,009 for the nine months ended September 30, 2018 and 2017, respectively, were excluded from the dilutive shares outstanding because their effect was anti-dilutive.

For purposes of considering the Convertible Notes in determining diluted net income per share, it is our current intent to settle conversions of the Convertible Notes through combination settlement, which involves repayment of the principal portion in cash and any excess of the conversion value over the principal amount (the "conversion premium") in shares of our common stock. Therefore, only the impact of the conversion premium is included in total dilutive weighted average shares outstanding using the treasury stock method. The dilutive effect of the conversion premium for the three and nine month periods ended September 30, 2018 is shown in the table below.

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The Warrants sold in connection with the issuance of the Convertible Notes are considered to be dilutive when the average price of our common stock during the period exceeds the Warrants' strike price of $57.58 per share, as described in Note 7. The effect of the additional shares that may be issued upon exercise of the Warrants is included in total dilutive weighted average shares outstanding using the treasury stock method and is shown in the table below. The Note Hedges purchased in connection with the issuance of the Convertible Notes are considered to be anti-dilutive and therefore do not impact our calculation of diluted net income per share. Refer to Note 7 for further discussion regarding the Convertible Notes.

We exclude common shares subject to a holdback pursuant to business combinations from the calculation of basic weighted average shares outstanding where the release of such shares is contingent upon an event not solely subject to the passage of time. As of September 30, 2018, there were 196,439 contingently returnable shares related to our acquisitions of ClickPay and BluTrend, which were excluded from the computation of basic net income per share as these shares are subject to sellers' indemnification obligations and are subject to a holdback. There were no contingently returnable shares as of September 30, 2017. Dilutive common shares outstanding include the weighted average contingently issuable shares discussed above that are subject to a holdback, as well as the weighted average contingently issuable shares to be issued subject to a holdback on the first anniversary dates of the ClickPay and BluTrend acquisitions. These shares are subject to release to the sellers on the first and second anniversary date of the acquisitions which are contingent on the sellers' indemnification obligations. Refer to Note 3 for further discussion regarding the ClickPay and BluTrend acquisitions.

The following table presents the calculation of basic and diluted net income per share:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands, except per share amounts)			
Numerator:				
Net income	$9,073	$6,834	$28,453	$21,242
Denominator:				
Basic:				
Weighted average common shares used in computing basic net income per share	91,222	79,838	85,874	79,045
Diluted:				
Add weighted average effect of dilutive securities:				
Stock options and restricted stock	2,300	2,922	2,305	3,006
Convertible Notes and Warrants	2,725	—	2,059	—
Contingently issuable shares in connection with our acquisitions	343	—	213	—
Weighted average common shares used in computing diluted net income per share	96,590	82,760	90,451	82,051
Net income per share:				
Basic	$0.10	$0.09	$0.33	$0.27
Diluted	$0.09	$0.08	$0.31	$0.26

11. Income Taxes

We make estimates and judgments in determining our provision for income taxes for financial statement purposes. These estimates and judgments occur in the calculation of certain tax assets and liabilities that arise from differences in the timing of recognition of revenue and expense for tax and financial statement purposes.

Our provision for income taxes in interim periods is based on our estimated annual effective tax rate. We record cumulative adjustments in the quarter in which a change in the estimated annual effective rate is determined. The estimated annual effective tax rate calculation does not include the effect of discrete events that may occur during the year. The effect of these events, if any, is recorded in the quarter in which the event occurs.

On December 22, 2017, the Tax Cuts and Jobs Act ("Tax Reform Act") was enacted into law which changed U.S. tax law, including, but not limited to: (1) reducing the U.S. federal corporate income tax rate from 35% to 21% (2)

requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries (3) generally eliminating U.S. federal corporate income taxes on dividends from foreign subsidiaries (4) capitalizing U.S. R&D expenses which are amortized over five years and (5) other changes affecting how foreign and domestic earnings are taxed. Due to the complexities involved in accounting for the enactment of the new law, the SEC issued Staff Accounting Bulletin No. 118 ("SAB 118") to address the application of US GAAP in situations where a registrant does not have the necessary information available, prepared, or

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analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Reform Act. At December 31, 2017, we recorded provisional estimates in accordance with SAB 118, including a provisional determination of the impact of the change in corporate tax rates on our deferred tax balances, and a provisional estimate of the amount of transition tax associated with the mandatory deemed repatriation of foreign earnings. We did not make any changes to our provisional estimates during the quarter ended September 30, 2018. We will continue to analyze the impact of the Tax Reform Act as additional guidance is provided by the IRS and state taxing authorities. Additional impacts will be recorded as they are identified during the measurement period provided for in SAB 118.

The Tax Reform Act includes a provision to tax global intangible low-taxed income ("GILTI") of foreign subsidiaries and a base erosion anti-abuse tax ("BEAT") measure that taxes certain payments between a U.S. corporation and its foreign subsidiaries. These provisions of the Tax Reform Act were effective for the Company beginning January 1, 2018. The FASB Staff Q&A, Topic 740, No. 5, Accounting for Global Intangible Low-Taxed Income, states that an entity can make an accounting policy election to either recognize deferred taxes for temporary differences expected to reverse as GILTI in future years or provide for the tax expense related to GILTI in the year the tax is incurred as a period expense only. At September 30, 2018, we elected to treat GILTI as a period expense. At September 30, 2018, we have included GILTI related to current year operations only in our estimated annual effective tax rate and have not provided additional GILTI on deferred items.

Our effective income tax rate was 0.7% and (82.4)% for the nine months ended September 30, 2018 and 2017, respectively. Our effective rate is lower than the statutory rate for the nine months ended September 30, 2018 and 2017, primarily because of excess tax benefits from stock-based compensation of $10.1 million and $14.4 million, respectively, recognized as discrete items, as required by ASU 2016-09.

As a result of our adoption of ASU 2014-09, on January 1, 2018, we recorded a net deferred tax liability of $0.8 million, with a corresponding increase to accumulated deficit.

12. Fair Value Measurements

We record certain assets and financial liabilities at fair value on a recurring basis. We determine fair values based on the price we would receive to sell an asset or pay to transfer a liability in an orderly transaction between market participants at the measurement date and in the principal or most advantageous market for that asset or liability.

The prescribed fair value hierarchy is as follows:

Level 1 - Inputs are quoted prices in active markets for identical assets or liabilities.

Level 2 - Inputs are quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable; and market-corroborated inputs which are derived principally from or corroborated by observable market data.

Level 3 - Inputs are derived from valuation techniques in which one or more of the significant inputs or value drivers are unobservable.

The categorization of an asset or liability within the fair value hierarchy is based on the inputs described above and does not necessarily correspond to our perceived risk of that asset or liability. Moreover, the methods used by us may produce a fair value calculation that is not indicative of the net realizable value or reflective of future fair values. Furthermore, although we believe our valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments and non-financial assets and liabilities could result in a different fair value measurement at the reporting date.

Assets and liabilities measured at fair value on a recurring basis:

Interest rate swap agreements: The fair value of our interest rate swap agreements are determined using widely accepted valuation techniques including discounted cash flow analysis on the expected cash flows of the swap agreements. This analysis reflects the contractual terms of the swap agreements, including the period to maturity, and uses observable market-based inputs, including interest rate curves. We incorporate credit valuation adjustments to appropriately reflect both our own nonperformance risk and the respective counterparty's nonperformance risk in the fair value measurements.

Although we have determined that the majority of the inputs used to value our swap agreements fall within Level 2 of the fair value hierarchy, the credit valuation adjustments associated with our swap agreements utilize Level 3 inputs,

such as estimates of current credit spreads, to evaluate the likelihood of default by us and our counterparties. We have assessed the significance of the impact of the credit valuation adjustments on the overall valuation of our swap agreements' positions and have determined that the credit valuation adjustments are not significant to the overall valuation of our swap agreements. As a result, we determined that our valuation of the swap agreements in its entirety is classified in Level 2 of the fair value hierarchy.

Contingent consideration obligations: The fair value of the contingent consideration obligations include inputs not observable in the market and thus represent a Level 3 measurement. Contingent consideration obligations consist of potential obligations related to our acquisition activity. The amount to be paid under these obligations is contingent upon the

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achievement of stipulated operational or financial targets by the business subsequent to acquisition. The fair value for certain of our contingent consideration obligations is estimated using a probability weighted discount model which considers the achievement of the conditions upon which the respective contingent obligation is dependent. The probability of achieving the specified conditions is generally assessed by applying a Monte Carlo weighted-average model. Inputs into the valuation model include a discount rate specific to the acquired entity, a measure of the estimated volatility, and the risk free rate of return, which for the period ended December 31, 2017 was 16.3%, 24.0% and 1.6%, respectively. We also estimate the fair value of our contingent obligations based on management's assessment of the probability of achievement of operational or financial targets. The fair value estimates consider the projected future operating or financial results for the factor upon which the respective contingent obligation is dependent. The fair value estimates are generally sensitive to changes in these projections. We develop the projected future operating results based on an analysis of historical results, market conditions, and the expected impact of anticipated changes in our overall business and/or product strategies.

