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

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended **March 31, 2019 .**
or
☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from ___________ to ___________

Commission File Number **001-36350**

Q2 Holdings, Inc.

Exact Name of Registrant as Specified in its Charter

Delaware	**20-27066637**
State or Other Jurisdiction of Incorporation or Organization	I.R.S. Employer Identification No.
13785 Research Blvd., Suite 150 **Austin, Texas**	**78750**
Address of Principal Executive Offices	Zip Code

(512) 275-0072
Registrant's Telephone Number, Including Area Code

Not Applicable
Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.0001 par value	QTWO	New York Stock Exchange

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

Large accelerated filer ☒	Accelerated filer ☐
Non-accelerated filer ☐	Smaller reporting company ☐
Emerging growth company ☐	

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

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date: 44,191,203 shares of Common Stock, $0.0001 par value per share as of April 30, 2019 .

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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements.

Q2 HOLDINGS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except per share data)

	March 31, 2019	December 31, 2018
	(unaudited)	
Assets		
Current assets:		
Cash and cash equivalents	$ 110,542	$ 108,341
Restricted cash	1,815	1,815
Investments	53,971	68,979
Accounts receivable, net	19,549	19,668
Contract assets, current portion	654	598
Prepaid expenses and other current assets	6,464	3,983
Deferred solution and other costs, current portion	11,169	10,501
Deferred implementation costs, current portion	5,011	4,427
Total current assets	209,175	218,312
Property and equipment, net	40,715	34,994
Right of use assets	25,410	—
Deferred solution and other costs, net of current portion	22,004	16,761
Deferred implementation costs, net of current portion	11,055	9,948
Intangible assets, net	60,254	63,296
Goodwill	107,857	107,907
Contract assets, net of current portion	11,228	10,272
Other long-term assets	2,709	2,230
Total assets	$ 490,407	$ 463,720
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 10,254	$ 9,169
Accrued liabilities	11,425	9,329
Accrued compensation	26,602	12,652
Deferred revenues, current portion	45,246	42,531
Lease liabilities, current portion	6,898	—
Total current liabilities	100,425	73,681
Convertible notes, net of current portion	185,266	182,723
Deferred revenues, net of current portion	24,202	23,063
Deferred rent, net of current portion	—	8,151
Lease liabilities, net of current portion	27,644	—
Other long-term liabilities	477	17,202
Total liabilities	338,014	304,820
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Preferred stock: $0.0001 par value; 5,000 shares authorized; no shares issued or outstanding as of March 31, 2019 and December 31, 2018	—	—
Common stock: $0.0001 par value; 150,000 shares authorized; 44,116 issued and outstanding as of March 31, 2019 and 43,535 shares issued and outstanding as of December 31, 2018	4	4
Additional paid-in capital	344,033	331,355
Accumulated other comprehensive income/(loss)	89	(37)
Accumulated deficit	(191,733)	(172,422)
Total stockholders' equity	152,393	158,900
Total liabilities and stockholders' equity	$ 490,407	$ 463,720

The accompanying notes are an integral part of these condensed consolidated financial statements.

Q2 HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(unaudited)
(in thousands, except per share data)

	Three Months Ended March 31,	
	2019	2018
Revenues	$ 71,296	$ 54,808
Cost of revenues [1]	37,184	26,977
Gross profit	34,112	27,831
Operating expenses:		
Sales and marketing [1]	15,805	10,966
Research and development [1]	17,657	11,157
General and administrative [1]	13,860	10,296
Acquisition related costs	2,718	256
Amortization of acquired intangibles	1,215	368
Total operating expenses	51,255	33,043
Loss from operations	(17,143)	(5,212)
Other income (expense):		
Interest and other income	807	199
Interest and other expense	(3,014)	(1,222)
Total other income (expense), net	(2,207)	(1,023)
Loss before income taxes	(19,350)	(6,235)
Benefit from income taxes	39	187
Net loss	$ (19,311)	$ (6,048)
Other comprehensive loss:		
Unrealized gain (loss) on available-for-sale investments	113	(24)
Foreign currency translation adjustment	12	—
Comprehensive loss	$ (19,186)	$ (6,072)
Net loss per common share, basic and diluted	$ (0.44)	$ (0.14)
Weighted average common shares outstanding:		
Basic and diluted	43,773	42,170

[1] Includes stock-based compensation expenses as follows:

	Three Months Ended March 31,	
	2019	2018
Cost of revenues	$ 1,548	$ 1,015
Sales and marketing	1,806	1,226
Research and development	2,012	1,356
General and administrative	3,530	2,498
Total stock-based compensation expenses	$ 8,896	$ 6,095

The accompanying notes are an integral part of these condensed consolidated financial statements.

Q2 HOLDINGS INC.
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(unaudited)
(in thousands)

	Common Stock			Additional	Accumulated Other		
	Shares	Amount	Treasury Stock	Paid-In Capital	Comprehensive Income/(Loss)	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2017	41,967	$ 4	$ (855)	$ 259,726	$ (139)	$ (152,114)	$ 106,622
Stock-based compensation	—	—	—	6,165	—	—	6,165
Exercise of stock options	268	—	—	2,761	—	—	2,761
Shares acquired to settle the exercise of stock options	(1)	—	(62)	—	—	—	(62)
Shares issued for the vesting of restricted stock awards	171	—	—	—	—	—	—
Retirement of treasury stock	—	—	917	(164)	—	(753)	—
Equity component of convertible senior notes, less issuance costs	—	—	—	48,919	—	—	48,919
Purchase of convertible notes hedges	—	—	—	(41,699)	—	—	(41,699)
Issuance of warrants	—	—	—	22,379	—	—	22,379
Cumulative effect of the adoption of new accounting standard	—	—	—	—	—	15,842	15,842
Other comprehensive loss	—	—	—	—	(24)	—	(24)
Net loss	—	—	—	—	—	(6,048)	(6,048)
Balance at March 31, 2018	42,405	$ 4	$ —	$ 298,087	$ (163)	$ (143,073)	$ 154,855

	Common Stock			Additional			
	Shares	Amount	Treasury Stock	Paid-In Capital	Accumulated Other Comprehensive Income/(Loss)	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2018	43,535	$ 4	$ —	$ 331,355	$ (37)	$ (172,422)	$ 158,900
Stock-based compensation	—	—	—	9,154	—	—	9,154
Exercise of stock options	272	—	—	3,741	—	—	3,741
Shares acquired to settle the exercise of stock options	(3)	—	—	(217)	—	—	(217)
Shares issued for the vesting of restricted awards	312	—	—	—	—	—	—
Other comprehensive income	—	—	—	—	126	—	126
Net loss	—	—	—	—	—	(19,311)	(19,311)
Balance at March 31, 2019	44,116	$ 4	$ —	$ 344,033	$ 89	$ (191,733)	$ 152,393

The accompanying notes are an integral part of these condensed consolidated financial statements.

Q2 HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)
(in thousands)

	Three Months Ended March 31,	
	2019	**2018**
Cash flows from operating activities:		
Net loss	$ (19,311)	$ (6,048)
Adjustments to reconcile net loss to net cash used in operating activities:		
Amortization of deferred implementation, solution and other costs	1,464	2,218
Depreciation and amortization	5,821	3,878
Amortization of debt issuance costs	250	123
Amortization of debt discount	2,298	1,099
Amortization of premiums on investments	(84)	56
Stock-based compensation expenses	9,154	6,095
Deferred income taxes	133	36
Allowance for sales credits	76	22
Changes in operating assets and liabilities:		
Accounts receivable, net	43	(3,717)
Prepaid expenses and other current assets	(2,385)	(1,727)
Deferred solution and other costs	(7,313)	(3,493)
Deferred implementation costs	(1,752)	(1,181)
Contract assets	(1,012)	(816)
Other long-term assets	1,192	(220)
Accounts payable	1,439	(1,054)
Accrued liabilities	(3,010)	(4,307)
Deferred revenues	3,853	2,250
Deferred rent and other long-term liabilities	(1,742)	(317)
Net cash used in operating activities	(10,886)	(7,103)
Cash flows from investing activities:		
Purchases of investments	(9,662)	—
Maturities of investments	24,866	2,901
Purchases of property and equipment	(5,545)	(5,396)
Business combinations and asset acquisitions, net of cash acquired	—	(150)
Net cash provided by (used in) investing activities	9,659	(2,645)
Cash flows from financing activities:		
Proceeds from issuance of convertible notes, net of issuance costs	—	223,675
Purchase of convertible notes bond hedge	—	(41,699)
Proceeds from issuance of warrants	—	22,379
Proceeds from exercise of stock options to purchase common stock	3,428	2,843
Net cash provided by financing activities	3,428	207,198
Net increase in cash, cash equivalents, and restricted cash	2,201	197,450
Cash, cash equivalents, and restricted cash, beginning of period	110,156	60,276
Cash, cash equivalents, and restricted cash, end of period	$ 112,357	$ 257,726
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 863	$ —
Supplemental disclosure of non-cash investing and financing activities:		
Shares acquired to settle the exercise of stock options	$ (217)	$ (62)

The accompanying notes are an integral part of these condensed consolidated financial statements.

Q2 HOLDINGS, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (unaudited)
(in thousands, except per share amounts and unless otherwise indicated)

1. Organization and Description of Business

Q2 Holdings, Inc. and its wholly-owned subsidiaries, collectively the "Company," is a leading provider of secure, cloud-based digital solutions that transform the ways in which traditional and emerging financial services providers engage with account holders and end users, or End Users. The Company sells its solutions to regional and community financial institutions, alternative finance and leasing companies, and financial technology companies. The Company's solutions enable customers to deliver robust suites of digital banking, lending, leasing, and banking as a service, or BaaS, services that make it possible for account holders and End Users to transact and engage anytime, anywhere and on any device. The Company delivers its solutions to the substantial majority of its customers using a software-as-a-service, or SaaS, model under which its customers pay subscription fees for the use of the Company's solutions. The Company was incorporated in Delaware in March 2005 and is a holding company that owns 100% of the outstanding capital stock of Q2 Software, Inc. The Company's headquarters are located in Austin, Texas.

2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

These interim unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States, or GAAP, and Securities and Exchange Commission, or SEC, requirements for interim financial statements. The interim unaudited condensed consolidated financial statements include the accounts of Q2 Holdings, Inc. and its direct and indirect wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

In the Company's opinion, the accompanying interim unaudited condensed consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and include all adjustments, consisting of normal, recurring adjustments, necessary for a fair presentation. Certain information and disclosures normally included in the notes to the annual consolidated financial statements prepared in accordance with GAAP have been omitted from these interim unaudited condensed consolidated financial statements pursuant to the rules and regulations of the SEC. Accordingly, these interim unaudited condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and the accompanying notes for the fiscal year ended December 31, 2018 , which are included in the Company's Annual Report on Form 10-K, filed with the SEC on February 19, 2019. The results of operations for the three months ended March 31, 2019 are not necessarily indicative of the results to be expected for the year ending December 31, 2019 or for any other period.

Use of Estimates

The preparation of the accompanying interim unaudited condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the interim unaudited condensed consolidated financial statements, and the reported amounts of revenues and expenses. Significant items subject to such estimates include revenue recognition including determining the nature and timing of satisfaction of performance obligations, variable consideration, standalone selling price, and other revenue items requiring significant judgment; stock-based compensation; the carrying value of goodwill; the fair value of acquired intangibles; the capitalization of software development costs; the useful lives of property and equipment and long-lived intangible assets; fair value of contingent consideration; fair value of the conversion feature; and income taxes. In accordance with GAAP, management bases its estimates on historical experience and on various other assumptions that management believes are reasonable under the circumstances. Management regularly evaluates its estimates and assumptions using historical experience and other factors; however, actual results could differ significantly from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments acquired with an original maturity of ninety days or less at the date of purchase to be cash equivalents. Cash equivalents are stated at cost or fair value based on the underlying security.

Restricted Cash

Restricted cash consists of deposits held as collateral for the Company's secured letters of credit issued in place of the security deposit for the Company's corporate headquarters.

Investments

Investments consist primarily of U.S. government agency bonds, corporate bonds, commercial paper, certificates of deposit and money market funds. All investments are considered available for sale and are carried at fair value.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist of cash and cash equivalents, restricted cash, investments and accounts receivable. The Company's cash and cash equivalents, restricted cash and investments are placed with high credit quality financial institutions and issuers, and at times may exceed federally-insured limits. The Company has not experienced any loss relating to cash and cash equivalents or restricted cash in these accounts. The Company provides credit, in the normal course of business, to a number of its customers. The Company performs periodic credit evaluations of its customers' financial condition and generally does not require collateral. No individual customer accounted for 10% or more of revenues for each of the three months ended March 31, 2019 and 2018 . No individual customer accounted for 10% or more of accounts receivable, net, as of March 31, 2019 and December 31, 2018 .

Contract Balances

The timing of revenue recognition, billings and cash collections can result in billed accounts receivable, unbilled receivables (contract assets), and deferred revenues (contract liabilities). Billings scheduled to occur after the performance obligation has been satisfied and revenue recognition has occurred result in contract assets. Contract assets that are expected to be billed during the succeeding twelve-month period are recorded in contract assets, current portion, and the remaining portion is recorded in contract assets, net of current portion on the accompanying condensed consolidated balance sheets at the end of each reporting period. A contract liability results when the Company receives prepayments or deposits from customers in advance for implementation, maintenance and other services, as well as initial subscription fees. Customer prepayments are generally applied against invoices issued to customers when services are performed and billed. The Company recognizes contract liabilities as revenues when the services are performed, and the corresponding revenue recognition criteria are met. Contract liabilities that are expected to be recognized as revenues during the succeeding twelve-month period are recorded in deferred revenues, current portion, and the remaining portion is recorded in deferred revenue, net of current portion, on the accompanying condensed consolidated balance sheets at the end of each reporting period.