The following tables disclose the assets and liabilities measured at fair value on a recurring basis as of September 30, 2018 and December 31, 2017, by the fair value hierarchy levels as described above:

	Fair value at September 30, 2018			
	Total	Level 1	Level 2	Level 3
	(in thousands)			
Assets:				
Interest rate swap agreements	$1,286	$ —	$1,286	$—
Liabilities:				
Contingent consideration related to the acquisition of:				
Axiometrics	—	—	—	—
LeaseLabs	7,000	—	—	7,000
Total liabilities measured at fair value	$7,000	$ —	$—	$7,000

	Fair value at December 31, 2017			
	Total	Level 1	Level 2	Level 3
	(in thousands)			
Assets:				
Interest rate swap agreements	$1,329	$ —	$1,329	$—
Liabilities:				
Contingent consideration related to the acquisition of:				
AssetEye	247	—	—	247
Axiometrics	167	—	—	167
Total liabilities measured at fair value	$414	$ —	$—	$414

There were no transfers between Level 1 and Level 2, or between Level 2 and Level 3 measurements during the nine months ended September 30, 2018.

Changes in the fair value of Level 3 measurements were as follows for the nine months ended September 30, 2018 and 2017:

	Nine Months Ended September 30,	
	2018	2017
	(in thousands)	
Balance at beginning of period	$414	$541
Initial contingent consideration fair value	7,000	812

Settlements through cash payments	(247)	—
Net gain on change in fair value	(167)	(755)
Balance at end of period	$7,000	$598

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Gains and losses recognized on the change in fair value of our Level 3 measurements are reflected in the line "General and administrative" in the accompanying Condensed Consolidated Statements of Operations.

Financial Instruments

The financial assets and liabilities that are not measured at fair value in our Condensed Consolidated Balance Sheets include cash and cash equivalents, restricted cash, accounts receivable, investments, accounts payable and accrued expenses, acquisition-related deferred cash and stock obligations, obligations under the Term Loans, obligations under the Revolving Facility, and the Convertible Notes.

The carrying values of cash and cash equivalents; restricted cash; accounts receivable; and accounts payable and accrued expenses reported in our Condensed Consolidated Balance Sheets approximates fair value due to the short term nature of these instruments. Acquisition-related deferred cash and stock obligations are recorded on the date of acquisition at their estimated fair value, based on the present value of the anticipated future cash flows. The difference between the amount of the deferred cash and stock obligation to be paid and its estimated fair value on the date of acquisition is accreted over the obligation period. As a result, the carrying value of acquisition-related deferred cash and stock obligations approximates their fair value.

Revolving Facility: There was no principal outstanding under the Revolving Facility at September 30, 2018. Due to its short-term nature and market-indexed interest rates, we concluded that the carrying value of the Revolving Facility approximated its fair value at December 31, 2017.

Term Loans: The fair value of the Term Loans was estimated by discounting future cash flows using prevailing market interest rates on debt with similar creditworthiness, terms, and maturities. We concluded that this fair value measurement should be categorized within Level 2.

Convertible Notes: We estimated the fair value of the Convertible Notes based on quoted market prices as of the last trading day for the nine months ended September 30, 2018; however, the Convertible Notes have only a limited trading volume and as such, this fair value estimate is not necessarily the value at which the Convertible Notes could be retired or transferred. We concluded this measurement should be classified within Level 2.

The fair value and carrying value of the Term Loans and Convertible Notes were as follows at September 30, 2018 and December 31, 2017:

	September 30, 2018		December 31, 2017	
	Fair Value	Carrying Value	Fair Value	Carrying Value
	(in thousands)			
Term Loans	$298,049	$307,637	$303,806	$317,377
Convertible Notes	$564,241	$289,868	$430,301	$281,199

The carrying value of the Term Loans and Convertible Notes are reflected net of unamortized discount and issuance costs in our Condensed Consolidated Balance Sheets.

13. Stockholders' Equity

Shelf Registration and Public Offering

On May 21, 2018, we filed a shelf registration statement on Form S-3 (File No. 333-225074) with the Securities and Exchange Commission (the "SEC"), which became effective upon filing. The shelf registration allows us to sell, from time to time, an unspecified number of shares of common stock; shares of preferred stock; debt securities; warrants to purchase shares of common stock, preferred stock, or other securities; purchase contracts; and units representing two or more of the foregoing securities.

On May 29, 2018, we consummated an underwritten public offering of 8.05 million shares of our common stock, which included 1.05 million shares sold pursuant to the underwriters' full exercise of their option to purchase additional shares. The offering was priced at $57.00 per share for total gross proceeds of $458.9 million. The aggregate net proceeds to us were $441.8 million, after deducting underwriting discounts and offering expenses in the aggregate amount of $17.1 million.

Increase in Authorized Shares

On June 5, 2018, our stockholders approved an amendment to the Company's Certificate of Incorporation to increase the authorized number of shares of our Common Stock from 125,000,000 to 250,000,000 shares. Our board of

directors had previously approved the amendment in 2018.

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Stock Repurchase Program

In May 2014, our board of directors approved a share repurchase program authorizing the repurchase of up to $50.0 million of our outstanding common stock for a period of up to one year after the approval date. Shares repurchased under the plan are retired. Our board of directors approved a one year extension of this program in 2015, 2016 and 2017. This program expired in May 2018.

In October 2018, our board of directors approved a new share repurchase program authorizing the repurchase of up to $100.0 million of our outstanding common stock. The share purchase program is effective through October 25, 2019. Shares repurchased under the plan will be retired.

There was no repurchase activity during the three and nine months ended September 30, 2018 and 2017.

14. Derivative Financial Instruments

On March 31, 2016, we entered into two interest rate swap agreements (collectively the "Swap Agreements"), which are designed to mitigate our exposure to interest rate risk associated with a portion of our variable rate debt. The Swap Agreements cover an aggregate notional amount of $75.0 million from March 2016 to September 2019 by replacing the obligation's variable rate with a blended fixed rate of 0.89%. We designated the Swap Agreements as cash flow hedges of interest rate risk.

The effective portion of changes in the fair value of the Swap Agreements is recorded in accumulated other comprehensive income and is subsequently reclassified into earnings in the period that the hedged forecasted transaction affects earnings. The ineffective portion of the change in the fair value of the Swap Agreements is recognized directly in earnings. Amounts reported in accumulated other comprehensive income related to the Swap Agreements will be reclassified to interest expense as interest payments are made on our variable-rate debt. We estimate that during the next twelve months, an additional $1.2 million will be reclassified to earnings as a decrease to interest expense.

As of September 30, 2018, the Swap Agreements were still outstanding. The table below presents the notional and fair value of the Swap Agreements as well as their classification in the Condensed Consolidated Balance Sheets as of September 30, 2018 and December 31, 2017:

	Balance Sheet Location	Notional	Fair Value
		(in thousands)	
Derivatives designated as cash flow hedging instruments:			
Swap agreements as of September 30, 2018	Other assets	$75,000	$1,286
Swap agreements as of December 31, 2017	Other assets	$75,000	$1,329

As of September 30, 2018, we have not posted any collateral related to the Swap Agreements. If we had breached any of the Swap Agreement's default provisions at September 30, 2018, we could have been required to settle our obligations under the Swap Agreements at their termination value of $1.3 million.

The tables below present the amount of gains and losses related to the effective and ineffective portions of the Swap Agreements and their location in the Condensed Consolidated Statements of Operations and the Condensed Consolidated Statements of Comprehensive Income for the three and nine months ended September 30, 2018 and 2017, in thousands:

	Effective Portion			Ineffective Portion	
Derivatives Designated as Cash Flow Hedges	Gain (Loss) Recognized in OCI	Location of Gain (Loss) Recognized in Income	Gain (Loss) Recognized in Income	Location of Gain (Loss) Recognized in Income	Gain (Loss) Recognized in Income
Three months ended September 30, 2018:					
Swap agreements, net of tax	$44	Interest expense and other	$ 170	Interest expense and other	$ (10)
Three months ended September 30, 2017:					

Swap agreements, net of tax	$29	Interest expense and other	$ 39	Interest expense and other	$ (13)
	Effective Portion			Ineffective Portion	
Derivatives Designated as Cash Flow Hedges	Gain (Loss) Recognized in OCI	Location of Gain (Loss) Recognized in Income	Gain (Loss) Recognized in Income	Location of Gain (Loss) Recognized in Income	Gain (Loss) Recognized in Income
Nine months ended September 30, 2018:					
Swap agreements, net of tax	$410	Interest expense and other	$ 413	Interest expense and other	$ (40)
Nine months ended September 30, 2017:					
Swap agreements, net of tax	$102	Interest expense and other	$ 30	Interest expense and other	$ (41)

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15. Investments

Compstak

In August 2016, we acquired a minority interest in Compstak, Inc. (“Compstak”), which is an unrelated company that specializes in the aggregation of commercial lease data. The shares we acquired represent an ownership interest of less than 20%. We evaluated our relationship with Compstak and determined we do not have significant influence over its operations nor is it economically dependent upon us. The carrying value of this investment at both September 30, 2018 and December 31, 2017 was $3.0 million and is included in “Other assets” in the accompanying Condensed Consolidated Balance Sheets.

WayBlazer

In January 2018, we paid $2.0 million in cash in return for a convertible promissory note (“Note”) from WayBlazer, Inc. (“WayBlazer”), which was an unrelated company that specialized in an artificial intelligence platform for the travel industry. The Note bears interest at 8% per annum and matures in December 2020. On July 31, 2018, WayBlazer voluntarily filed Chapter 7 bankruptcy and ceased all operations. We have begun foreclosure proceedings and will attempt to recover the value of our investment through our first priority security interest in WayBlazer’s intellectual property. As of September 30, 2018 we are unable to determine the fair value of a recovery, if any, and have therefore determined our investment in WayBlazer to be fully impaired resulting in a non-operating loss of $2.0 million recognized in “Interest expense and other, net” in the accompanying Condensed Consolidated Statements of Operations.

16. Subsequent Events

Rentlytics

On October 15, 2018, we entered into an agreement and plan of merger, by which we acquired all of the outstanding stock of Rentlytics, Inc., a provider of business intelligence and data analytics software and services for the multifamily housing industry. Purchase consideration was comprised of $49.1 million of cash paid at closing, subject to working capital adjustments, and deferred cash obligations of up to $8.0 million. The deferred cash obligations are subject to any indemnification claims and will be released in part on the first anniversary of the closing with the remainder released on the second anniversary of the closing.

Due to the timing of this acquisition, certain disclosures required by ASC 805, including the allocation of the purchase price, have been omitted because the initial accounting for the business combinations was incomplete as of the filing date of this report. Such information will be included in our subsequent Form 10-K.

Federal Trade Commission

In October 2018, we reached a settlement with the FTC for $3.0 million resolving all issues raised by the FTC related to the previously disclosed Civil Investigative Demand. Refer to Note 9, “Commitments and Contingencies” for additional information.

Stock Repurchase Program

In October 2018, our board of directors approved a new share repurchase program authorizing the repurchase of up to $100.0 million of our outstanding common stock. The share purchase program is effective through October 25, 2019. Shares repurchased under the plan will be retired.

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Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

This Quarterly Report on Form 10-Q contains “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (which Sections were adopted as part of the Private Securities Litigation Reform Act of 1995). Statements preceded by, followed by, or that otherwise include the words “anticipates,” “believes,” “could,” “seeks,” “estimates,” “expect “intends,” “may,” “plans,” “potential,” “predicts,” “projects,” “should,” “will,” “would,” or similar expressions and the negativ terms are generally forward-looking in nature and not historical facts. These forward-looking statements involve known and unknown risks, uncertainties, and other factors which may cause our actual results, performance, or achievements to be materially different from any anticipated results, performance, or achievements. Factors that might cause or contribute to such differences include, but are not limited to, those discussed in the section entitled “Risk Factors” in Part II, Item 1A of this report. You should carefully review the risks described herein and in the other documents we file from time to time with the Securities and Exchange Commission (“SEC”), including our Annual Report on Form 10-K for fiscal year 2017 previously filed with the SEC on March 1, 2018 and our Quarterly Report on Form 10-Q for the second quarter of 2018 filed on August 6, 2018. You should not place undue reliance on forward-looking statements herein, which speak only as of the date of this report. Except as required by law, we disclaim any intention, and undertake no obligation, to revise any forward-looking statements, whether as a result of new information, a future event, or otherwise.

Overview

We are a leading global provider of software and data analytics to the real estate industry. Clients use our platform of solutions to improve operating performance and increase capital returns. By leveraging data as well as integrating and streamlining a wide range of complex processes and interactions among the rental real estate ecosystem, our platform helps our clients improve financial and operational performance and prudently place and harvest capital.

The substantial majority of our revenue is derived from sales of our on demand software solutions and are sold pursuant to subscription license agreements. We also derive revenue from our professional and other services. For our insurance-based solutions, we earn revenue based on a commission rate that considers earned premiums; agent commission; incurred losses; and profit retained by our underwriting partner. Our transaction-based solutions are priced based on a fixed rate per transaction. We sell our solutions through our direct sales organization and derive substantially all of our revenue from sales in the United States.

We believe there is increasing demand for solutions that bring efficiency and precision to the rental real estate industry, which has historically lacked the tools available to other investment classes. While the use of, and transition to, data analytics and on demand software solutions in the rental real estate industry is growing rapidly, we believe it remains at a relatively early stage of adoption. Additionally, there is a low level of penetration of our on demand software solutions in our existing client base. We believe these factors present us with significant opportunities to generate revenue through sales of additional data analytics and on demand software solutions.

Our company was formed in 1998 to acquire Rent Roll, Inc., which marketed and sold on premise property management systems for the conventional and affordable multifamily rental housing markets. In June 2001, we released OneSite, our first on demand property management system. Since 2002, we have expanded our platform of solutions to include property management, leasing and marketing, resident services, and asset optimization capabilities. In addition to the multifamily markets, we now serve the single family, senior living, student living, military housing, commercial, hospitality, and vacation rental markets. Since July 2002, we have completed over 40 acquisitions of complementary technologies to supplement our internal product development and sales and marketing efforts and expand the scope of our solutions, the types of rental housing and vacation rental properties served by our solutions, and our client base. In connection with this expansion and these acquisitions, we have committed greater resources to developing and increasing sales of our platform of data analytics and on demand solutions. As of September 30, 2018, we had approximately 6,100 employees.

Solutions and Services

Our platform is designed to serve as a single system of record for all of the constituents of the rental real estate ecosystem; to support the entire renter life cycle, from prospect to applicant to residency or guest to post-residency or post-stay; and to optimize operational yields and returns on investment. Common authentication, work flow, and user

experience across solution categories enable each of these constituents to access different applications as appropriate for their roles.

Our platform consists of four primary categories of solutions: Property Management, Leasing and Marketing, Resident Services, and Asset Optimization. These solutions provide complementary asset performance and investment decision support; risk mitigation, billing and utility management; resident engagement, spend management, operations and facilities management; and lead generation and lease management capabilities that collectively enable our clients to manage all the stages of the renter life cycle. Each of our solution categories includes multiple product centers that provide distinct capabilities that can be bundled as a package or licensed separately. Each product center integrates with a central repository of lease

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transaction data, including prospect, renter, and property data. In addition, our open architecture allows third-party applications to access our solutions using our RealPage Exchange platform.

We offer different versions of our platform for different types of properties in different real estate markets. For example, our platform supports the specific and distinct requirements of:

- conventional single family properties;
- conventional multifamily properties;
- affordable Housing and Urban Development ("HUD") properties;
- affordable tax credit properties;
- rural housing properties;
- privatized military housing;
- commercial properties;
- student housing;
- senior living; and
- vacation rentals.

Property Management

Our property management solutions are referred to as ERP systems. These solutions manage core property management business processes, including leasing, accounting, budgeting, purchasing, facilities management, document management, and support and advisory services. The solutions include a central database of prospect, applicant, renter, and property information that is accessible in real time by our other solutions. Our property management solutions also interface with most popular general ledger accounting systems through our RealPage Exchange platform. This makes it possible for clients to deploy our solutions using our accounting system or a third-party accounting system. Our property management solution category consists of eight primary solutions including OneSite, Propertyware, RealPage Financial Services, Kigo, Spend Management Solutions, The RealPage Cloud, SmartSource, and EasyLMS.

Leasing and Marketing

Leasing and marketing solutions aim to optimize marketing spend and the leasing process. These solutions manage core leasing and marketing processes, including websites and syndication, paid lead generation, organic lead generation, lead management, automated lead closure, lead analytics, real-time unit availability, automated online apartment leasing, and applicant screening. Our leasing and marketing solutions category consists of six primary solutions: Online Leasing, Contact Center, Websites & Syndication, MyNewPlace, Lead2Lease CRM, and Resident Screening. In 2017, we acquired On-Site and Intelligent Lease Management (ILM), two platforms for property managers and renters that offer solutions to complement our existing leasing and marketing solutions. Our integration of these platforms, which we intend to complete over time, is expected to enhance our existing leasing and marketing solutions.