Accounts Receivable

Accounts receivable are stated at net realizable value, including both billed and unbilled receivables to customers. Unbilled receivable balances arise primarily when the Company provides services in advance of billing for those services. Generally, billing for revenues related to the number of End Users and the number of transactions processed by the Company's End Users that are included in the Company's minimum subscription fee occurs in the month the revenue is recognized, resulting in accounts receivable. Billing for revenues relating to the number of End Users and the number of transactions processed by the Company's End Users that are in excess of the Company's minimum subscription fees are, generally, billed in the month following the month the revenues were earned, resulting in an unbilled receivable. Unbilled receivables of $3.2 million were included in the accounts receivable balance at each of March 31, 2019 and December 31, 2018 .

The Company assesses the collectability of outstanding accounts receivable on an ongoing basis and maintains an allowance for doubtful accounts for accounts receivable deemed uncollectable. As of March 31, 2019 and December 31, 2018 , the Company did not provide for an allowance for doubtful accounts, as all amounts outstanding were deemed collectable. Historically, the Company's collection experience has not varied significantly, and bad debt expenses have been insignificant.

The Company maintains a reserve for estimated sales credits issued to customers for billing disputes or other service-related reasons. This allowance is recorded as a reduction against current period revenues and accounts receivable. In estimating this allowance, the Company analyzes prior periods to determine the amounts of sales credits issued to customers compared to the revenues in the period that related to the original customer invoice. This estimate is analyzed quarterly and adjusted as necessary. The allowance for sales credits was $0.4 million at each of March 31, 2019 and December 31, 2018 .

Q2 HOLDINGS, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (unaudited)
(in thousands, except per share amounts and unless otherwise indicated)

Deferred Revenues

Deferred revenues primarily consist of amounts that have been billed to or received from customers in advance of revenue recognition and prepayments received from customers in advance for implementation, maintenance and other services, as well as initial subscription fees. The Company recognizes deferred revenues as revenues when the services are performed and the corresponding revenue recognition criteria are met. Customer prepayments are generally applied against invoices issued to customers when services are performed and billed.

The net increase in the deferred revenue balance for the three months ended March 31, 2019 is primarily driven by cash payments received or due in advance of satisfying the Company's performance obligations of $19.6 million partially offset by the recognition of $12.9 million of revenue that was included in the deferred revenue balance at December 31, 2018 and a $2.8 million decrease from the netting of contract assets and liabilities on a contract-by-contract basis. Amounts recognized from deferred revenues represent primarily revenue from the sale of subscription and implementation services.

The Company's payment terms vary by the type and location of its customer and the products or services offered. The term between invoicing and when payment is due is not significant. For certain products or services and customer types, the Company requires payment before the products or services are delivered to the customer.

On March 31, 2019 , the Company had $893.2 million of remaining performance obligations, which represents contracted revenue minimums that have not yet been recognized, including amounts that will be invoiced and recognized as revenue in future periods. The Company expects to recognize approximately 49% percent of its remaining performance obligations as revenue in the next 24 months, an additional 40% percent in the next 25 to 48 months, and the balance thereafter.

Deferred Implementation Costs

The Company capitalizes certain personnel and other costs such as employee salaries, benefits and the associated payroll taxes that are direct and incremental to the implementation of its solutions. The Company analyzes implementation costs that may be capitalized to assess their recoverability, and only capitalizes costs that it anticipates to be recoverable. The Company assesses the recoverability of its deferred implementation costs by comparing the greater of the amount of the non-cancellable portion of a customer's contract and the non-refundable customer prepayments received as it relates to the specific implementation costs incurred. The Company begins amortizing the deferred implementation costs for an implementation once the revenue recognition criteria have been met, and the Company amortizes those deferred implementation costs ratably over the expected period of customer benefit, which has been determined to be the estimated life of the technology, which the Company estimates to be five to seven years. The Company determined the period of benefit by considering factors such as historically high renewal rates with similar customers and contracts, initial contract length, an expectation that there will still be a demand for the product at the end of its term, and the significant costs to switch to a competitor's product, all of which are governed by the estimated useful life of the technology.

The portion of deferred implementation costs expected to be amortized during the succeeding twelve-month period is recorded in current assets as deferred implementation costs, current portion, and the remainder is recorded in long-term assets as deferred implementation costs, net of current portion on the condensed consolidated balance sheet. The Company capitalized implementation costs in the amount of $3.2 million and $1.6 million during the three months ended March 31, 2019 and 2018 , respectively, and recognized $1.5 million and $1.3 million of amortization during the three months ended March 31, 2019 and 2018 , respectively. Amortization expense is included in cost of revenues in the accompanying condensed consolidated statements of comprehensive loss.

Deferred Solution and Other Costs

The Company capitalizes sales commissions and other third-party costs such as third-party licenses and maintenance related to its customer agreements. The Company capitalizes sales commissions because the commission charges are so closely related to the revenues from the non-cancellable customer agreements that they should be recorded as an asset and charged to expense over the same period that the related revenue is recognized. The Company capitalizes commissions and bonuses for those involved in the sale, including direct employees and indirect supervisors, as these are incremental to the sale. The Company typically pays commissions in two increments. The initial payment is made after the contract has been executed and the initial deposit has been received from the customer, and the final payment is made upon commencement date. The Company requires that an individual remain employed to collect a commission when it is due. The service period between the first and second payment is considered to be a substantive service period, and as a result, the Company expenses the final payment when made. The Company begins amortizing deferred solution and other costs for a particular customer agreement once the revenue recognition criteria are met and amortizes those deferred costs over the expected period of customer benefit, which has been determined to be the estimated life of the technology, which the Company estimates to be five to seven years . The Company determined the period of benefit by considering factors such as historically high renewal rates with similar customers and contracts, initial contract length, an expectation that there will still be a demand for the product at the end of its term, and the significant costs to switch to a competitor's product, all of which are governed by the estimated useful life of the technology.

(in thousands, except per share amounts and unless otherwise indicated)

The Company analyzes solution and other costs that may be capitalized to assess their recoverability and only capitalizes costs that it anticipates being recoverable. The portion of capitalized costs expected to be amortized during the succeeding twelve-month period is recorded in current assets as deferred solution and other costs, current portion, and the remainder is recorded in long-term assets as deferred solution and other costs, net of current portion. The Company capitalized $5.5 million and $1.6 million in deferred commissions costs during the three months ended March 31, 2019 and 2018 , respectively, and recognized $1.4 million and $0.9 million of amortization during the three months ended March 31, 2019 and 2018 , respectively. Amortization expense is included in sales and marketing expenses in the accompanying condensed consolidated statements of comprehensive loss.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation is calculated on a straight-line basis over the estimated useful lives of the related assets. Leasehold improvements are amortized over the shorter of the lease term or the estimated useful lives of the related assets. Maintenance and repairs that do not extend the life of or improve an asset are expensed in the period incurred.

The estimated useful lives of property and equipment are as follows:

Computer hardware and equipment	3 - 5 years
Purchased software and licenses	3 - 5 years
Furniture and fixtures	7 years
Leasehold improvements	Lesser of estimated useful life or lease term

Purchase Price Allocation, Intangible Assets, and Goodwill

The purchase price allocation for business combinations and asset acquisitions requires extensive use of accounting estimates and judgments to allocate the purchase price to the identifiable tangible and intangible assets acquired and liabilities assumed based on their respective fair values. The Company determines whether substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or a group of similar identifiable assets. If this threshold is met, the single asset or group of assets, as applicable, is not a business. If it is not met, the Company determines whether the single asset or group of assets, as applicable, meets the definition of a business.

In connection with the Company's acquisitions and asset purchase discussed in Note 3 - Business Combinations, the Company recorded certain intangible assets, including acquired technology, customer relationships, trademarks, non-compete agreements and assembled workforce. Amounts allocated to the acquired intangible assets are being amortized on a straight-line basis over the estimated useful lives. The Company periodically reviews the estimated useful lives and fair values of its identifiable intangible assets, taking into consideration any events or circumstances which might result in a diminished fair value or revised useful life.

Q2 HOLDINGS, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (unaudited)
(in thousands, except per share amounts and unless otherwise indicated)

The excess purchase price over the fair value of assets acquired is recorded as goodwill. The Company tests goodwill for impairment annually in October, or whenever events or changes in circumstances indicate an impairment may have occurred. Because the Company operates in a single reporting unit, the impairment test is performed at the consolidated entity level by comparing the estimated fair value of the Company to the carrying value of the Company. The Company estimates the fair value of the reporting unit using a "step one" analysis using a fair-value-based approach based on the market capitalization or a discounted cash flow analysis of projected future results to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. Determining the fair value of goodwill is subjective in nature and often involves the use of estimates and assumptions including, without limitation, use of estimates of future prices and volumes for the Company's products, capital needs, economic trends and other factors which are inherently difficult to forecast. If actual results, or the plans and estimates used in future impairment analyses are lower than the original estimates used to assess the recoverability of these assets, the Company could incur impairment charges in a future period.

Revenues

Revenues are recognized when control of the promised goods or services is transferred to the Company's customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services over the term of the agreement, generally when the Company's solutions are implemented and made available to the customers. The promised consideration may include fixed amounts, variable amounts or both. Revenues are recognized net of sales credits and allowances.

Revenue-generating activities are directly related to the sale, implementation and support of the Company's solutions within a single operating segment. The Company derives the majority of its revenues from subscription fees for the use of its solutions hosted in either the Company's data centers or cloud-based hosting services, transaction revenue from bill-pay solutions, as well as revenues for customer support and implementation services related to the Company's solutions. The Company recognizes the corresponding revenues over time on a ratable basis over the customer agreement term.

The following tables disaggregate the Company's revenue by major source:

	Three Months Ended March 31, 2019			
	Subscription	Transactional	Services and Other	Condensed Consolidated
Total Revenues	$ 50,099	$ 11,523	$ 9,674	$ 71,296

	Three Months Ended March 31, 2018			
	Subscription	Transactional	Services and Other	Condensed Consolidated
Total Revenues	$ 38,203	$ 8,617	$ 7,988	$ 54,808

Subscription Revenues

The Company's software solutions are available for use as hosted application arrangements under subscription fee agreements without licensing perpetual rights to the software. Subscription fees from these applications, including contractual periodic price increases, are recognized over time on a ratable basis over the customer agreement term beginning on the date the Company's solution is made available to the customer. Amounts that have been invoiced are recorded in accounts receivable and deferred revenues or revenues, depending on whether the revenue recognition criteria have been met. Periodic price increases are estimated at contract inception and result in contract assets as revenue recognition may exceed the amount billed early in the contract. Additional fees for monthly usage above the levels included in the standard subscription fee are recognized as revenue in the month when the usage amounts are determined and reported.

A small portion of the Company's customers host and manage the Company's solutions on-premises or in third-party data centers under term license and maintenance agreements. Term licenses sold with maintenance entitle the customer to technical support, upgrades and updates to the software on a when-and-if-available basis. The Company recognizes software license revenue once the customer obtains control of the license, which generally occurs at the start of each license term. The Company recognizes the remaining arrangement consideration for maintenance revenue over time on a ratable basis over the term of the software license. If the expected length of time between when the Company transfers the software license to the customer and when the customer pays for it results in a significant financing component, the Company adjusts the promised amount of consideration for the effects of the time value of money, which reflects the price the customer would have paid when the license was transferred. Revenues from term licenses and maintenance agreements and the related financing component were not significant in the periods presented.

Transactional Revenues

The Company earns the majority of its transactional revenues based on the number of bill-pay transactions that End Users initiate on its digital banking platform. The Company also generates a smaller portion of its transactional revenues from interchange fees generated when End Users utilize debit cards integrated with its Q2 CorePro API or Q2 Biller Direct products. The Company recognizes revenue for bill-pay transaction services and interchange fees in the month incurred based on actual transactions.

Services and Other Revenues

Implementation services are required for each new digital banking and lending and leasing platform and Centrix standalone contract, and there is a significant level of integration and configuration for each customer. The Company's revenue for upfront implementation services are billed upfront and recognized over time on a ratable basis over the customer agreement term for its hosted application agreements. Upfront implementation services for on-premises agreements are recognized at commencement date. Under certain circumstances, the Company partners with third-party professional system integrators to support the installation and configuration process for its digital lending and leasing solutions, and therefore, the Company has determined that these services qualify as a separate performance obligation in certain markets and geographies, and the upfront implementation services for these agreements are recognized at commencement date.

Professional services revenues, which primarily consist of training, advisory services, core conversion services, web design, and other general professional services, are generally billed and recognized when delivered.

Certain out-of-pocket expenses billed to customers are recorded as revenues rather than an offset to the related expense. Revenues recorded from out-of-pocket expense reimbursements totaled approximately $0.5 million and $0.4 million for the three months ended March 31, 2019 and 2018 , respectively. The out-of-pocket expenses are reported in cost of revenues.