Resident Services

Our resident services solutions provide a platform to optimize the transactional and social experience of prospects and renters, and enhance a property's reputation. These solutions facilitate core renter management business processes including utility billing, renter payment processing, service requests, lease renewal, renter's insurance, and consulting and advisory services. In connection with our On-Site acquisition, we acquired Deposit IQ, a subsidiary of On-Site, which added additional solutions to our platform. Our resident services solution category consists of five primary solutions: Resident Utility Management, Resident Payments, Resident Portal, Contact Center Maintenance, and Renter's Insurance.

Asset Optimization

Our asset optimization solutions aim to optimize property financial and operational performance, and provide comprehensive analytics-based decision support for optimum investment performance throughout the phases of real estate investment (e.g., acquisition, operation, renovation, and disposition). These solutions facilitate core asset management, business intelligence, performance benchmarking and investment analysis including real-time yield management, revenue growth forecasting, key variable sensitivity forecasting, internal operating metric benchmarking and external market benchmarking. Our asset optimization solution category consists of three primary solutions:

YieldStar Revenue Management, Business Intelligence, and Asset and Investment Management.

Professional Services

We have developed repeatable, cost-effective consulting and implementation services to assist our clients in taking advantage of the capabilities enabled by our asset optimization solutions. Our consulting and implementation methodology

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leverages the nature of our on demand software architecture, the industry-specific expertise of our professional services employees, and the design of our platform to simplify and expedite the implementation process. Our consulting and implementation services include project and application management procedures, business process evaluation, business model development and data conversion. Our consulting teams work closely with customers to facilitate the smooth transition and operation of our solutions.

We offer training programs for training administrators and onsite property managers on the use of our solutions. Training options include regularly hosted classroom and online instruction (through our online learning courseware), as well as online webinars. Our clients can integrate their own training content with our content to deliver an integrated and customized training program for their on-site property managers.

Recent Developments

Credit Facility

In March 2018, we executed the Seventh Amendment to our 2014 Credit Facility. This amendment allowed for an increase of $150.0 million in available credit under our Revolving Facility, consequently providing aggregate commitments for revolving loans up to $350.0 million. Among other modifications, the Seventh Amendment provided for an increase in the maximum Net Leverage Ratio and Senior Leverage Ratio to 5.00 to 1.00 and 3.75 to 1.00, respectively. The Seventh Amendment also modified the Accordion Feature definition to allow for incremental commitments which would not cause our Senior Leverage Ratio to exceed 3.50 to 1.00.

Refer to Note 7 of the accompanying Condensed Consolidated Financial Statements for applicable definitions, further discussion of this amendment, and other terms and conditions of the Credit Facility.

Public Offering

On May 29, 2018, we consummated an underwritten public offering of 8.05 million shares of our common stock, which included 1.05 million shares sold pursuant to the underwriters’ full exercise of their option to purchase additional shares. The offering was priced at $57.00 per share for total gross proceeds of $458.9 million. The aggregate net proceeds to us were $441.8 million, after deducting underwriting discounts and offering expenses in the aggregate amount of $17.1 million. The offering was made pursuant to an effective shelf registration statement filed with the SEC on May 21, 2018.

Acquisition Activity

Rentlytics

On October 15, 2018, we entered into an agreement and plan of merger, by which we acquired all of the outstanding stock of Rentlytics, Inc., a provider of business intelligence and data analytics software and services for the multifamily housing industry. Purchase consideration was comprised of $49.1 million of cash paid at closing, subject to working capital adjustments, and deferred cash obligations of up to $8.0 million.

LeaseLabs

In September 2018, we acquired substantially all of the assets of LeaseLabs, Inc. (“LeaseLabs”), a full-stack marketing solutions provider to the multifamily housing industry. LeaseLabs provides online, social media and website marketing services to property management companies. The acquisition of LeaseLabs improves our marketing platform that will allow owners and operators to better direct their advertising and marketing spend, thereby increasing the number of qualified leads, accentuating their brand and reducing overall marketing costs. The purchase consideration consisted of a cash payment of $84.5 million, issuance of common stock of $5.3 million, deferred obligations of up to $16.8 million and contingent consideration of up to $10.0 million based on the collection of acquisition date accounts receivable balances.

BluTrend

In July 2018, we acquired substantially all of the assets of Blu Trend, LLC (“BluTrend”), a provider of utility management services for the multifamily housing industry. The acquired assets will be integrated with our existing resident utility management platform. Purchase consideration was comprised of a cash payment at closing of $8.5 million and deferred obligations of up to $2.0 million.

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ClickPay

In April 2018, we acquired substantially all of the outstanding membership units of NovelPay, LLC (“NovelPay”), other than those owned by ClickPay Services, Inc. On the same day, we acquired all of the outstanding stock of ClickPay Services, Inc. (collectively with NovelPay, “ClickPay”). ClickPay provides an electronic payment platform servicing resident units across multiple segments of real estate, which offers integrated payment services to increase operational efficiencies for property owners and managers. The acquisition of ClickPay broadens our presence in the real estate industry, and solidifies the integration of our leasing platform with third-party property management systems.

The purchase price for ClickPay consisted of a cash payment of $138.8 million, net of cash acquired of $7.5 million, the issuance of 870,168 shares of our common stock valued at $48.0 million, a deferred obligation of up to $10.2 million, and a liability of $24.7 million related to put and call option agreements.

Refer to Note 3 of the accompanying Condensed Consolidated Financial Statements for further discussion of these acquisitions.

Other Event

During May 2018 and as disclosed in our Form 10-Q for the quarter ended March 31, 2018, we were the subject of a targeted email phishing campaign that led to a business email compromise, pursuant to which an unauthorized party gained access to an external third party system used by a subsidiary that we acquired in 2017. The incident resulted in the diversion of approximately $6.0 million, net of recovered funds, intended for disbursement to three clients. We immediately restored all funds to the client accounts. During the quarter ended June 30, 2018, we remediated the security weakness that gave rise to the incident and implemented additional preventive and detective control procedures.

We maintain insurance coverage to limit our losses related to criminal and network security events. As of September 30, 2018, we recognized a receivable of $6.0 million included in “Other current assets” in the accompanying Condensed Consolidated Balance Sheet for losses and related expenses arising from this incident that we believe are probable of recovery from our insurance carriers. We have submitted a proof of loss notification to our insurance carriers.

For the three and nine months ended September 30, 2018, we also recognized a charge of $0.1 million and $0.4 million, respectively, which is included in the line “General and administrative” in the accompanying Condensed Consolidated Statement of Operations for losses and related expenses that we do not expect to recover.

Key Business Metrics

In addition to traditional financial measures, we monitor our operating performance using a number of financially and non-financially derived metrics that are not included in our Condensed Consolidated Financial Statements. We monitor the key performance indicators reflected in the following table:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands, except dollar per unit data and percentages)			
Revenue:				
Total revenue	$224,953	$169,058	$642,506	$483,283
On demand revenue	$215,413	$161,578	$615,658	$462,518
On demand revenue as a percentage of total revenue	95.8 %	95.6 %	95.8 %	95.7 %
Non-GAAP total revenue	$225,371	$169,756	$643,340	$485,631
Non-GAAP on demand revenue	$215,831	$162,276	$616,492	$464,866
Adjusted EBITDA	$59,094	$39,980	$170,380	$116,502
Ending on demand units	16,073	12,253		
Average on demand units	15,802	11,869		
On demand annual client value	$886,747	$708,836		

Annualized on demand revenue per average on demand unit	$55.17	$57.85

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On demand revenue: This metric represents the GAAP revenue derived from license and subscription fees relating to our on demand software solutions, typically licensed over one year terms; commission income from sales of renter's insurance policies; and transaction fees for certain of our on demand software solutions. We consider on demand revenue to be a key business metric because we believe the market for our on demand software solutions represents the largest growth opportunity for our business.

On demand revenue as a percentage of total revenue: This metric represents on demand revenue for the period presented divided by total revenue for the same period. We use on demand revenue as a percentage of total revenue to measure our success executing our strategy to increase the penetration of our on demand software solutions and expand our recurring revenue streams attributable to these solutions. We expect our on demand revenue to remain a significant percentage of our total revenue although the actual percentage may vary from period to period due to a number of factors, including the timing of acquisitions; professional and other revenues; and on premise perpetual license sales and maintenance fees.

Non-GAAP total revenue: This metric is calculated by adding acquisition-related and other deferred revenue adjustments to total revenue. We believe it is useful to include deferred revenue written down for GAAP purposes under purchase accounting rules and revenue deferred due to a lack of historical experience determining the settlement of the contractual obligation in order to appropriately measure the underlying performance of our business operations in the period of activity and associated expense. Further, we believe this measure is useful to investors as a way to evaluate our ongoing performance.

The following provides a reconciliation of GAAP to non-GAAP total revenue:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Total revenue	$224,953	$169,058	$642,506	$483,283
Acquisition-related and other deferred revenue adjustments	418	698	834	2,348
Non-GAAP total revenue	$225,371	$169,756	$643,340	$485,631

Non-GAAP on demand revenue: This metric reflects total on demand revenue plus acquisition-related and other deferred revenue adjustments, as described above. We believe inclusion of these items provides a useful measure of the underlying performance of our on demand business operations in the period of activity and associated expense. Further, we believe that investors and financial analysts find this measure to be useful in evaluating our ongoing performance because it provides a more accurate depiction of on demand revenue.

The following provides a reconciliation of GAAP to non-GAAP on demand revenue:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
On demand revenue	$215,413	$161,578	$615,658	$462,518
Acquisition-related and other deferred revenue adjustments	418	698	834	2,348
Non-GAAP on demand revenue	$215,831	$162,276	$616,492	$464,866

Adjusted EBITDA: We define Adjusted EBITDA as net income, plus (1) acquisition-related and other deferred revenue adjustments, (2) depreciation, asset impairment, and the loss on disposal of assets, (3) amortization of product technologies and intangible assets, (4) acquisition-related expense, (5) costs arising from the Hart-Scott-Rodino review process, (6) interest expense, net, (7) income tax expense (benefit), and (8) stock-based expense. We believe that investors and financial analysts find this non-GAAP financial measure to be useful in analyzing our financial and operational performance, comparing this performance to our peers and competitors, and understanding our ability to generate income from ongoing business operations.

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The following provides a reconciliation of net income to Adjusted EBITDA:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Net income	$9,073	$6,834	$28,453	$21,242
Acquisition-related and other deferred revenue adjustments	418	698	834	2,348
Depreciation, asset impairment, and loss on disposal of assets	9,286	7,331	24,766	20,935
Amortization of product technologies and intangible assets	18,684	9,335	52,691	25,351
Acquisition-related expense	519	485	2,694	3,049
Costs arising from Hart-Scott-Rodino review process	78	5,993	78	8,702
Interest expense, net	6,874	4,813	23,179	8,737
Income tax expense (benefit)	683	(7,273)	193	(9,594)
Stock-based expense	13,479	11,764	37,492	35,732
Adjusted EBITDA	$59,094	$39,980	$170,380	$116,502

Ending on demand units: This metric represents the number of rental housing units managed by our clients with one or more of our on demand software solutions at the end of the period. We use ending on demand units to measure the success of our strategy of increasing the number of rental housing units managed with our on demand software solutions. Property unit counts are provided to us by our clients as new sales orders are processed. Property unit counts may be adjusted periodically as information related to our clients' properties is updated or supplemented, which could result in adjustments to the number of units previously reported.

Average on demand units: We calculate average on demand units as the average of the beginning and ending on demand units for each quarter in the period presented. This metric is a measure of our success increasing the number of on demand software solutions utilized by our clients to manage their rental housing units, our overall revenue, and profitability.

On demand annual client value ("ACV"): ACV represents our estimate of the annual value of our on demand revenue contracts at a point in time. We monitor this metric to measure our success in increasing the number of on demand units, and the amount of software solutions utilized by our clients to manage their rental housing units.

On demand revenue per average on demand unit ("RPU"): We define RPU as ACV divided by ending on demand units. We monitor this metric to measure our success in increasing the penetration of on demand software solutions utilized by our clients to manage their rental housing units.

Non-GAAP Financial Measures

We report our financial results in accordance with GAAP; however, we believe that, in order to properly understand our short-term and long-term financial, operational, and strategic trends, it may be helpful for investors to exclude certain non-cash or non-recurring items when used as a supplement to financial performance measures in accordance with GAAP. These non-cash or non-recurring items result from facts and circumstances that vary in both frequency and impact on continuing operations. We also use results of operations excluding such items to evaluate our operating performance compared against prior periods, make operating decisions, determine executive compensation, and serve as a basis for long-term strategic planning. These non-GAAP financial measures provide us with additional means to understand and evaluate the operating results and trends in our ongoing business by eliminating certain non-cash expenses and other items that we believe might otherwise make comparisons of our ongoing business with prior periods more difficult, obscure trends in ongoing operations, reduce our ability to make useful forecasts, or obscure the ability to evaluate the effectiveness of certain business strategies and management incentive structures. In addition, we also believe that investors and financial analysts find this information helpful in analyzing our financial and operational performance and comparing this performance to our peers and competitors. These non-GAAP financial measures are used in conjunction with traditional GAAP financial measures as part of our overall assessment of our performance.

We do not place undue reliance on non-GAAP financial measures as measures of operating performance. Non-GAAP financial measures should not be considered substitutes for other measures of financial performance or liquidity reported in accordance with GAAP. There are limitations to using non-GAAP financial measures, including that other companies may calculate these measures differently than we do; that they do not reflect changes in, or cash requirements for, our working

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capital; and that they do not reflect our capital expenditures or future requirements for capital expenditures. We compensate for the inherent limitations associated with using non-GAAP financial measures through disclosure of these limitations, presentation of our financial statements in accordance with GAAP, and reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measures.

We exclude or adjust each of the items identified below from the applicable non-GAAP financial measure referenced above for the reasons set forth with respect to each excluded item:

Acquisition-related and other deferred revenue: These items are included to reflect deferred revenue written down for GAAP purposes under purchase accounting rules and revenue deferred due to a lack of historical experience determining the settlement of the contractual obligation in order to appropriately measure the underlying performance of our business operations in the period of activity and associated expense.

Asset impairment and loss on disposal of assets: These items comprise gains and/or losses on the disposal and impairment of long-lived assets, which are not reflective of our ongoing operations. We believe exclusion of these items facilitates a more accurate comparison of our results of operations between periods.

Depreciation of long-lived assets: Long-lived assets are depreciated over their estimated useful lives in a manner reflecting the pattern in which the economic benefit is consumed. Management is limited in its ability to change or influence these charges after the asset has been acquired and placed in service. We do not believe that depreciation expense accurately reflects the performance of our ongoing operations for the period in which the charges are incurred, and are therefore not considered by management in making operating decisions.

Amortization of product technologies and intangible assets: These items are amortized over their estimated useful lives and generally cannot be changed or influenced by management after initial capitalization. Accordingly, these items are not considered by us in making operating decisions. We do not believe such charges accurately reflect the performance of our ongoing operations for the period in which such charges are incurred.

Acquisition-related expense: These items consist of direct costs incurred in our business acquisition transactions and the impact of changes in the fair value of acquisition-related contingent consideration obligations. We believe exclusion of these items facilitates a more accurate comparison of the results of our ongoing operations across periods and eliminates volatility related to changes in the fair value of acquisition-related contingent consideration obligations.

Costs arising from Hart-Scott-Rodino review process: This item consists of direct costs incurred related to reviews by the United States Federal Trade Commission and Department of Justice of our 2017 acquisitions of LRO and On-Site, and our 2018 acquisition of LeaseLabs under the Hart-Scott-Rodino Antitrust Improvements Act. We believe that these costs are not reflective of our ongoing operations or our normal acquisition activity. We believe exclusion of these costs facilitates a more accurate comparison of our results across periods.

Stock-based expense: This item is excluded because these are non-cash expenditures that we do not consider part of ongoing operating results when assessing the performance of our business, and also because the total amount of the expenditure is partially outside of management’s control because it is based on factors such as stock price, volatility, and interest rates, which may be unrelated to our performance during the period in which the expenses are incurred.

Key Components of Our Results of Operations

As described in Note 2 of the accompanying Condensed Consolidated Financial Statements for the quarter ended September 30, 2018, we have changed the presentation of our Condensed Consolidated Statements of Operations to add “Amortization of product technologies” and “Amortization of intangible assets” as separate line items within such statements. Amounts shown as amortization of product technologies were previously included within “Cost of revenue”, and amounts shown as amortization of intangible assets were previously included within the “Sales and marketing” operating expense category. Amounts for prior periods have been reclassified in order to conform to the current period presentation.

Revenue

We derive our revenue from two primary sources: our on demand software solutions and our professional and other services.