Significant Judgments

Performance Obligations and Standalone Selling Price

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of accounting. Determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment. The Company has contracts with customers that often include multiple performance obligations, usually including multiple subscription and implementation services. For these contracts, the Company accounts for individual performance obligations that are distinct separately by allocating the contract's total transaction price to each performance obligation in an amount based on the relative standalone selling price, or SSP, of each distinct good or service in the contract. In determining whether implementation services are distinct from subscription services, the Company considered various factors including the significant level of integration, interdependency, and interrelation between the implementation and subscription service, as well as the inability of the customer's personnel or other service providers to perform significant portions of the services. The Company has concluded that the implementation services included in contracts with multiple performance obligations in the North American banking market are not distinct and, as a result, the Company defers any arrangement fees for implementation services and recognizes such amounts over time on a ratable basis as one performance obligation with the underlying subscription revenue for the initial agreement term of the hosted application agreements. The Company has concluded that outside the North American banking market, the implementation services for its lending and leasing platform included in contracts with multiple performance obligations are distinct and, as a result, the Company recognizes implementation fees on such arrangements as the related implementation services are performed.

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The majority of the Company's revenue recognized at a particular point in time is for professional services and usage revenue. These services are performed within a relatively short period of time and are recognized at the point in time in which the customer obtains control of the asset, which is generally upon completion of the service.

Judgment is required to determine the SSP for each distinct performance obligation. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The primary method used to estimate SSP is the adjusted market assessment approach, which considers its overall pricing objectives, market conditions and other factors, including the value of the Company's contracts, its discounting practices, the size and volume of its transactions, customer characteristics, price lists, go-to-market strategy, historical standalone sales and agreement prices, and the number and types of users within its contracts.

Variable Consideration

The Company recognizes usage revenue related to End Users accessing its products in excess of contracted amounts, bill-pay transactions that End Users initiate on its digital banking platform, and interchange fees that End Users generate using the Company's solutions. Judgment is required to determine the accounting for these types of revenue. The Company considers various factors including the degree to which usage is interdependent or interrelated to past services, costs to the Company per user over the contract, and contractual price per user changes and their relationship to market terms, forecasted data, and the Company's cost to fulfill the obligation. The Company has concluded that its usage revenue relates specifically to the transfer of the service to the customer and is consistent with the allocation objective of Topic 606 when considering all of the performance obligations and payment terms in the contract. Therefore, the Company recognizes usage revenue on a monthly or quarterly basis in accordance with the agreement, as determined and reported. This allocation reflects the amount the Company expects to receive for the services for the given period.

The Company sometimes provides credits or incentives to its customers. Known and estimable credits and incentives represent a form of variable consideration, which are estimated at contract inception and reduce the revenues recognized for a particular contract. These estimates are updated at the end of each reporting period as additional information becomes available. The Company believes that there will not be significant changes to its estimates of variable consideration as of March 31, 2019 .

Other Considerations

The Company evaluates whether it is the principal (i.e., report revenues on a gross basis) or agent (i.e., report revenues on a net basis) with respect to the vendor reseller agreements pursuant to which the Company resells certain third-party solutions along with the Company's solutions. Generally, the Company reports revenues from these types of contracts on a gross basis, meaning the amounts billed to customers are recorded as revenues, and expenses incurred are recorded as cost of revenues. Where the Company is the principal, it first obtains control of the inputs to the specific good or service and directs their use to create the combined output. The Company's control is evidenced by its involvement in the integration of the good or service on its platform before it is transferred to its customers and is further supported by the Company being primarily responsible to its customers and having a level of discretion in establishing pricing. Revenues provided from agreements in which the Company is an agent are immaterial.

Cost of Revenues

Cost of revenues is comprised primarily of salaries and other personnel-related costs, including employee benefits, bonuses and stock-based compensation, for employees providing services to the Company's customers. Costs associated with these services include the costs of the Company's implementation, customer support, data center and customer training personnel, as well as costs related to research and development personnel who perform implementation and customer support services. Cost of revenues also includes the direct costs of bill-pay and other third-party intellectual property included in the Company's solutions, the amortization of deferred solution and services costs, co-location facility costs and depreciation of the Company's data center assets, cloud-based hosting services, an allocation of general overhead costs and referral fees. Direct costs of third-party intellectual property include amounts paid for third-party licenses and related maintenance that are incorporated into the Company's software and the amortization of acquired technology from the Company's recent acquisitions, with the costs amortized to cost of revenues over the useful lives of the purchased assets.

The Company capitalizes certain personnel costs directly related to the implementation of its solutions to the extent those costs are considered to be recoverable from future revenues. The Company amortizes the costs for a particular implementation once revenue recognition commences, and the Company amortizes those implementation costs over the expected period of customer benefit, which has been determined to be the estimated life of the technology. Other costs not directly recoverable from future revenues are expensed in the period incurred.

Software Development Costs

Software development costs include salaries and other personnel-related costs, including employee benefits and bonuses attributed to programmers, software engineers and quality control teams working on the Company's software solutions. The costs related to software development that are incurred between reaching technological feasibility of a solution and the point at which the solution is ready for general release are capitalized and are included in intangible assets, net on the condensed consolidated balance sheet. Capitalized software development costs are computed on an individual product basis, and products available for market are amortized to cost of revenues over the products' estimated economic lives. The Company capitalized no software development costs in the three months ended March 31, 2019 and 2018 . The Company recognized $0.2 million of amortization of capitalized software development costs for each of the three months ended March 31, 2019 and 2018 .

Research and Development Costs

Research and development costs include salaries and other personnel-related costs, including employee benefits, bonuses and stock-based compensation, third-party contractor expenses, software development tools, an allocation of facilities and depreciation expenses and other related expenses incurred in developing new solutions and upgrading and enhancing existing solutions. Research and development costs are expensed as incurred.

Advertising

All advertising costs of the Company are expensed the first time the advertising takes place. Advertising costs were $0.3 million and $0.4 million for the three months ended March 31, 2019 and 2018 , respectively.

Sales Tax

The Company presents sales taxes and other taxes collected from customers and remitted to governmental authorities on a net basis and, as such, excludes them from revenues.

Comprehensive Loss

Comprehensive loss includes net loss as well as other changes in stockholders' equity that result from transactions and economic events other than those with stockholders. Other comprehensive loss consists of net loss, unrealized gains and losses on available-for-sale investments, and foreign currency translation adjustments.

Stock-Based Compensation

Stock options, restricted stock units, and market stock units awarded to employees, directors, executives and consultants are measured at fair value at each grant date. The Company does not use a forfeiture rate to recognize compensation expense. Generally, options vest 25% on the one -year anniversary of the grant date with the balance vesting monthly over the following 36 months, and restricted stock unit awards vest in four annual installments of 25% each. Market stock units are performance-based awards that cliff vest based on the Company's stockholder return relative to the total stockholder return of the Russell 2000 Index, or Index, over a three -year period on the anniversary of the date of grant. Up to one-third of the target shares of the Company's common stock subject to each market stock unit award are eligible to be earned after the first and second years of the performance period and up to 200% of the full target number of shares subject to each market stock unit award are eligible to be earned after the completion of the three -year performance period (less any shares earned for years one and two) based on the average price of the Company's common stock relative to the Index during the performance period.

The Company values stock options using the Black-Scholes option-pricing model, which requires the input of subjective assumptions, including the risk-free interest rate, expected life, expected stock price volatility and dividend yield. The risk-free interest rate assumption is based upon observed interest rates for constant maturity U.S. Treasury securities consistent with the expected term of the Company's employee stock options. The expected life represents the period of time the stock options are expected to be outstanding and is based on the simplified method. Under the simplified method, the expected life of an option is presumed to be the mid-point between the vesting date and end of the contractual term. The Company used the simplified method due to the lack of sufficient historical exercise data to provide a reasonable basis upon which to otherwise estimate the expected life of the stock options. Due to the Company's limited history as a public company, expected volatility is based on historical volatilities for publicly traded stock of comparable companies over the estimated expected life of the stock options. The Company assumed no dividend yield because it does not expect to pay dividends in the near future, which is consistent with the Company's history of not paying dividends. The Company recognizes compensation expense ratably over the requisite service period of the stock option award.

The Company values restricted stock units at the closing market price on the date of grant, and recognizes compensation expense ratably over the requisite service period of the restricted stock unit award.

The Company estimates the fair value of market stock units on the date of grant using a Monte Carlo simulation model. The determination of fair value of the market stock units is affected by the Company's stock price and a number of assumptions including the expected volatility and the risk-free interest rate. The Company's expected volatility at the date of grant was based on the historical volatilities of its stock and peer firms' stocks and the Index over the performance period. The Company assumed no dividend yield and recognizes compensation expense ratably over the performance period of the market stock unit award. The Company recognizes compensation expense using the graded attribution method on a straight-line basis over the performance period for each market stock unit award.

Convertible Senior Notes

In February 2018, the Company issued $230.0 million principal amount of convertible senior notes due in February 2023, or the Convertible Notes. In accounting for the issuance of the Convertible Notes, the Company separated each of the Convertible Notes into liability and equity components. The carrying amount of the liability component was calculated by measuring the fair value, as of the date of issuance, of a similar debt without the conversion option. The carrying amount of the equity component representing the conversion option was determined by deducting the fair value of the liability components from the total initial proceeds. The difference between the par amount of the Convertible Notes and the carrying amount of the liability component represents debt discounts that are amortized to interest expense over the respective terms of the Convertible Notes using the effective interest rate method. The equity components are not remeasured as long as they continue to meet the conditions for equity classification. In accounting for the issuance costs related to the Convertible Notes, the Company allocated the total amount of issuance costs incurred to liability and equity components based on their relative values. Issuance costs attributable to the liability components are amortized to interest expense over the respective terms of the Convertible Notes using the effective interest rate method. The issuance costs attributable to the equity components were netted against the respective equity components in additional paid-in capital.

Leases

The Company determines if a contract contains a lease for accounting purposes at the inception of the arrangement. The Company elected to apply the practical expedient which allows the Company to account for lease and non-lease components of a contract as a single leasing arrangement. In addition, the Company elected the practical expedients related to lease classification and the short-term lease exemption, whereby leases with initial terms of one year or less are not capitalized and instead expensed generally on a straight-line basis over the lease term. The Company is primarily a lessee with a lease portfolio comprised mainly of real estate and equipment leases. As of March 31, 2019 the Company had no finance leases.

Operating lease assets are included on the Company's condensed consolidated balance sheets in non-current assets as a right-of-use asset, or ROU, and represent the Company's right to use an underlying asset for the lease term. Operating lease liabilities are included on the Company's condensed consolidated balance sheets in current liabilities for the portion that is due within 12 months and in non-current liabilities for the portion that is due beyond 12 months of the financial statement date and represent the Company's obligation to make lease payments.

ROU assets and lease liabilities are recognized at the commencement date of the lease based on the present value of lease payments over the lease term using an appropriate discount rate. If an implicit rate is not readily determined by the Company's leases, the Company utilizes the incremental borrowing rate based on the available information at the commencement date to determine the lease payments. The depreciable lives of the underlying leased assets are generally limited to the expected lease term inclusive of any optional lease renewals where the Company concludes at the inception of the lease that the Company is reasonably certain of exercising those options. The ROU asset calculation may also include any initial direct costs paid and is reduced by any lease incentives provided by the lessor. Lease expense for operating lease payments are recognized on a straight-line basis over the lease term.

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Contingent Consideration

On October 15, 2018, the Company's wholly-owned subsidiary, Q2 Software, Inc. acquired all of the outstanding capital stock of Cloud Lending, Inc., a Delaware corporation, or Cloud Lending. Certain former stockholders of Cloud Lending have the right to receive an earnout payment of up to an additional $59.5 million in the aggregate based upon satisfaction of certain financial milestones. As of March 31, 2019 , the estimated fair value of the contingent consideration related to the potential earnout payment utilizing the Monte Carlo simulation method under the the option pricing model was $19.2 million , and this amount is recorded in other accrued compensation in the condensed consolidated balance sheets. The fair value of this contingent consideration is estimated on a quarterly basis through a collaborative effort by the Company's sales and finance departments. Changes in the fair value of the contingent consideration subsequent to the purchase price finalization are recorded as acquisition related costs in the condensed consolidated statements of comprehensive loss.

Income Taxes

Deferred income taxes are provided for the tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes and operating loss carryforwards and credits using enacted tax rates expected to be in effect in the years in which the differences are expected to reverse. The Company assesses the likelihood that deferred tax assets will be realized and recognizes a valuation allowance if it is more likely than not that some portion of the deferred tax assets will not be realized. This assessment requires judgment as to the likelihood and amounts of future taxable income by tax jurisdiction. To date, the Company has provided a valuation allowance against its deferred tax assets as it believes the objective and verifiable evidence of its historical pretax net losses outweighs any positive evidence of its forecasted future results. Although the Company believes that its tax estimates are reasonable, the ultimate tax determination involves significant judgment that is subject to audit by tax authorities in the ordinary course of business. The Company will continue to monitor the positive and negative evidence, and it will adjust the valuation allowance as sufficient objective positive evidence becomes available.

The Company evaluates its uncertain tax positions based on a determination of whether and how much of a tax benefit taken by the Company in its tax filings or positions is more likely than not to be realized. Potential interest and penalties associated with any uncertain tax positions are recorded as a component of income tax expense. As of March 31, 2019 the Company has unrecognized tax benefits of $0.3 million related to prior year uncertain tax positions, and an insignificant amount of accrued interest. The Company does not expect any of the balance to be recognized during the next twelve months.