On demand revenue: Revenue from our on demand software solutions is comprised of license and subscription fees relating to our on demand software solutions, typically licensed for one year terms; commission income from sales of renter’s insurance policies; and transaction fees for certain on demand software solutions, such as payment processing,

spend management, and billing services. For our insurance based solutions, our agreement provides for a fixed commission on earned premiums related to the policies sold by us. The agreement also provides for a contingent commission to be paid to us in accordance with the agreement. Our transaction-based solutions are priced based on a fixed rate per transaction.

Professional and other revenue: Revenue from professional and other services consists of consulting and implementation services; training; and other ancillary services. We complement our solutions with professional and other services for our

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clients willing to invest in enhancing the value or decreasing the implementation time of our solutions. Our professional and other services are typically priced as time and materials engagements. Professional and other revenue also includes revenues generated from sub-meter installation services under our resident utility management solutions, and our on premise solutions.

Cost of Revenue

Cost of revenue consists primarily of personnel costs related to our operations; support services; training and implementation services; expenses related to the operation of our data centers; and fees paid to third-party service providers. Personnel costs include salaries, bonuses, stock-based expense, and employee benefits. Cost of revenue also includes an allocation of facilities costs, overhead costs, and depreciation, which are allocated based on headcount.

Amortization of product technologies

Amortization of product technologies includes amortization of developed product technologies related to strategic acquisitions and amortization of capitalized development costs.

Operating Expenses

We classify our operating expenses into three categories: product development, sales and marketing, and general and administrative. Our operating expenses primarily consist of personnel costs; costs for third-party contracted development; marketing; legal; accounting and consulting services; and other professional service fees. Personnel costs for each category of operating expenses include salaries, bonuses, stock-based expense, and employee benefits for employees in that category. In addition, our operating expenses include an allocation of our facilities costs; overhead costs and depreciation based on headcount for that category; as well as amortization of purchased intangible assets resulting from our acquisitions.

Product development: Product development expense consists primarily of personnel costs for our product development employees and executives, information technology and facilities, and fees to contract development vendors. Our product development efforts are focused primarily on increasing the functionality and enhancing the ease of use of our platform of solutions and expanding our suite of data analytics and on demand software solutions. In addition to our locations in the United States, we maintain product development and service centers in Hyderabad, India; Manila, Philippines; and Cebu City, Philippines.

Sales and marketing: Sales and marketing expense consists primarily of personnel costs for our sales, marketing, and business development employees and executives; information technology; travel and entertainment; and marketing programs. Marketing programs consist of amounts paid for product marketing, renter's insurance; other advertising; trade shows; user conferences; public relations; and industry sponsorships and affiliations.

General and administrative: General and administrative expense consists of personnel costs for our executives, finance and accounting, human resources, management information systems, and legal personnel. In addition, general and administrative expense includes fees for professional services, including legal, accounting, and other consulting services; information technology and facilities costs; and acquisition-related costs, including direct costs incurred to complete our acquisitions and changes in the fair value of our acquisition-related contingent consideration obligations.

Amortization of intangible assets: Amortization of intangible assets consist of amortization of purchased intangible assets, including client relationships; key vendor and supplier relationships; finite-lived trade names; and non-compete agreements, obtained in connection with our acquisitions.

As described in Note 2 of the accompanying Condensed Consolidated Financial Statements, during the three months ended September 30, 2018, we corrected an immaterial classification error related to the amortization of certain intangibles that had caused cost of revenue to be understated and sales and marketing expense to be overstated in previously reported periods by identical amounts. There was no effect on reported revenues, net income, earnings per share, adjusted EBITDA or cash flows. We have corrected the presentation of the amortization expense for all periods presented in this Form 10-Q.

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Critical Accounting Policies and Estimates

The preparation of our Condensed Consolidated Financial Statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, costs and expenses, and related disclosures. We base these estimates and assumptions on historical experience, projected future operating or financial results, or on various other factors that we believe to be reasonable and appropriate under the circumstances. We reconsider and evaluate our estimates and assumptions on an on-going basis. Accordingly, actual results may differ significantly from these estimates.

We believe that the following critical accounting policies involve our more significant judgments, assumptions and estimates, and therefore, could have the greatest potential impact on our Condensed Consolidated Financial Statements:

- Revenue recognition;
- Business combinations;
- Stock-based expense;
- Income taxes, including deferred tax assets and liabilities; and
- Capitalized product development costs.

Please refer to our Annual Report on Form 10-K filed with the SEC on March 1, 2018 for a discussion of such policies.

Recently Adopted Accounting Standards

We adopted ASU 2014-09, Revenue from Contracts with Customers (Topic 606), on January 1, 2018 using the modified retrospective method and applied the guidance to contracts not substantially completed as of the date of initial application, or open contracts. We recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the opening balance of retained earnings at the beginning of 2018. Comparative information from prior year periods has not been restated and continues to be reported under the accounting standards in effect for those periods. The cumulative effects of the changes made to our condensed consolidated January 1, 2018 balance sheet for the adoption of the new revenue standard were as follows:

	Balance at December 31, 2017	Adjustments due to ASU 2014-09	Balance at January 1, 2018
	(in thousands)		
Assets			
Accounts receivable, less allowance for doubtful accounts	$124,505	$ (7,925)	$116,580
Other current assets	$6,622	$ 2,771	$9,393
Deferred tax assets, net	$44,887	$ (780)	$44,107
Other assets	$11,010	$ 4,459	$15,469
Liabilities			
Current portion of deferred revenue	$116,622	$ (3,696)	$112,926
Stockholders’ Equity			
Accumulated deficit	$(75,046)	$ 2,221	$(72,825)

Adoption of the new revenue standard resulted in changes to our accounting policies for revenue recognition, certain variable considerations, and commissions expense. The adoption of the new revenue standard did not have a significant effect on our revenue; however, it did have an impact on the timing of when we expense commission costs incurred to obtain a contract and the reserves we establish for variable consideration from credits or other pricing accommodations we provide our clients. We expect the effect of the new revenue standard to be immaterial to our revenue on an ongoing basis. The primary effect to our net income on an ongoing basis relates to the reserve for credit accommodations and deferral of incremental commission costs incurred to obtain new contracts. Under the new revenue standard, we accrue for credit accommodations in our reserve during the month of billing and credits reduce this reserve when issued. Further, we now initially defer commission costs and amortize these costs to expense over a period of benefit that we have determined to be three years.

See Note 4 for additional required disclosures related to the impact of adopting the new revenue standard and our accounting for costs to obtain a contract.

Results of Operations

The following tables set forth our unaudited results of operations for the specified periods and the components of such results as a percentage of total revenue for the respective periods. The period-to-period comparison of financial results is not necessarily indicative of future results.

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Condensed Consolidated Statements of Operations

	Three Months Ended September 30,							
	2018	2018		2017		2017		
	(in thousands, except per share and ratio amounts)							
Revenue:								
On demand	$215,413	95.8	%	$161,578		95.6	%	
Professional and other	9,540	4.2		7,480		4.4		
Total revenue	224,953	100.0		169,058		100.0		
Cost of revenue[1]	85,540	38.0		65,794		38.9		
Amortization of product technologies	8,946	4.0		5,497		3.3		
Gross profit	130,467	58.0		97,767		57.8		
Operating expenses:								
Product development[1]	28,942	12.9		21,885		12.9		
Sales and marketing[1]	43,179	19.1		36,802		21.8		
General and administrative[1]	30,036	13.4		31,004		18.3		
Amortization of intangible assets	9,738	4.3		3,838		2.3		
Total operating expenses	111,895	49.7		93,529		55.3		
Operating income	18,572	8.3		4,238		2.5		
Interest expense and other, net	(8,816)	(4.0	)	(4,677	)	(2.8	)	
Income (loss) before income taxes	9,756	4.3		(439	)	(0.3	)	
Income tax expense (benefit)	683	0.3		(7,273	)	(4.3	)	
Net income	$9,073	4.0	%	$6,834		4.0	%	
Net income per share attributable to common stockholders:								
Basic	$0.10			$0.09				
Diluted	$0.09			$0.08				
Weighted average common shares outstanding:								
Basic	91,222			79,838				
Diluted	96,590			82,760				
[1] Includes stock-based expense as follows:								
Cost of revenue	$1,146			$1,040				
Product development	2,520			2,098				
Sales and marketing	4,242			3,847				
General and administrative	5,571			4,779				