Basic and Diluted Net Loss per Common Share

The following table sets forth the computations of net loss per share for the periods listed:

	Three Months Ended March 31,	
	2019	**2018**
Numerator:		
Net loss	$ (19,311)	$ (6,048)
Denominator:		
Weighted-average common shares outstanding, basic and diluted	43,773	42,170
Net loss per common share, basic and diluted	$ (0.44)	$ (0.14)

Due to net losses for the three months ended March 31, 2019 and 2018 , basic and diluted loss per share were the same, as the effect of all potentially dilutive securities would have been anti-dilutive. The following table sets forth the anti-dilutive common share equivalents for the periods listed:

	As of March 31,	
	2019	**2018**
Stock options, restricted stock units, and market stock units	4,781	5,458
Shares related to the Convertible Notes	326	—
	5,107	5,458

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Because the Company has the intention and ability to settle the principal amount of its Convertible Notes in cash, the treasury stock method is expected to be used for calculating any potential dilutive effect of the conversion spread on diluted net income per share, if applicable. The conversion spread will have a dilutive impact on diluted net income per share of common stock when the average market price of common stock for a given period exceeds the conversion price of $57.38 per share for the Convertible Notes. The warrants issued by the Company in connection with its Convertible Note financing, or Warrants, will have a dilutive effect when the average market price of common stock for a given period exceeds the Warrant's strike price of $78.75 per share.

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)," to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. In July 2018, the FASB issued ASU 2018-10, "Codification Improvements to Topic 842 (Leases)," which provides narrow amendments to clarify how to apply certain aspects of the new lease standard. In July 2018, the FASB also issued ASU 2018-11, "Targeted Improvements," which provides the option to adopt ASU No. 2016-02 retrospectively for each prior period presented or as of the adoption date with a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. In January 2019, the FASB issued ASU No. 2019-01, "Leases (Topic 842): Codification Improvements" to clarify the required disclosures of ASU No. 2016-02 and explicitly exempt entities from disclosing the effect of the change for the interim period. The Company adopted the standard effective January 1, 2019 and elected the package of practical expedients permitted under the transition guidance within Topic 842, which among other things, allows the Company to carry forward the historical lease classification and the practical expedient to not separate lease and non-lease components of an agreement. Adoption of the new standard resulted in the recording of lease assets and lease liabilities of approximately $27.0 million and $36.2 million , respectively, as of January 1, 2019. The difference between the lease assets and lease liabilities is the reclassification of deferred rent on our balance sheet at the date of adoption. The standard had no impact on the Company's condensed consolidated statement of comprehensive loss or the condensed consolidated statement of cash flows.

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments - Credit Losses (Topic 326)" which modifies the measurement of expected credit losses of certain financial instruments. Credit losses on trade and other receivables, held-to-maturity debt securities, and other instruments will reflect the Company's current estimate of the expected credit losses and will generally result in the earlier recognition of allowance for losses. The new guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019, with early adoption permitted. The Company is currently evaluating the impact of and approach to adopting this new accounting guidance and does not expect the adoption of this standard to have a material impact on its condensed consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" which simplifies the accounting for goodwill impairment by removing Step 2 of the goodwill impairment test and requires an entity to write down the carrying value of goodwill up to the amount by which the carrying amount of a reporting unit exceeds its fair value. The standard is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years and early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company does not expect the adoption of this standard to have a material impact on its condensed consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-15, "Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40)," which 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 (and hosting arrangements that include an internal-use software license). ASU 2018-15 will be effective for the Company beginning in its first quarter of 2020, with early adoption permitted. The ASU may be applied retrospectively or prospectively to all implementation costs incurred after the date of adoption. The Company has elected to early adopt the ASU as of January 1, 2019 on a prospective basis. No implementation costs related to hosting arrangements were capitalized during the three months ended March 31, 2019 .

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3. Business Combinations

Cloud Lending

On October 15, 2018, the Company's wholly-owned subsidiary, Q2 Software, Inc. acquired all of the outstanding capital stock of Cloud Lending Inc., or Cloud Lending, a privately-owned provider of end-to-end digital lending and leasing platform solutions. The purchase price paid was in excess of the fair value of the net assets acquired and, as a result, the Company recorded goodwill.

Cloud Lending was acquired for a purchase price of approximately $125.1 million of which the Company paid $107.3 million in cash. At closing, the Company deposited into an escrow account $10.5 million of the initial consideration, or CL Escrow Amount, to compensate for any breach of a representation or warranty or any violation or default of any obligation by the sellers subsequent to the acquisition during the period of 18 months following the acquisition date. To the extent not utilized, the CL Escrow Amount shall be paid to the former stockholders of Cloud Lending at the end of the 18 month period unless there are any unresolved claims remaining at that time.

Certain former stockholders of Cloud Lending have the right to receive an earnout payment of up to an additional $59.5 million in the aggregate based upon satisfaction of certain financial milestones. As of March 31, 2019 , the estimated fair value of the contingent consideration related to the potential earnout payment was $19.2 million , which is recorded in accrued compensation on the condensed consolidated balance sheets. Changes in the fair value of the contingent consideration subsequent to the purchase price finalization are recorded as acquisition related costs in the condensed consolidated statement of comprehensive loss.

The Company accrues for payouts contingent upon continued and future employment of acquired employees and contractors of Cloud Lending, and the unpaid amounts due to the continuing employees are recorded in accrued compensation in the condensed consolidated balance sheets. The Company recognized $0.1 million under these agreements in compensation expense which is included in acquisition related costs in the condensed consolidated statement of comprehensive loss for the three months ended March 31, 2019.

Gro Solutions

On November 30, 2018, the Company's wholly-owned subsidiary, Q2 Software, Inc. acquired all of the outstanding shares of Gro Solutions, or Gro, a privately-owned provider of digital account opening and sales and marketing solutions. The purchase price paid was in excess of the fair value of the net assets acquired, and as a result, the Company recorded goodwill.

Gro was acquired for approximately $25.5 million in cash from existing balances. At closing, the Company deposited into an escrow account $0.4 million of the initial consideration, or Gro Escrow Amount, to compensate for any breach of a representation or warranty or any violation or default of any obligation by the sellers subsequent to the acquisition during an escrow period of 12 or 18 months following the acquisition date depending upon the nature of the breach, violation or default.

The Company accrues for payouts contingent upon continued and future employment of acquired employees and contractors of Gro, and the unpaid amounts due to the continuing employees are recorded in accrued compensation in the condensed consolidated balance sheets. The Company recognized $0.1 million under these agreements in compensation expense which is included in acquisition related costs in the condensed consolidated statement of comprehensive loss for the three months ended March 31, 2019.

4. Fair Value Measurements

The carrying values of the Company's financial instruments, principally cash equivalents, investments, accounts receivable, restricted cash and accounts payable, approximated their fair values due to the short period of time to maturity or repayment.

Fair value is defined as the exchange price that would be received for an asset or an exit price paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The current accounting guidance for fair value measurements defines a three-level valuation hierarchy for disclosures as follows:

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- Level I—Unadjusted quoted prices in active markets for identical assets or liabilities;
- Level II—Inputs other than quoted prices included within Level I that are observable, unadjusted quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data; and
- Level III—Unobservable inputs that are supported by little or no market activity, which requires the Company to develop its own assumptions.

The categorization of a financial instrument within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

The following table details the fair value hierarchy of the Company's financial assets measured at fair value on a recurring basis as of March 31, 2019 :

		Fair Value Measurements Using:		
	Fair Value	**Quoted Prices in Active Markets for Identical Assets (Level I)**	**Significant Other Observable Inputs (Level II)**	**Significant Unobservable Inputs (Level III)**
Assets				
Cash Equivalents:				
Money market funds	$ 65,385	$ 65,385	$ —	$ —
Investments:	**Fair Value**	**Quoted Prices in Active Markets for Identical Assets (Level I)**	**Significant Other Observable Inputs (Level II)**	**Significant Unobservable Inputs (Level III)**
U.S. government agency bonds	$ 12,266	$ —	$ 12,266	$ —
Corporate bonds and commercial paper	40,491	—	40,491	—
Certificates of deposit	1,214	—	1,214	—
	$ 53,971	$ —	$ 53,971	$ —
Liabilities				
Other long-term liabilities:	**Fair Value**	**Quoted Prices in Active Markets for Identical Assets (Level I)**	**Significant Other Observable Inputs (Level II)**	**Significant Unobservable Inputs (Level III)**
Contingent consideration	$ 19,228	$ —	$ —	$ 19,228

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The following table details the fair value hierarchy of the Company's financial assets measured at fair value on a recurring basis as of December 31, 2018 :

		Fair Value Measurements Using:		
	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level I)	Significant Other Observable Inputs (Level II)	Significant Unobservable Inputs (Level III)
Assets				
Cash Equivalents:				
Money market funds	$ 54,559	$ 54,559	$ —	$ —

Investments:	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level I)	Significant Other Observable Inputs (Level II)	Significant Unobservable Inputs (Level III)
U.S. government agency bonds	$ 22,293	$ —	$ 22,293	$ —
Corporate bonds and commercial paper	44,734	—	44,734	—
Certificates of deposit	1,952	—	1,952	—
	$ 68,979	$ —	$ 68,979	$ —

Liabilities				
Other long-term liabilities:	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level I)	Significant Other Observable Inputs (Level II)	Significant Unobservable Inputs (Level III)
Contingent consideration	$ 16,862	$ —	$ —	$ 16,862

The Company determines the fair value of its investment holdings based on pricing from its pricing vendors. The valuation techniques used to measure the fair value of financial instruments having Level II inputs were derived from non-binding consensus prices that are corroborated by observable market data or quoted market prices for similar instruments. Such market prices may be quoted prices in active markets for identical assets (Level I inputs) or pricing determined using inputs other than quoted prices that are observable either directly or indirectly (Level II inputs).

The Company added contingent consideration on October 15, 2018 with the acquisition of Cloud Lending. The contingent consideration liabilities were recorded at fair value on the acquisition date and are adjusted to fair value at each reporting period. The increases or decreases in the fair value of contingent consideration payable can result from changes in anticipated revenue levels and assumed discount periods and rates. The fair value of the contingent consideration increased by $2.4 million during the three months ended March 31, 2019 . This increase was mainly attributable to the change in the assumed discount period and rate as a result of the passage of time. The Company's contingent consideration is valued using a Monte Carlo simulation model. The assumptions used in preparing the Monte Carlo simulation model include estimates for revenue growth rates, revenue volatility, revenue recognition periods, risk-free rates and discount rates.

5. Cash, Cash Equivalents and Investments

The Company's cash, cash equivalents and investments as of March 31, 2019 and December 31, 2018 consisted primarily of cash, U.S. government agency bonds, corporate bonds, commercial paper, certificates of deposit and money market funds.

The Company classifies investments as available-for-sale at the time of purchase and reevaluates such classification as of each balance sheet date. All investments are recorded at estimated fair value. Unrealized gains and losses on available-for-sale investments are included in accumulated other comprehensive loss, a component of stockholders' equity. The Company evaluates its investments to assess whether those with unrealized loss positions are other than temporarily impaired. The Company considers impairments to be other than temporary if they are related to deterioration in credit risk or if it is likely the Company will sell the investments before the recovery of their cost basis. Realized gains and losses and declines in value judged to be other than temporary are determined based on the specific identification method and are reported in other income (expense), net, in the condensed consolidated statements of comprehensive loss. Interest, amortization of premiums and accretion of discount on all investments classified as available-for-sale are also included as a component of other income (expense), net, in the condensed consolidated statements of comprehensive loss.

(in thousands, except per share amounts and unless otherwise indicated)

As of March 31, 2019 and December 31, 2018 , the Company's cash was $45.2 million and $53.8 million , respectively.

A summary of the Company's cash equivalents and investments as of March 31, 2019 is as follows:

Cash Equivalents:	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market funds	$ 65,385	$ —	$ —	$ 65,385

Investments:	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. government agency bonds	$ 12,280	$ —	$ (14)	$ 12,266
Corporate bonds and commercial paper	40,479	22	(10)	40,491
Certificates of deposit	1,214	—	—	1,214
	$ 53,973	$ 22	$ (24)	$ 53,971

A summary of the Company's cash equivalents and investments as of December 31, 2018 is as follows:

Cash Equivalents:	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market funds	$ 54,559	$ —	$ —	$ 54,559

Investments:	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. government agency bonds	$ 22,330	$ —	$ (37)	$ 22,293
Corporate bonds and commercial paper	44,812	—	(78)	44,734
Certificates of deposit	1,952	—	—	1,952
	$ 69,094	$ —	$ (115)	$ 68,979

The Company may sell its investments at any time, without significant penalty, for use in current operations or for other purposes, even if they have not yet reached maturity. As a result, the Company classifies its investments, including investments with maturities beyond twelve months, as current assets in the accompanying condensed consolidated balance sheets.

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The following table summarizes the estimated fair value of the Company's investments, designated as available-for-sale and classified by the contractual maturity date of the investments as of the dates shown:

	March 31, 2019	December 31, 2018
Due within one year or less	$ 39,276	$ 61,514
Due after one year through five years	14,695	7,465
	$ 53,971	$ 68,979

The Company has certain available-for-sale investments in a gross unrealized loss position, all of which have been in such position for less than twelve months. The Company reviews its debt securities classified as short-term investments on a regular basis to evaluate whether or not any security has experienced an other than temporary decline in fair value. The Company considers factors such as the length of time and extent to which the market value has been less than the cost, the financial position and near-term prospects of the issuer and its intent to sell, or whether it is more likely than not the Company will be required to sell the investment before recovery of the investment's amortized-cost basis. If the Company determines that an other than temporary decline exists in one of these investments, the respective investment would be written down to fair value. For debt securities, the portion of the write-down related to credit loss would be recognized in other income, net in the condensed consolidated statements of comprehensive loss. Any portion not related to credit loss would be included in accumulated other comprehensive loss. Because the Company does not intend to sell any investments which have an unrealized loss position at this time, and it is not more likely than not that the Company will be required to sell the investment before recovery of its amortized cost basis, which may be maturity, the Company does not consider the investments with unrealized loss positions to be other than temporarily impaired as of March 31, 2019 .

The following table shows the fair values and the gross unrealized losses of these available-for-sale investments aggregated by investment category as of March 31, 2019 :

	Adjusted Cost	Gross Unrealized Loss	Fair Value
U.S. government agency bonds	$ 12,280	$ (14)	$ 12,266
Corporate bonds and commercial paper	22,951	(10)	22,941
	$ 35,231	$ (24)	$ 35,207

The following table shows the fair values and the gross unrealized losses of these available-for-sale investments aggregated by investment category as of December 31, 2018 :

	Adjusted Cost	Gross Unrealized Loss	Fair Value
U.S. government agency bonds	$ 22,330	$ (37)	$ 22,293
Corporate bonds and commercial paper	44,812	(78)	44,734
	$ 67,142	$ (115)	$ 67,027

6. Goodwill and Intangible Assets

The carrying amount of goodwill was $107.9 million as of March 31, 2019 and December 31, 2018 . Goodwill represents the excess purchase price over the fair value of assets acquired. During 2018, the Company completed the acquisitions of Cloud Lending and Gro, and during 2015, the Company completed the acquisitions of Centrix and Social Money. The Company has one operating segment and one reporting unit. Goodwill is tested for impairment on an annual basis, and between annual tests if indicators of potential impairment exist, using a fair-value-based approach based on the market capitalization of the reporting unit. The annual impairment test was performed as of October 31, 2018. No impairment of goodwill was identified during 2018, no r has any impairment of goodwill been recorded to date.

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Intangible assets at March 31, 2019 and December 31, 2018 were as follows:

	As of March 31, 2019			As of December 31, 2018		
	Gross Amount	Accumulated Amortization	Net Carrying Amount	Gross Amount	Accumulated Amortization	Net Carrying Amount
Customer relationships	$ 10,640	$ (2,669)	$ 7,971	$ 10,640	$ (2,148)	$ 8,492
Non-compete agreements	2,064	(770)	1,294	2,064	(668)	1,396
Trademarks	11,935	(2,622)	9,313	11,935	(2,350)	9,585
Acquired technology	53,183	(13,971)	39,212	53,183	(12,030)	41,153
Assembled workforce	79	(58)	21	79	(51)	28
Capitalized software development costs	3,975	(1,532)	2,443	3,975	(1,333)	2,642
	$ 81,876	$ (21,622)	$ 60,254	$ 81,876	$ (18,580)	$ 63,296

The Company recorded intangible assets from the business combinations and asset acquisition discussed in Note 3, Business Combinations and Asset Acquisitions. Intangible assets are amortized on a straight-line basis over their estimated useful lives, which range from two to ten years . Amortization expense included in cost of revenues in the condensed consolidated statements of comprehensive loss was $1.6 million and $0.9 million for the three months ended March 31, 2019 and 2018 , respectively, and amortization expense included in operating expenses in the condensed consolidated statements of comprehensive loss was $1.2 million and $0.4 million for the three months ended March 31, 2019 and 2018 , respectively.

Gross capitalized software development costs were $4.0 million as of March 31, 2019 and December 31, 2018 . During the year ended 2017, all of the products related to capitalized software development costs reached general release, and the Company commenced amortization of these costs. The Company amortized $0.2 million of capitalized software development costs for each of the three months ended March 31, 2019 and 2018 . Capitalized software development costs are computed on an individual product basis and those products available for market are amortized to cost of revenues over the products' estimated economic lives, which are expected to be five years.

7. Commitments and Contingencies

Operating Lease Commitments

The Company leases office space under non-cancellable operating leases for its corporate headquarters in Austin, Texas in two adjacent buildings under separate lease agreements. Pursuant to the first of which the Company leases approximately 67 square feet of office space with an initial term that expires on April 30, 2021, with the option to extend the lease for an additional five -year term, and pursuant to the second of which the Company leases approximately 129 square feet of office space with an initial term that expires on April 30, 2028, with the option to extend the lease for an additional ten -year term. The Company also leases office space in south Austin, Texas; Lincoln, Nebraska; Des Moines, Iowa; Atlanta, Georgia; Asheville, North Carolina; San Mateo, California; Bangalore, India; Sydney Australia; London, United Kingdom; and Amsterdam, Netherlands. In the second quarter of 2018, the Company vacated a portion of its south Austin office and recorded an unoccupied lease charge of $0.7 million for the remaining contractual lease payments, associated asset disposal, and related fees, less estimated sublease income. The remaining associated lease liability of $0.1 million is recorded in other long-term liabilities, on the accompanying condensed consolidated balance sheet at March 31, 2019 . The Company believes its current facilities will be adequate for its needs for the current term and will evaluate its need for expansion beyond the 2021 lease expiration. Rent expense under operating leases was $1.2 million and $1.1 million for the three months ended March 31, 2019 and 2018 , respectively.

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The components of lease costs, lease term and discount rate were as follows:

	Operating Leases
Lease expense:	
Operating lease expense	$ 1,597
Sublease income	(153)
Total lease expense	$ 1,444
Other information:	
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash flows from operating leases	$ 1,894
Right-of-use assets obtained in exchange for new operating lease liabilities as of January 1, 2019	$ 26,972
Weighted-average remaining lease term - operating leases	7.7 years
Weighted-average discount rate - operating leases	5.5%

Future minimum payments required under operating leases that have initial or remaining non-cancelable lease terms in excess of one year at March 31, 2019 were as follows:

	Operating Leases
Year Ended December 31,	
2019 (from April 1 to December 31)	$ 5,455
2020	6,537
2021	5,190
2022	4,708
2023	4,438
Thereafter	16,871
Total lease payments	$ 43,199
Less: present value discount	(8,657)
Present value of lease liabilities	$ 34,542

(in thousands, except per share amounts and unless otherwise indicated)

Contractual Commitments

The Company has non-cancelable contractual commitments related to the Convertible Notes and related interest, third-party products, co-location fees and other product costs. The Company is party to several purchase commitments for third-party products that contain both a contractual minimum obligation and a variable obligation based upon usage or other factors which can change on a monthly basis. The interest on the Convertible Notes is payable semi-annually on February 15 and August 15 of each year. The estimated amounts for usage and other factors are not included within the table below. Future minimum contractual commitments that have initial or remaining non-cancelable terms in excess of one year were as follows:

	Contractual Commitments
Year Ended December 31,	
2019 (from April 1 to December 31)	$ 10,526
2020	13,909
2021	12,209
2022	12,136
2023	239,325
Thereafter	—
Total commitments	$ 288,105

Legal Proceedings

From time to time, the Company may become involved in legal proceedings arising in the ordinary course of its business. The Company is not presently a party to any legal proceedings that, if determined adversely to the Company, would have a material adverse effect on the Company.

8. Convertible Senior Notes

The Company issued $230.0 million principal amount of convertible senior notes in February 2018. The interest rates for the Convertible Notes are fixed at 0.75% per annum with interest payable semi-annually on February 15 and August 15 of each year, commencing on August 15, 2018. The Convertible Notes mature on February 15, 2023, unless earlier converted or repurchased in accordance with their terms prior to such date. Each $1,000 of principal of the Convertible Notes will initially be convertible into 17.4292 shares of the Company's common stock, which is equivalent to an initial conversion price of approximately $57.38 per share. The initial conversion price for each of the Convertible Notes is subject to adjustment upon the occurrence of certain specified events.

The Convertible Notes are the Company's senior unsecured obligations and will rank senior in right of payment to any of the Company's indebtedness that is expressly subordinated in right of payment to the Convertible Notes, will rank equally in right of payment with any of the Company's indebtedness that is not so subordinated, are effectively junior in right of payment to any of the Company's secured indebtedness to the extent of the value of the assets securing such indebtedness and are structurally junior to all indebtedness and other liabilities (including trade payables) of the Company's current or future subsidiaries.

On or after November 15, 2022, holders may convert all or any portion of their Convertible Notes at any time prior to the close of business on the second scheduled trading day immediately preceding the maturity date regardless of the succeeding conditions described herein. Upon conversion, the Company will pay or deliver, as the case may be, cash, shares of its common stock or a combination of cash and shares of its common stock, at its election, as described in the indenture governing the Convertible Notes.

Holders may convert their Convertible Notes at their option at any time prior to the close of business on the business day immediately preceding November 15, 2022 only under the following circumstances:

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- during any calendar quarter commencing after the calendar quarter ending on June 30, 2018 (and only during such calendar quarter), if the last reported sale price of the 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 consecutive business day period after any five consecutive trading day period in which the trading price per $1,000 principal amount of Convertible Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day; or

- upon the occurrence of specified corporate events.

If a fundamental change (as defined in the relevant indenture governing the Convertible Notes) occurs prior to the maturity date, holders of each of the Convertible Notes may require the Company to repurchase all or a portion of their notes for cash at a repurchase price equal to 100% of the principal amount of the Convertible Notes, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date. As of March 31, 2019 , the Convertible Notes were not yet convertible.

In accordance with accounting guidance for cash conversion features, the Company valued the liability component at the estimated fair value, as of the date of issuance, of a similar debt without the conversion option. The effective interest rate for the liability component was 5.875% . The liability component of the Convertible Notes is recorded in long-term debt, and the interest payable within the next twelve months is recorded in accrued liabilities on the condensed consolidated balance sheets as of March 31, 2019 . The Company recorded the difference between the initial proceeds of the convertible debt and the fair value of the conversion feature, and the difference was allocated to additional paid-in capital on the condensed consolidated balance sheet as the carrying amount of the equity component.

In accounting for the transaction costs for the Convertible Notes issuance, the Company allocated the costs incurred to the liability and equity components in proportion to the allocation of the proceeds from issuance to the liability and equity components. Issuance costs attributable to the liability component, totaling $5.3 million for the Convertible Notes are being amortized to expense over the expected life the Convertible Notes using the effective interest method. Issuance costs attributable to the equity component related to the conversion option, totaling $1.5 million for the Convertible Notes were netted with the equity component.

The Convertible Notes consist of the following:

	As of March 31, 2019
Liability component:	
Principal	$ 230,000
Unamortized debt discount	(40,492)
Unamortized debt issuance costs	(4,242)
Net carrying amount	185,266
Equity component	
Net allocation of proceeds	31,116
Net issuance costs	(1,517)
Net carrying amount	$ 29,599

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The following table sets forth total interest expense recognized related to the Convertible Notes:

	Three Months Ended March 31, 2019
Contractual interest expense	$ 437
Amortization of debt issuance costs	250
Amortization of debt discount	2,298
Total	$ 2,985

As of March 31, 2019 , the remaining period over which the debt discount and debt issuance costs will be amortized was 3.9 years .

Bond Hedges and Warrants Transactions

Concurrent with the offering of the Convertible Notes, the Company entered into separate convertible bond hedges, or Bond Hedges, and Warrants transactions. The Bond Hedges are generally expected to reduce potential dilution to the Company's common stock upon conversion of the Convertible Notes. The Bond Hedges are call options that give the Company the option to purchase, subject to anti-dilution adjustments substantially identical to those in the Convertible Notes, approximately 0.9 million shares of its common stock for $57.38 per share, exercisable upon conversion of the Convertible Notes and expires in February 2023. The total cost of the Bond Hedges transactions was $41.7 million .

Under the Warrants, the Company issued warrants to acquire, subject to anti-dilution adjustments, up to approximately 4.0 million shares over 80 scheduled trading days beginning on May 15, 2023 at an exercise price of $78.75 per share. If the Warrants are not exercised on their exercise dates, they will expire. Pursuant to the Warrants, if the average market value per share of the Company's common stock for the reporting period, as measured under the Warrants, exceeds the exercise price of the Warrants of $78.75 , the Warrants will have a dilutive effect on the Company's earnings per share, assuming the Company is profitable. The Company received $22.4 million in cash proceeds from the sale of the Warrants.

The Bond Hedges and the Warrants are separate transactions, in each case, entered into by the Company with counterparties, and are not part of the terms of the Convertible Notes and will not affect any holders' rights under the Convertible Notes. The holders of the Convertible Notes will not have any rights with respect to the Bond Hedges or Warrants transactions. The Bond Hedges and Warrants do not meet the criteria for derivative accounting as they are indexed to the Company's stock. The amounts paid for the Bond Hedges and the proceeds received from the sale of the Warrants have been included as a net reduction to additional paid-in capital.

9. Stock-Based Compensation

In March 2014, the Company's board of directors approved the 2014 Equity Incentive Plan, or 2014 Plan, under which stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares and units and other cash-based or stock-based awards may be granted to employees, consultants and directors. Shares of common stock that are issued and available for issuance under the 2014 Plan consist of authorized, but unissued or reacquired shares of common stock or any combination thereof.