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	Nine Months Ended September 30,			
	2018	2018	2017	2017
	(in thousands, except per share and ratio amounts)			
Revenue:				
On demand	$615,658	95.8 %	$462,518	95.7 %
Professional and other	26,848	4.2	20,765	4.3
Total revenue	642,506	100.0	483,283	100.0
Cost of revenue[(1)]	240,319	37.4	189,000	39.1
Amortization of product technologies	26,368	4.1	14,750	3.1
Gross profit	375,819	58.5	279,533	57.8
Operating expenses:				
Product development[(1)]	88,753	13.8	63,562	13.2
Sales and marketing[(1)]	121,523	18.9	102,548	21.2
General and administrative[(1)]	85,570	13.3	82,625	17.1
Amortization of intangible assets	26,323	4.1	10,601	2.2
Total operating expenses	322,169	50.1	259,336	53.7
Operating income	53,650	8.4	20,197	4.1
Interest expense and other, net	(25,004)	(4.0)	(8,549)	(1.7)
Income (loss) before income taxes	28,646	4.4	11,648	2.4
Income tax expense (benefit)	193	—	(9,594)	(2.0)
Net income	$28,453	4.4 %	$21,242	4.4 %
Net income per share attributable to common stockholders:				
Basic	$0.33		$0.27	
Diluted	$0.31		$0.26	
Weighted average common shares outstanding:				
Basic	85,874		79,045	
Diluted	90,451		82,051	
[(1)]Includes stock-based expense as follows:				
Cost of revenue	$3,149		$2,943	
Product development	7,328		6,431	
Sales and marketing	12,253		11,241	
General and administrative	14,762		15,117	

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Comparison of the Three and Nine Months Ended September 30, 2018 and 2017

Revenue

	Three Months Ended September 30,			
	2018	2017	Change	% Change
	(in thousands, except per unit data and percentages)			
Revenue:				
On demand	$215,413	$161,578	$53,835	33.3 %
Professional and other	9,540	7,480	2,060	27.5
Total revenue	$224,953	$169,058	$55,895	33.1
Non-GAAP on demand revenue	$215,831	$162,276	$53,555	33.0
Ending on demand units	16,073	12,253	3,820	31.2
Average on demand units	15,802	11,869	3,933	33.1
On demand annual client value	$886,747	$708,836	$177,911	25.1
Annualized on demand revenue per average on demand unit	$55.17	$57.85	$(2.68)	(4.6)%

	Nine Months Ended September 30,			
	2018	2017	Change	% Change
	(in thousands, except per unit data and percentages)			
Revenue:				
On demand	$615,658	$462,518	$153,140	33.1 %
Professional and other	26,848	20,765	6,083	29.3
Total revenue	$642,506	$483,283	$159,223	32.9
Non-GAAP on demand revenue	$616,492	$464,866	$151,626	32.6 %

The change in total revenue for the three and nine months ended September 30, 2018, as compared to the same periods in 2017, was due to the following:

On demand revenue: During the three and nine months ended September 30, 2018, on demand revenue increased $53.8 million and $153.1 million, or 33.3% and 33.1%, respectively, as compared to the same periods in 2017. These increases were attributable to incremental revenue from our recent acquisitions and growth across our platform of solutions, most significantly in resident services. Annualized on demand revenue per average on demand unit as of September 30, 2018 decreased year-over-year by 4.6%, driven by our acquisition of ClickPay which has a lower revenue per unit than the rest of our on demand units. Excluding the impact of the ClickPay acquisition, annualized on demand revenue per average on demand unit increased 8.7% year-over-year as a result of our 2017 acquisitions and the consistent organic growth of our resident services, property management, and asset optimization solutions.

On demand revenue generated by our property management solutions increased year-over-year by $5.1 million, or 12.2%, and $15.2 million, or 12.3%, during the three and nine months ended September 30, 2018, respectively. These increases were primarily driven by the growth of our spend management solutions and adoption of our OneSite property management solutions, combined with a slight benefit from the acquisition of On-Site Manager in the third quarter of 2017.

On demand revenue from our resident services solutions continued to experience significant growth, increasing by $23.6 million and $60.2 million, or 33.4% and 30.7%, during the three and nine months ended September 30, 2018, respectively, as compared to the same periods in 2017. Resident services increased from strong growth in our payments solutions and renter's insurance solutions, as well as incremental revenue from our acquisition of ClickPay in the second quarter of 2018. The year-to-date period also benefited from continued growth in our resident utility management solutions, primarily attributable to incremental revenue from our acquisition of AUM in the second quarter of 2017.

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On demand revenue from our leasing and marketing solutions for the three and nine months ended September 30, 2018, increased by $12.5 million and $37.6 million, or 42.6% and 43.5%, respectively, as compared to the same periods in 2017. These increases were largely attributable to incremental revenue from our 2017 acquisition of On-Site Manager.

On demand revenue derived from our asset optimization solutions grew $12.6 million, or 64.7%, during the three months ended September 30, 2018, and $40.1 million, or 71.8%, during the nine months ended September 30, 2018, as compared to the same periods in 2017. This growth was attributable to incremental revenue from our acquisition of LRO in the fourth quarter of 2017, as well as organic growth from our data analytics, business intelligence, and revenue management solutions.

Professional and other revenue: Professional and other revenue increased year-over-year by $2.1 million and $6.1 million during the three and nine months ended September 30, 2018, respectively, primarily driven by growth from our sub-meter services and the impact of our adoption of ASC 606.

On demand unit metrics: As of September 30, 2018, one or more of our on demand solutions was utilized in the management of 16.1 million rental property units, representing a year-over-year net increase of 3.8 million units, or 31.2%. This increase was primarily due to our recent acquisitions, which accounted for approximately 18.3% of total ending on demand units, as well as solid organic unit growth. On demand units managed by our clients renewed at an average rate of 97.7% over a trailing twelve-month period ended September 30, 2018.

Cost of Revenue

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2018	2017	Change	% Change	2018	2017	Change	% Change
	(in thousands, except percentages)							
Cost of revenue	$81,403	$61,845	$19,558	31.6 %	$228,146	$177,202	$50,944	28.7 %
Stock-based expense	1,146	1,040	106	10.2	3,149	2,943	206	7.0
Depreciation	2,991	2,909	82	2.8	9,024	8,855	169	1.9
Total cost of revenue	$85,540	$65,794	$19,746	30.0 %	$240,319	$189,000	$51,319	27.2 %

During the three and nine months ended September 30, 2018, cost of revenue, excluding stock-based expense, and depreciation, increased $19.6 million and $50.9 million, respectively, as compared to the same periods in 2017. Personnel expense increased year-over-year during the three and nine month periods by $7.5 million and $20.3 million, respectively, primarily attributable to new employees from our recent acquisitions and investments to support our ongoing organic growth. Year-over-year increases in direct costs of $8.4 million and $21.0 million during the three and nine-month periods, respectively, were driven by incremental costs from our recent acquisitions and higher transaction volume from our payment processing solutions. Information technology and facilities expense also increased $3.2 million and $8.4 million during the three and nine months ended September 30, 2018, respectively, as compared to the same periods in 2017.

Amortization of Product Technologies

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2018	2017	Change	% Change	2018	2017	Change	% Change
	(in thousands, except percentages)							
Amortization of product technologies	$8,946	$5,497	$3,449	62.7 %	$26,368	$14,750	$11,618	78.8 %

Amortization of product technologies increased $3.4 million and $11.6 million during the three and nine months ended September 30, 2018, respectively, as compared to the same periods in 2017. Higher amortization expense was primarily driven by the addition of finite-lived developed product technologies in connection with our recent acquisitions.

During the three and nine months ended September 30, 2018, our gross margin increased year-over-year from 57.8% to 58.0%, and from 57.8% to 58.5%, respectively. This margin expansion was driven primarily by efficiencies achieved in our core business, partially offset by incremental costs related to our recent acquisitions.

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Operating Expenses

Product development

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2018	2017	Change	% Change	2018	2017	Change	% Change
	(in thousands, except percentages)							
Product development	$25,041	$18,089	$6,952	38.4 %	$77,149	$52,342	$24,807	47.4 %
Stock-based expense	2,520	2,098	422	20.1	7,328	6,431	897	13.9
Depreciation	1,381	1,698	(317)	(18.7)	4,276	4,789	(513)	(10.7)
Total product development expense	$28,942	$21,885	$7,057	32.2 %	$88,753	$63,562	$25,191	39.6 %

Product development expense, excluding stock-based expense and depreciation, increased $7.0 million and $24.8 million for the three and nine months ended September 30, 2018, respectively, as compared to the same periods in 2017. Incremental headcount from our recent acquisitions and investments to support our product and innovation initiatives contributed to a year-over-year increase in personnel expense of $4.4 million and $16.3 million in the respective periods. Facilities, platform and technology infrastructure investments, as well as incremental costs from recent acquisitions, resulted in increases of $1.8 million and $6.7 million during the three and nine-month periods, respectively.

Total product development expense as a percentage of total revenue for the third quarter was consistent with that of the prior year at 12.9%. Total product development expense as a percentage of total revenue for the nine months ended September 30, 2017 and 2018 increased from 13.2% to 13.8%, respectively, primarily driven by our platform and infrastructure investments, and incremental costs from our recent acquisitions.