As of December 31, 2018, a total of 9,186 shares had been reserved for issuance under the 2014 Plan. The 2014 Plan contains a provision that automatically increases the shares available for issuance under the plan on January 1 of each year subsequent to the 2014 Plan's adoption through 2024, by an amount equal to the smaller of (a) 4.5% of the number of shares of common stock issued and outstanding on the immediately preceding December 31, or (b) an amount determined by the Company's board of directors. On January 1, 2019, 1,959 shares were added to the 2014 Plan in accordance with the annual automatic increase provision of the 2014 Plan. In addition, the 2014 Plan reserve is automatically increased to include any shares issuable upon expiration or termination of options granted under the Company's 2007 Stock Plan, or 2007 Plan, for options that expire or terminate without having been exercised. For the three months ended March 31, 2019 , no shares have been transferred to the 2014 Plan from the 2007 Plan, and as of March 31, 2019 a total of 11,145 shares were allocated for issuance under the 2014 Plan. As of March 31, 2019 , options to purchase a total of 2,706 shares of common stock have been granted under the 2014 Plan, 4,143 shares have been reserved under the 2014 Plan for the vesting of restricted stock units and market stock units, 602 shares have been returned to the 2014 Plan as a result of termination of options that expired or terminated without having been exercised and restricted stock awards that terminated prior to the awards vesting, and 4,898 shares of common stock remain available for future issuance under the 2014 Plan.

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In July 2007, the Company adopted the 2007 Plan under which options or stock purchase rights may be granted to employees, consultants and directors. Upon the completion of the Company's initial public offering, or IPO, in March 2014, the board of directors terminated the 2007 Plan in connection with the IPO and all shares that were available for future issuance under the 2007 Plan at such time were transferred to the 2014 Plan. The 2007 Plan will continue to govern the terms and conditions of all outstanding equity awards granted under the 2007 Plan. As of March 31, 2019 , no shares remain available for future issuance under the 2007 Plan.

Stock Options

Stock option activity during the three months ended March 31, 2019 was as follows:

	Number of Options	Weighted Average Exercise Price
Balance as of January 1, 2019	2,654	$ 19.72
Granted	—	—
Exercised	(272)	13.77
Forfeited	—	—
Balance as of March 31, 2019	2,382	$ 20.40

Restricted Stock Units

Restricted stock unit activity during the three months ended March 31, 2019 was as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested as of January 1, 2019	1,937	$ 43.50
Granted	315	67.05
Vested	(234)	34.09
Forfeited	(34)	48.26
Nonvested as of March 31, 2019	1,984	$ 48.26

Market Stock Units

Market stock unit activity during the three months ended March 31, 2019 was as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested as of January 1, 2019	260	$ 21.98
Granted	233	29.75
Vested	(78)	12.64
Forfeited	—	—
Nonvested as of March 31, 2019	415	$ 28.09

10. Income Taxes

In accordance with applicable accounting guidance, the income tax benefit for the three months ended March 31, 2019 is based on the estimated annual effective tax rate for fiscal year 2019 . The estimated effective tax rate may be subject to adjustment in subsequent quarterly periods as the estimates of pretax income for the year, along with other items that may affect the rate, change.

The Company's benefit from income taxes reflected an effective tax rate of approximately 0.2% and 3.0% for the three months ended March 31, 2019 and 2018 , respectively. For the three months ended March 31, 2019 and 2018 , the Company's effective tax rate was lower than the U.S. federal statutory rate primarily due to changes to its valuation allowance.

The Company has significant deferred tax assets related to its net operating loss carryforwards and tax credits and has provided a valuation allowance for most of the amount of its deferred tax assets, as it is not more likely than not that any future benefit from deductible temporary differences, net operating loss carryforwards, and tax credit carryforwards will be realized. This assessment requires judgment as to the likelihood and amounts of future taxable income by tax jurisdiction.

To date, the Company has provided a valuation allowance against its deferred tax assets as it believes the objective and verifiable evidence of its historical pretax net losses outweighs any positive evidence of its forecasted future results. Although the Company believes that its tax estimates are reasonable, the ultimate tax determination involves significant judgment that is subject to audit by tax authorities in the ordinary course of business. The Company will continue to monitor the positive and negative evidence, and it will adjust the valuation allowance as sufficient objective positive evidence becomes available.

The Company has unrecognized tax benefits as of March 31, 2019 of $0.3 million related to prior year uncertain tax positions, and an insignificant amount of accrued interest. The Company does not expect any of the balance to be recognized during the next twelve months. The Company's tax years 2015 through 2018 generally remain open to examination by the major taxing jurisdictions to which the Company is subject. The Company's 2013 return is currently under examination by Texas, and the Company expects no material tax adjustments related to the examination. The Company is not currently under examination by any other taxing jurisdiction.

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

Special Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements that are based on our management's beliefs and assumptions and on information currently available to our management. The statements contained in this Quarterly Report on Form 10-Q that are not purely historical are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. You can identify these statements by words such as "anticipates," "believes," "can," "continue," "could," "estimates," "expects," "intends," "may," "plans," "seeks," "should," "will," "strategy," "future," "likely," or "would" or the negative of these terms or similar expressions. These statements are not guarantees of future performance or development and involve known and unknown risks, uncertainties and other factors that are in some cases beyond our control. All of our forward-looking statements are subject to risks and uncertainties that may cause our actual results to differ materially from our expectations. Factors that may cause such differences include, but are not limited to, the risks described under "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018 and in this Quarterly Report on Form 10-Q and those discussed in other documents we file with the Securities and Exchange Commission, or the SEC.

Given these risks and uncertainties, you should not place undue reliance on these forward-looking statements. Also, forward-looking statements represent our management's beliefs and assumptions only as of the date of this Quarterly Report on Form 10-Q. You should read this Quarterly Report on Form 10-Q completely and with the understanding that our actual future results may be materially different from what we expect. We hereby qualify our forward-looking statements by these cautionary statements. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our interim condensed consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q and in our other SEC filings, including the audited consolidated financial statements and the accompanying notes for the fiscal year ended December 31, 2018 , which are included in our Annual Report on Form 10-K, filed with the SEC on February 19, 2019.

Overview

We are a leading provider of secure, cloud-based digital solutions that transform the ways in which traditional and emerging financial services providers engage with account holders and end users, or End Users. We sell our solutions to regional and community financial institutions, or RCFIs, alternative finance and leasing companies, or Alt-FIs, and financial technology companies, or FinTechs. Our solutions enable our customers to deliver robust suites of digital banking, lending, leasing, and banking as a service, or BaaS, services that make it possible for End Users to transact and engage anytime, anywhere and on any device. Our solutions are often the most frequent point of engagement between our customers and their End Users. As such, we purpose-build our solutions to deliver compelling and consistent End User experiences across digital channels and to drive the success of our customers by optimizing their digital brands and enhancing End User acquisition, retention and engagement.

The effective delivery and management of secure and advanced digital solutions in the complex and heavily-regulated financial services industry requires significant resources, personnel and expertise. We provide digital solutions that are designed to be highly configurable, scalable and adaptable to the specific needs of our customers. We design and develop our solutions with an open platform approach intended to provide comprehensive integration among our solution offerings and our customers' internal and third-party systems. This integrated approach allows our customers to deliver unified and robust financial experiences across digital channels. Our solutions provide our customers the flexibility to configure their digital services in a manner that is consistent with each customer's specific workflows, processes and controls. Our solutions also allow our customers to personalize the digital experiences they deliver to their End Users by extending their individual services and brand requirements across digital channels. Our solutions and our data center infrastructure and resources are also designed to comply with the stringent security and technical regulations applicable to financial institutions and financial services providers and to safeguard our customers and their End Users.

We began by providing digital banking solutions to domestic RCFIs with the mission of empowering them to leverage technology to compete more effectively and to strengthen the communities and End Users they serve. To date, a substantial majority of our revenues continue to come from sales of our digital banking platform to RCFIs, and we continue to be focused on our founding mission of building stronger communities by strengthening their financial institutions. However, the continued proliferation and ubiquity of mobile and tablet devices and End Users' increasing expectations for digital services have driven increases in the number of providers, greater fragmentation of financial services markets and a broadening set of new and innovative digital services, creating challenges and opportunities in the markets served by RCFIs as well as emerging providers such as Alt-FIs and FinTechs. End Users increasingly expect to transact and engage with financial services providers anytime, anywhere and on any device, and seamlessly across devices. End Users also select digital solutions based on the quality and intuitiveness of the digital user experience.

RCFIs, Alt-FIs and FinTechs are seeking to address these challenges and opportunities and capture End User engagement by providing new, innovative digital financial services, solutions and experiences. Traditional financial services providers such as banks and credit unions are experiencing reduced End User engagement in their physical branches and increased End User engagement with their digital services and thus they are increasing their investment in digital services. Emerging providers such as Alt-FIs and FinTechs are leveraging their digital focus and expertise and capitalizing on increased End User demand for digital financial services by creating new and expanding existing digital service offerings. This combined investment by traditional and emerging financial services providers is driving further competition, segmentation and innovation.

We deliver our solutions to the substantial majority of our customers using a software-as-a-service, or SaaS, model under which our customers pay subscription fees for the use of our solutions. A small portion of our revenues are derived from customers which host our solutions in their own data centers under term license and maintenance agreements. Our digital banking platform customers have numerous End Users, and those End Users can represent one or more consumer or commercial users registered on our digital banking platform, or Registered Users on our solutions. We generally price our digital banking platform solutions based on the number of solutions purchased by our customers and the number of Registered Users utilizing our solutions. We generally earn additional revenues from our digital banking platform customers based on the number of transactions that Registered Users perform on our solutions in excess of the levels included in our standard subscription fee. As a result, our revenues from digital banking platform customers grow as our customers buy more solutions from us and increase the number of Registered Users utilizing our solutions and as those users increase their number of transactions on our solutions. The structure and terms of the arrangements for our newer lending and leasing and BaaS solutions are varied, but we generally sell these solutions on a subscription basis through our direct sales organization, and the related revenues are recognized over the terms of the customer agreements.

We have achieved significant growth since our inception. During each of the past seven years, our average number of Registered Users per installed customer on our digital banking platform, or Installed Customer, has grown, and we have been able to sell additional solutions to existing customers. Our revenues per Installed Customer and per Registered User vary period-to-period based on the length and timing of customer implementations, changes in the average number of Registered Users per customer, sales of additional solutions to existing customers, changes in the number of transactions on our solutions by Registered Users and variations among existing customers and new customers with respect to the mix of purchased solutions and related pricing. Please see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Key Operation Measures" for additional detail on how we define "Installed Customers" and "Registered Users."

We believe we have a significant opportunity to continue to grow our business, and we continue to invest across our organization to increase our revenues and improve our operating efficiencies. These investments will increase our costs on an absolute dollar basis, but the timing and amount of these investments will vary based on the rate at which we expect to add new customers, the implementation and support needs of our customers, our software development plans, our technology infrastructure requirements and the internal needs of our organization. Many of these investments will occur in advance of our realizing any resultant benefit which may make it difficult to determine if we are effectively allocating our resources.

If we are successful in growing our revenues by increasing the number and scope of our customer relationships, we anticipate that greater economies of scale and increased operating leverage will improve our margins over the long term. We also anticipate that increases in the number of Registered Users for existing digital banking platform customers will improve our margins. However, we do not have any control or influence over whether End Users of our digital banking platform elect to become Registered Users of our customers' digital banking services.

We sell our solutions primarily through our professional sales organization. While the RCFI market is well-defined due to the regulatory classifications of those financial institutions, the Alt-FI and FinTech markets are broader and more difficult to define due to the changing number of providers in each market. We intend to add sales representatives to identify and address the RCFI, Alt-FI and FinTech markets across the U.S. and internationally. We also expect to increase our number of sales support and marketing personnel, as well as our investment in marketing initiatives designed to increase awareness of our solutions and generate new customer opportunities.

We have continuously invested in expanding and improving our digital banking platform since its introduction in 2005, and we intend to continue investing both organically and inorganically through acquisitions to expand our portfolio. In addition, over the past three years we have acquired or developed new solutions and additional functions that serve a broader range of needs of RCFIs as well as the needs of Alt-FIs and FinTechs. In addition to our acquisitions of Centrix and Social Money in 2015, on October 15, 2018, we completed our acquisition of Cloud Lending, Inc., or Cloud Lending, a provider of an end-to-end digital lending and leasing platform and on November 30, 2018, we completed our acquisition of Gro Solutions, Inc., or Gro, a provider of digital account opening and digital sales and marketing solutions for financial institutions. Our solutions now include a broad range of services and experiences including corporate banking, regulatory and compliance, digital lending and leasing, BaaS and digital account opening and sales and marketing solutions both in the U.S. and internationally.

We believe that financial services providers are best served by a broad integrated portfolio of digital solutions that provide rapid, flexible and comprehensive integration with internal and third-party systems allowing them to provide modern, intuitive digital financial services in a secure, regulatory-compliant manner. We also believe that the breadth and depth of our solution offerings across the RCFI, Alt-FI and FinTech markets, our open and flexible platform approach, our position as a leading provider of digital banking solutions to a large network of RCFIs, and our expertise in delivering new, innovative, secure and regulatory-compliant digital solutions uniquely position us in the market for digital financial services solutions. We intend to increase investments in technology innovation and software development as we enhance our solutions and platforms and increase or expand the number of solutions that we offer.

We believe that delivery of consistent, high-quality customer support is a significant driver of purchasing and renewal decisions of our prospects and customers. To develop and maintain a reputation for high-quality service, we seek to build deep relationships with our customers through our customer service organization, which we staff with personnel who are motivated by our common mission of using technology to help our customers succeed and who are knowledgeable with respect to the regulated and complex nature of the financial services industry. As we grow our business, we must continue to invest in and grow our services organization to support our customers' needs and maintain our reputation.

Key Operating Measures

In addition to the United States generally accepted accounting principles, or GAAP, measures described below in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Components of Operating Results," we monitor the following operating measures to evaluate growth trends, plan investments and measure the effectiveness of our sales and marketing efforts:

Installed Customers

We define Installed Customers as the number of customers on our digital banking platform from which we are currently recognizing revenues. The average size of our Installed Customers, measured in both Registered Users per Installed Customer and revenues per Installed Customer, has increased over time as our existing Installed Customers continue to add Registered Users and buy more solutions from us, and as we add larger RCFIs to our Installed Customer base. The net rate at which we add Installed Customers varies based on our implementation capacity, the size and unique needs of our customers, the readiness of our customers to implement our solutions, and customer attrition, including as a result of merger and acquisition activity among financial institutions. We had 401, 382 and 385 Installed Customers on our digital banking platform as of December 31, 2018, 2017 and 2016, respectively.

Registered Users

We define a Registered User as an individual related to an account holder of an Installed Customer on our digital banking platform who has registered to use one or more of our solutions and has current access to use those solutions as of the last day of the reporting period presented. We price our digital banking platform solutions based on the number of Registered Users, so as the number of Registered Users of our solutions increases, our revenues grow. Our average number of Registered Users per Installed Customer grows as our existing digital banking platform customers add more Registered Users and as we add larger RCFIs to our Installed Customer base. We anticipate that the number of Registered Users will grow at a faster rate than our number of Installed Customers. The rate at which our customers add Registered Users and the incremental revenues we recognize from new Registered Users vary significantly period-to-period based on the timing of our implementations of new customers and the timing of registration of new End Users. Our Installed Customers had approximately 12.8 million, 10.4 million and 8.6 million Registered Users as of December 31, 2018, 2017 and 2016, respectively. Registered Users at March 31, 2019 were 13.1 million compared to 10.9 million at March 31, 2018 .

Revenue Retention Rate

We believe that our ability to retain our customers and expand their use of our products and services over time is an indicator of the stability of our revenue base and the long-term value of our customer relationships. We assess our performance in this area using a metric we refer to as our revenue retention rate. We calculate our revenue retention rate as the total revenues in a calendar year, excluding any revenues from solutions of businesses acquired during such year, from customers who were implemented on any of our solutions as of December 31 of the prior year, expressed as a percentage of the total revenues during the prior year from the same group of customers. Our revenue retention rate provides insight into the impact on current year revenues of: the number of new customers implemented on any of our solutions during the prior year; the timing of our implementation of those new customers in the prior year; growth in the number of End Users on such solutions and changes in their usage of such solutions; sales of new products and services to our existing customers during the current year, excluding any products or services resulting from businesses acquired during such year; and customer attrition. The most significant drivers of changes in our revenue retention rate each year have historically been the number of new customers in the prior year and the timing of our implementation of those new customers. The timing of our implementation of new customers in the prior year is significant because we do not start recognizing revenues from new customers until they are implemented. If implementations are weighted more heavily in the first or second half of the prior year, our revenue retention rate will be lower or higher, respectively. Our use of revenue retention rate has limitations as an analytical tool, and investors should not consider it in isolation. Other companies in our industry may calculate revenue retention rate differently, which reduces its usefulness as a comparative measure. Our revenue retention rate was 114%, 122%, and 122% for the years ended December 31, 2018, 2017 and 2016, respectively.

Churn

We utilize churn to monitor the satisfaction of our customers and evaluate the effectiveness of our business strategies. We define churn as the amount of any monthly recurring revenue losses due to customer cancellations and downgrades, net of upgrades and additions of new solutions, during a year, divided by our monthly recurring revenue at the beginning of the year. Cancellations refer to customers that have either stopped using our services completely or remained a customer but terminated a particular service. Downgrades are a result of customers taking less of a particular service or renewing their contract for identical services at a lower price. Our annual churn has ranged from 5.1% to 3.5% over the last seven years, and we had annual churn of 5.0%, 4.9% and 5.1% for the years ended December 31, 2018, 2017 and 2016, respectively. Our use of churn has limitations as an analytical tool, and investors should not consider it in isolation. Other companies in our industry may calculate churn differently, which reduces its usefulness as a comparative measure.

Adjusted EBITDA

We define adjusted EBITDA as net loss before depreciation, amortization, stock-based compensation, certain costs related to our recent acquisitions, (benefit from) provision for income taxes, total other (income) expense, net, and unoccupied lease charges. We believe that adjusted EBITDA provides useful information to investors and others in understanding and evaluating our operating results for the following reasons:

- adjusted EBITDA is widely used by investors and securities analysts to measure a company's operating performance without regard to items that can vary substantially from company to company depending upon their financing, capital structures and the method by which assets were acquired;
- our management uses adjusted EBITDA in conjunction with GAAP financial measures for planning purposes, in the preparation of our annual operating budget, as a measure of our operating performance, to assess the effectiveness of our business strategies and to communicate with our board of directors concerning our financial performance;
- adjusted EBITDA provides more consistency and comparability with our past financial performance, facilitates period-to-period comparisons of our operations and also facilitates comparisons with other companies, many of which use similar non-GAAP financial measures to supplement their GAAP results; and
- our investor and analyst presentations include adjusted EBITDA as a supplemental measure of our overall operating performance.

Adjusted EBITDA should not be considered as an alternative to net loss or any other measure of financial performance calculated and presented in accordance with GAAP. The use of adjusted EBITDA as an analytical tool has limitations such as:

- depreciation and amortization are non-cash charges, and the assets being depreciated or amortized will often have to be replaced in the future and adjusted EBITDA does not reflect cash requirements for such replacements;
- adjusted EBITDA may not reflect changes in, or cash requirements for, our working capital needs or contractual commitments;
- adjusted EBITDA does not reflect the potentially dilutive impact of stock-based compensation;

- adjusted EBITDA does not reflect interest or tax payments that could reduce cash available for use; and

- other companies, including companies in our industry, might calculate adjusted EBITDA or similarly titled measures differently, which reduces their usefulness as comparative measures.

Because of these and other limitations, you should consider adjusted EBITDA together with our GAAP financial measures including cash flow from operations and net loss. The following table presents a reconciliation of net loss to adjusted EBITDA for each of the periods indicated (in thousands):

	Three Months Ended March 31,	
	2019	2018
Reconciliation of net loss to adjusted EBITDA:		
Net loss	$ (19,311)	$ (6,048)
Depreciation and amortization	5,821	3,878
Stock-based compensation expense	8,896	6,095
Benefit from income taxes	(39)	(187)
Interest and other (income) expense, net	2,178	1,023
Acquisition related costs	2,718	256
Adjusted EBITDA	$ 263	$ 5,017

Components of Operating Results

Revenues

Revenue-generating activities directly relate to the sale, implementation and support of our solutions within a single operating segment. We derive the substantial majority of our revenues from subscription fees for the use of our solutions hosted in our data centers or with our cloud-based hosting resources as well as revenues for implementation and customer support services related to our solutions, and we recognize the corresponding revenues over time on a ratable basis over the customer agreement term. A small portion of our revenues are derived from customers which host our solutions in their own data centers under term license and maintenance agreements, and we recognize the software license revenue once the customer obtains control of the license and corresponding maintenance revenues over time on a ratable basis over the term of the software license.

Subscription fees are based on the number of solutions purchased by our customers, the number of End Users using the solutions and the number of bill-pay and certain other transactions those users conduct using our solutions in excess of the levels included in our standard subscription fee. Subscription fees are billed monthly, quarterly, or annually and are recognized monthly over the term of our customer agreements. The initial term of our digital banking platform agreements averages over five years, although it varies by customer. The structure and terms of the arrangements for our newer lending and leasing and BaaS solutions are varied, but we generally sell these solutions on a subscription basis through our direct sales organization, and the related revenues are recognized over the terms of the customer agreements. We begin recognizing subscription fees when the control of the service transfers to the customer, generally when the solution is implemented and made available to the customer. The timing of our implementations varies period-to-period based on our implementation capacity, the number of solutions purchased by our customers, the size and unique needs of our customers and the readiness of our customers to implement our solutions. We recognize any related implementation services revenues ratably over the initial customer agreement term beginning on the date we commence recognizing subscription fees. Contract asset balances arise primarily when we provide services in advance of billing for those services. Amounts that have been invoiced but not paid are recorded in accounts receivable or other long-term assets, depending on the timing of expected billing, and in revenues or deferred revenues, depending on when control of the service transfers to the customer.

Cost of Revenues

Cost of revenues is comprised primarily of salaries and other personnel-related costs, including employee benefits, bonuses and stock-based compensation, for employees providing services to our customers. This includes the costs of our implementation, customer support, data center and customer training personnel, as well as costs related to research and development personnel who perform implementation and customer support services. Cost of revenues also includes the direct costs of bill-pay and other third-party intellectual property included in our solutions, the amortization of deferred solution and services costs, co-location facility costs and depreciation of our data center assets, cloud-based hosting services, an allocation of general overhead costs, the amortization of acquired technology, and referral fees. We allocate general overhead expenses to all departments based on the number of employees in each department, which we consider to be a fair and representative means of allocation.

We capitalize certain personnel costs directly related to the implementation of our solution to the extent those costs are considered to be recoverable from future revenues. We amortize the costs for a particular implementation once revenue recognition commences, and we amortize those implementation costs over the expected period of customer benefit, which has been determined to be the estimated life of the technology. Other costs not directly recoverable from future revenues are expensed in the period incurred.

We capitalize certain software development costs related to programmers, software engineers and quality control teams working on our software solutions. The costs related to software development that are incurred between reaching technological feasibility of a solution and the point at which the solution is ready for general release are capitalized and are included in intangible assets, net on the condensed consolidated balance sheet. During the year ended December 31, 2017, all of the products related to capitalized software development costs reached general release, and we have commenced amortization of these costs. Capitalized software development costs are computed on an individual product basis and products available for market are amortized to cost of revenues over the products' estimated economic lives.

We intend to continue to increase our investments in our implementation and customer support teams and technology infrastructure to serve our customers and support our growth. We expect cost of revenues to continue to grow in absolute dollars as we grow our business but to fluctuate as a percentage of revenues based principally on the level and timing of implementation and support activities and other related costs.

Operating Expenses

Operating expenses consist of sales and marketing, research and development and general and administrative expenses. They also include costs related to our acquisitions and the resulting amortization of acquired intangible assets from those acquisitions. We intend to continue to hire new employees and make other investments to support our anticipated growth. As a result, we expect our operating expenses to increase in absolute dollars but to decrease as a percentage of revenues over the long term as we grow our business.

Sales and Marketing

Sales and marketing expenses consist primarily of salaries and other personnel-related costs, including commissions, benefits, bonuses and stock-based compensation. Sales and marketing expenses also include expenses related to advertising, lead generation, promotional event programs, corporate communications, travel and allocated overhead.

Sales and marketing expenses as a percentage of total revenues will change in any given period based on several factors including the addition of newly-hired sales professionals, the number and timing of newly-installed customers and the amount of sales commissions expense amortized related to those customers. Commissions are generally capitalized and then amortized over the expected period of customer benefit.

Sales and marketing expenses are also impacted by the timing of significant marketing programs such as our annual user conference which we typically hold during the second quarter. We plan to continue investing in sales and marketing by increasing our number of sales and marketing personnel and expanding our sales and marketing activities. We believe these investments will help us build brand awareness, add new customers and expand sales to our existing customers as they continue to buy more solutions from us, the number of End Users utilizing our solutions grows and those End Users increase the number of transactions they perform on our solutions.

Research and Development

We believe that continuing to improve and enhance our solutions is essential to maintaining our reputation for innovation and growing our customer base and revenues. Research and development expenses include salaries and personnel-related costs, including benefits, bonuses and stock-based compensation, third-party contractor expenses, software development costs, allocated overhead and other related expenses incurred in developing new solutions and enhancing existing solutions. Research and development expenses are expensed as incurred.

Certain research and development costs that are related to our software development, which include salaries and other personnel-related costs, including employee benefits and bonuses attributed to programmers, software engineers and quality control teams working on our software solutions, are capitalized and are included in intangible assets, net on the condensed consolidated balance sheet.

General and Administrative

General and administrative expenses consist primarily of salaries and other personnel-related costs, including benefits, bonuses and stock-based compensation, of our administrative, finance and accounting, information systems, legal and human resources employees. General and administrative expenses also include consulting and professional fees, insurance and travel. We expect to continue to incur incremental expenses associated with the growth of our business and to meet increased compliance requirements associated with operating as a public company. These expenses include costs to comply with Section 404 of the Sarbanes-Oxley Act and other regulations governing public companies, increased costs of directors' and officers' liability insurance and investor relations activities.

Acquisition Related Costs

Acquisition related costs include compensation expenses related to milestone provisions and retention agreements with certain former shareholders and employees of acquired businesses which are recognized as earned, changes in fair value of the contingent consideration related to potential acquisition earnout payments and various legal and professional service expenses incurred in connection with the acquisitions, which were recognized when incurred.

Amortization of Acquired Intangibles

Amortization of acquired intangibles represent the amortization of intangibles recorded in connection with our business acquisitions which are amortized on a straight-line basis over the estimated useful lives of the related assets.

Total Other Income (Expense), Net

Total other income (expense), net, consists primarily of interest income and expense and loss on disposal of long-lived assets. We earn interest income on our cash, cash equivalents and investments. Interest expense consists primarily of the interest from the amortization of debt discount, issuance costs, and coupon interest attributable to our convertible notes issued in February 2018, or Convertible Notes, and fees and interest associated with the letter of credit issued to our landlord for the security deposit for our corporate headquarters.