Sales and marketing

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2018	2017	Change	% Change	2018	2017	Change	% Change
	(in thousands, except percentages)							
Sales and marketing	$37,867	$32,354	$5,513	17.0 %	$105,606	$89,455	$16,151	18.1 %
Stock-based expense	4,242	3,847	395	10.3	12,253	11,241	1,012	9.0
Depreciation	1,070	601	469	78.0	3,664	1,852	1,812	97.8
Total sales and marketing expense	$43,179	$36,802	$6,377	17.3 %	$121,523	$102,548	$18,975	18.5 %

Sales and marketing expense, excluding stock-based expense and depreciation, increased year-over-year by $5.5 million and $16.2 million during the three and nine months ended September 30, 2018, as compared to the same periods in 2017. Personnel expense increased year-over-year by $3.1 million and $9.3 million compared to the respective three and nine-month periods in 2017, driven by investments in our sales force and product marketing team and incremental headcount from our recent acquisitions. These investments were net of lower commission expense due to the adoption of ASC 606. Marketing program costs increased year-over-year during the three and nine months ending September 30, 2018 by $1.2 million and $3.7 million, respectively, reflecting investments to accelerate client demand across our portfolio of solutions.

Total sales and marketing expense as a percentage of total revenue decreased from 21.8% to 19.1% in the three months ended, and from 21.2% to 18.9% for the nine months ended September 30, 2017 and 2018, respectively. The sales and marketing expense as a percentage of revenue declined in the respective periods due to scale built in our sales and marketing engine and lower sales commissions from the adoption of ASC 606.

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General and administrative

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2018	2017	Change	% Change	2018	2017	Change	% Change
	(in thousands, except percentages)							
General and administrative	$22,962	$24,487	$(1,525)	(6.2)%	$66,445	$62,541	$3,904	6.2 %
Stock-based expense	5,571	4,779	792	16.6	14,762	15,117	(355)	(2.3)
Depreciation	1,503	1,738	(235)	(13.5)	4,363	4,967	(604)	(12.2)
Total general and administrative expense	$30,036	$31,004	$(968)	(3.1)%	$85,570	$82,625	$2,945	3.6 %

General and administrative expense for the three and nine months ended September 30, 2018, excluding stock-based expense and depreciation, decreased $1.5 million and increased $3.9 million, as compared to the same periods of 2017. These net changes resulted from a combination of factors. Legal and professional fees decreased $5.5 million and $4.7 million for the respective periods, principally related to 2017 costs associated with the Hart-Scott-Rodino review process for the LRO and On-Site acquisitions, partially offset by costs incurred related to our settlement with the Federal Trade Commission ("FTC") (refer to Note 9 of our Condensed Consolidated Financial Statements for further discussion). IT and facility costs also decreased $1.9 million and $3.1 million, respectively. These reductions were offset by a year-over year increase in personnel expense of $4.5 million and $10.5 million, for the three and nine months ended September 30, 2018, reflecting investments to support our continued growth and incremental headcount from our recent acquisitions.

During the three and nine months ended September 30, 2018, our total general and administrative expense as a percentage of total revenue decreased year-over-year from 18.3% to 13.4%, and from 17.1% to 13.3%, respectively, primarily due to the 2017 costs associated with the Hart-Scott-Rodino review process. Excluding the impact of these costs, general and administrative expense as a percentage of total revenue decreased year-over-year from 14.8% to 13.3% and from 15.3% to 13.3%, respectively, primarily due to scale across our administrative functions.

Amortization of intangible assets

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2018	2017	Change	% Change	2018	2017	Change	% Change
	(in thousands, except percentages)							
Amortization of intangible assets	$9,738	$3,838	$5,900	153.7 %	$26,323	$10,601	$15,722	148.3 %

Amortization expense of intangible assets increased $5.9 million and $15.7 million during the three and nine months ended September 30, 2018, respectively, as compared to the same periods in 2017. Higher amortization expense was primarily driven by the addition of finite-lived client relationship and trade name assets in connection with our recent acquisitions.

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Interest Expense and Other, Net

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2018	2017	Change	% Change	2018	2017	Change	% Change
	(in thousands, except percentages)							
Interest expense	$(7,961)	$(5,413)	$(2,548)	47.1 %	$(24,733)	$(9,596)	$(15,137)	157.7 %
Interest income	1,087	600	487	81.2	1,554	859	695	80.9
Impairment loss on investment	(2,000)	—	(2,000)	100.0	(2,000)	—	(2,000)	—
Other income	58	136	(78)	(57.4)	175	188	(13)	(6.9)
Total interest expense and other, net	$(8,816)	$(4,677)	$(4,139)	88.5 %	$(25,004)	$(8,549)	$(16,455)	192.5 %

Interest expense and other, net for the three and nine months ended September 30, 2018, increased year-over-year by $4.1 million and $16.5 million, respectively. These increases were primarily due to interest and amortization expense related to our Convertible Notes issued in May 2017, and higher interest expense under our Credit Facility, as a result of additional borrowings in support of our 2017 and 2018 acquisitions. The increase for the three and nine month periods was also attributable to the $2.0 million impairment loss recognized relating to our investment in WayBlazer. Refer to Note 15 of the accompanying Condensed Consolidated Financial Statements for further discussion of this impairment loss.

Provision for Taxes

We compute our provision for income taxes on a quarterly basis by applying an estimated annual effective tax rate to income from recurring operations and by calculating the tax effect of discrete items recognized during the quarter. Our effective income tax rate was 0.7% and (82.4)% for the nine months ended September 30, 2018 and 2017, respectively. Our effective rate is lower than the statutory rate for the nine months ended September 30, 2018 and 2017, primarily because of excess tax benefits from stock-based compensation of $10.1 million and $14.4 million, respectively, recognized as discrete items, as required by ASU 2016-09.

Liquidity and Capital Resources

Our primary sources of liquidity as of September 30, 2018, consisted of $279.9 million of cash and cash equivalents, $350.0 million available under the Revolving Facility, amounts available under the Credit Facility's Accordion Feature, and $14.3 million of working capital (excluding $279.9 million of cash and cash equivalents, $289.9 million of convertible notes, and $110.5 million of deferred revenue).

Our principal uses of liquidity have been to fund our operations, working capital requirements, capital expenditures and acquisitions, and to service our debt obligations. We expect that working capital requirements, capital expenditures, acquisitions, debt service, and share repurchases will continue to be our principal needs for liquidity over the near term. We made capital expenditures of $37.3 million during the nine months ended September 30, 2018. Due to anticipated expenditures related to our international growth, our recent acquisitions, investments related to those acquisitions, and data content and analytics investments, we expect capital expenditures to be approximately 6% of total revenue during the year ending December 31, 2018. We expect our capital expenditure rate to decrease to 5% of total revenue over the next few years. In addition, we have made several acquisitions in which a portion of the purchase consideration is payable at various times through 2021, with a majority of the deferred cash obligations payable during 2019. We expect to fund these obligations from cash provided by operating activities or funds available under our Credit Facility.

Public Offering

In May 2018, we filed a shelf registration statement on Form S-3 with the SEC, which became effective upon filing. The shelf registration allows us to periodically offer and sell, in one or more future offerings, an indeterminate amount of our common stock, preferred stock, debt securities, and other securities specified therein. On May 29, 2018, we consummated an underwritten public offering of 8.05 million shares of our common stock, which included the underwriters' full exercise of their option to purchase additional shares. The aggregate net proceeds to us were $441.8 million, after deducting underwriting discounts and offering expenses in the aggregate amount of $17.1 million. We used $150.0 million of the net proceeds from this offering for repayment of indebtedness outstanding under our revolving facility. We intend to use the remaining net proceeds for general corporate purposes, including working

capital, sales and marketing activities, research and development activities, general and administrative matters and capital expenditures. We may also use the net proceeds from this offering for acquisitions of, or investments in, technologies, solutions or businesses that complement our business.

We believe that our existing cash and cash equivalents, working capital (excluding deferred revenue, convertible notes, and cash and cash equivalents), and our cash flows from operations are sufficient to fund our operations, working capital

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requirements, and planned capital expenditures; and to service our debt obligations for at least the next twelve months. Our future working capital requirements will depend on many factors, including our rate of revenue growth, the timing and size of future acquisitions, the expansion of our sales and marketing activities, the timing and extent of spending to support product development efforts, the timing of introductions of new solutions and enhancements to existing solutions, and the continuing market acceptance of our solutions. We expect to enter into acquisitions of complementary businesses, applications, or technologies in the future that could require us to seek additional equity or debt financing. Additional funds may not be available on terms favorable to us, or at all.

As of December 31, 2017, we had gross federal and state NOL carryforwards of $172.5 million