Benefit from Income Taxes

As a result of our current net operating loss position, current income tax expenses and benefits consist primarily of state income taxes, deferred income tax expenses relating to the tax amortization of recently acquired goodwill, income tax expense from foreign operations, and the release of valuation allowance resulting in deferred tax benefits relating to acquired net deferred tax liabilities.

Results of Operations

Condensed Consolidated Statements of Comprehensive Loss Data

The following table sets forth our condensed consolidated statements of comprehensive loss data for each of the periods indicated (in thousands):

	Three Months Ended March 31,	
	2019	2018
Revenues	$ 71,296	$ 54,808
Cost of revenues [1][2]	37,184	26,977
Gross profit	34,112	27,831
Operating expenses:		
Sales and marketing [2]	15,805	10,966
Research and development [2]	17,657	11,157
General and administrative [2]	13,860	10,296
Acquisition related costs	2,718	256
Amortization of acquired intangibles	1,215	368
Total operating expenses	51,255	33,043
Loss from operations	(17,143)	(5,212)
Total other income (expense), net	(2,207)	(1,023)
Loss before income taxes	(19,350)	(6,235)
Benefit from income taxes	39	187
Net loss	$ (19,311)	$ (6,048)

(1) Includes amortization of acquired technology of $1.6 million and $0.9 million for the three months ended March 31, 2019 and 2018, respectively.

(2) Includes stock-based compensation expenses as follows (in thousands):

	Three Months Ended March 31,	
	2019	2018
Cost of revenues	$ 1,548	$ 1,015
Sales and marketing	1,806	1,226
Research and development	2,012	1,356
General and administrative	3,530	2,498
Total stock-based compensation expenses	$ 8,896	$ 6,095

The following table sets forth our condensed consolidated statements of comprehensive loss data as a percentage of revenues for each of the periods indicated:

	Three Months Ended March 31,	
	2019	2018
Revenues	100.0 %	100.0 %
Cost of revenues [1][2]	52.2	49.2
Gross profit	47.8	50.8
Operating expenses:		
Sales and marketing [2]	22.2	20.0
Research and development [2]	24.8	20.4
General and administrative [2]	19.4	18.8
Acquisition related costs	3.8	0.5
Amortization of acquired intangibles	1.7	0.7
Total operating expenses	71.9	60.3
Loss from operations	(24.0)	(9.5)
Total other income (expense), net	(3.1)	(1.9)
Loss before income taxes	(27.1)	(11.4)
Benefit from income taxes	0.1	0.3
Net loss	(27.0)%	(11.0)%

(1) Includes amortization of acquired technology of 2.3% and 1.7% for the three months ended March 31, 2019 and 2018 , respectively.

(2) Includes stock-based compensation expenses as follows:

	Three Months Ended March 31,	
	2019	2018
Cost of revenues	2.2%	1.9%
Sales and marketing	2.5	2.2
Research and development	2.8	2.5
General and administrative	5.0	4.6
Total stock-based compensation expenses	12.5%	11.1%

Due to rounding, totals may not equal the sum of the line items in the tables above.

Comparison of the Three Months Ended March 31, 2019 and 2018

Revenues

The following table presents our revenues for each of the periods indicated (dollars in thousands):

	Three Months Ended March 31,		Change	
	2019	2018	$	(%)
Revenues	$ 71,296	$ 54,808	$ 16,488	30.1%

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018 . Revenues increased by $16.5 million , or 30.1% , from $54.8 million for the three months ended March 31, 2018 to $71.3 million for the three months ended March 31, 2019 . This increase in revenue was primarily attributable to a $10.1 million increase from the sale of additional solutions to new and existing customers and the growth in new Registered Users from new and existing customers. In addition, $3.5 million of the increase was generated from the businesses acquired in the fourth quarter of 2018 and $2.9 million of the increase was generated from an increase in the number of transactions processed using our solutions.

Cost of Revenues

The following table presents our cost of revenues for each of the periods indicated (dollars in thousands):

	Three Months Ended March 31,		Change	
	2019	2018	$	(%)
Cost of revenues	$ 37,184	$ 26,977	$ 10,207	37.8%
Percentage of revenues	52.2%	49.2%		

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018 . Cost of revenues increased by $10.2 million , or 37.8% , from $27.0 million for the three months ended March 31, 2018 to $37.2 million for the three months ended March 31, 2019 . This increase was attributable to a $4.1 million increase in personnel costs due to an increase in the number of personnel who provide implementation and customer support and maintain our data centers and other technical infrastructure, which included a $2.6 million increase in personnel costs from the businesses acquired in the fourth quarter of 2018, and a $0.5 million increase in stock-based compensation expense allocated to cost of revenues for the increase in the number of stock-based awards vested during the period and the increased fair value of the awards granted due to the increase in our stock price. In addition, there was a $2.7 million increase in third-party costs related to intellectual property included in our solutions and transaction processing costs incurred as a result of the increase in Registered Users from existing and new customers, as well as implementation and support personnel expenses that are reimbursable from our customers, a $1.8 million increase in co-location facility costs and depreciation for our data center assets resulting from the increased infrastructure necessary to support our growing customer base, a $0.7 million increase in amortization of acquired customer technology resulting from the businesses acquired in 2018, a $0.6 million increase in facilities, information technology, and other overhead costs which were allocated to our implementation and support departments, and a $0.3 million increase in travel related and other discretionary expenses.

We defer certain payroll costs directly related to the implementation of our solutions to the extent those costs are considered to be recoverable from future revenues. However, a substantial portion of our implementation costs are not eligible for deferral and, as a result, are expensed in the period incurred. Costs related to implementations that have been deferred are amortized over the expected period of customer benefit. Additionally, we invest in personnel, business processes and systems infrastructure to standardize our business processes and drive future efficiency in our implementations, customer support and data center operations. We expect these investments will increase cost of revenues in absolute dollars as we continue to make investments in capacity and process improvement.

Operating Expenses

The following tables present our operating expenses for each of the periods indicated (dollars in thousands):

Sales and Marketing

	Three Months Ended March 31,		Change	
	2019	2018	$	(%)
Sales and marketing	$ 15,805	$ 10,966	$ 4,839	44.1%
Percentage of revenues	22.2%	20.0%		

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018 . Sales and marketing expenses increased by $4.8 million , or 44.1% , from $11.0 million for the three months ended March 31, 2018 to $15.8 million for the three months ended March 31, 2019 . This increase was primarily attributable to a $3.9 million increase in personnel costs due to the growth of our sales and marketing organizations, which included a $2.5 million increase in personnel costs from the businesses acquired in the fourth quarter of 2018, and a $0.6 million increase in stock-based compensation expense allocated to sales and marketing expenses for the increase in the number of stock-based awards vested during the period and the increased fair value of the awards granted due to the increase in our stock price. In addition, there was a $0.6 million increase in travel related expenses, and a $0.4 million increase in facilities and other overhead costs which were allocated to our sales and marketing departments.

We anticipate that sales and marketing expenses will continue to increase in absolute dollars in the future as we add personnel to support our revenue growth and as we increase discretionary marketing spend to attract new customers, retain and grow existing customers and drive brand awareness. We expect such expenses to decline as a percentage of our revenues over time as our revenues grow.

Research and Development

	Three Months Ended March 31,		Change	
	2019	2018	$	(%)
Research and development	$ 17,657	$ 11,157	$ 6,500	58.3%
Percentage of revenues	24.8%	20.4%		

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018 . Research and development expenses increased by $6.5 million , or 58.3% , from $11.2 million for the three months ended March 31, 2018 to $17.7 million for the three months ended March 31, 2019 . This increase was primarily attributable to a $5.7 million increase in personnel costs as a result of the growth in our research and development organization to support continued enhancements to our solutions, which included a $2.0 million increase in personnel costs from the businesses acquired in the fourth quarter of 2018, and a $0.7 million increase in stock-based compensation expense allocated to research and development expenses for the increase in the number of stock-based awards vested during the period and the increased fair value of the awards granted due to the increase in our stock price. In addition, there was a $0.6 million increase in facilities and other overhead costs which were allocated to our research and development departments, and a $0.2 million increase in travel related expenses.

We anticipate that research and development expenses will increase in absolute dollars in the future as we continue to support and expand our platform and enhance our existing solutions.

General and Administrative

	Three Months Ended March 31,		Change	
	2019	2018	$	(%)
General and administrative	$ 13,860	$ 10,296	$ 3,564	34.6%
Percentage of revenues	19.4%	18.8%		

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018 . General and administrative expenses increased by $3.6 million , or 34.6% , from $10.3 million for the three months ended March 31, 2018 to $13.9 million for the three months ended March 31, 2019 . The increase in general and administrative expenses was primarily attributable to a

$3.0 million increase in personnel costs to support the growth of our business, which included a $1.0 million increase in stock-based compensation expense allocated to general and administrative expenses for the increase in the number of stock-based awards vested during the period and the increased fair value of the awards granted due to the increase in our stock price, and a $0.7 million increase in personnel costs from the businesses acquired in the fourth quarter of 2018. In addition, there was a $0.3 million increase in facilities and other overhead costs which were allocated to our general and administrative departments, and a $0.2 million increase in travel related expenses.

General and administrative expenses include costs to comply with regulations governing public companies, costs of directors' and officers' liability insurance, investor relations activities and costs to comply with Section 404 of the Sarbanes-Oxley Act, or SOX. We anticipate that general and administrative expenses will continue to increase in absolute dollars in the future as we continue to incur both increased external audit fees as well as additional spending to ensure continued regulatory and SOX compliance. We expect such expenses to decline as a percentage of our revenues over time as our revenues grow.

Acquisition Related Costs

	Three Months Ended March 31,		Change	
	2019	2018	$	(%)
Acquisition related costs	$ 2,718	$ 256	$ 2,462	961.7%
Percentage of revenues	3.8%	0.5%		

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018 . Acquisition related costs increased by $2.5 million , or 961.7% , from $0.3 million for the three months ended March 31, 2018 to $2.7 million for the three months ended March 31, 2019 . The expense for the three months ended March 31, 2019 included a $2.4 million increase for changes in the fair value of the contingent consideration related to the acquisition of Cloud Lending which was consummated on October 15, 2018 and $0.3 million of compensation expense related to the retention bonuses for employees of companies acquired in 2018 while the expense for the three months ended March 31, 2018 was comprised solely of compensation expense related to the retention bonuses for employees of companies acquired in 2015. The final retention bonuses related to the companies acquired in 2015 were paid out in the third quarter of 2018.

Amortization of Acquired Intangibles

	Three Months Ended March 31,		Change	
	2019	2018	$	(%)
Amortization of acquired intangibles	$ 1,215	$ 368	$ 847	230.2%
Percentage of revenues	1.7%	0.7%		

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018 . Amortization of acquired intangibles increased by $0.8 million , or 230.2% , from $0.4 million for the three months ended March 31, 2018 to $1.2 million for the three months ended March 31, 2019 as a result of the intangibles acquired in the Cloud Lending and Gro acquisitions in the fourth quarter of 2018. The acquired intangible assets are also related to our asset purchase in 2017 and our business combinations in 2015. These amounts are amortized on a straight-line basis over the estimated useful lives of the related assets.

Total Other Income (Expense), Net

	Three Months Ended March 31,		Change	
	2019	2018	$	(%)
Total other income (expense), net	$ (2,207)	$ (1,023)	$ (1,184)	(115.7)%
Percentage of revenues	(3.1)%	(1.9)%		

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018 . Total other income (expense), net decreased by $1.2 million from expense of $1.0 million for the three months ended March 31, 2018 to an expense of $2.2 million for the three months ended March 31, 2019 . Interest expense for the three months ended March 31, 2019 consists of $3.0 million of interest expense from the amortization of debt discount, issuance costs, and coupon interest attributable to our Convertible Notes issued in February 2018, partially offset by $0.8 million of interest income earned on cash, cash equivalents, and investments.

Seasonality and Quarterly Results

Our overall operating results fluctuate from quarter to quarter as a result of a variety of factors, including the timing of investments in growing our business. The timing of our implementation activities and corresponding revenues from new customers are subject to fluctuation based on the timing of our sales. Sales may tend to be lower in the first quarter of each year than in subsequent quarters but any resulting impact on our results of operation has been difficult to measure due to the timing of our implementations and overall growth in our business. The timing of our implementations also varies period-to-period based on our implementation capacity, the number of solutions purchased by our customers, the size and unique needs of our customers and the readiness of our customers to implement our solutions. Our solutions are often the most frequent point of engagement between our customers and their End Users. As a result, we and our customers are very deliberate and careful in our implementation activities to help ensure a successful roll-out of the solutions to End Users and increase the registration of new End Users. Unusually long or short implementations, for even a small number of customers, may result in short-term quarterly variability in our results of operations.

Our quarterly results of operations may vary significantly in the future, and period-to-period comparisons of our operating results may not be meaningful and should not be relied upon as an indication of future results.

Liquidity and Capital Resources

Sources of Liquidity

We have financed our operations primarily through the proceeds from the issuance of common stock in our initial public offering in March 2014, follow-on offerings, cash flows from operations and our February 2018 Convertible Note financing. At March 31, 2019 , our principal sources of liquidity were cash, cash equivalents and investments of $164.5 million .

Cash Flows

The following table summarizes our cash flows for the periods indicated (in thousands):

	Three Months Ended March 31,	
	2019	2018
Net cash provided by (used in):		
Operating activities	$ (10,886)	$ (7,103)
Investing activities	9,659	(2,645)
Financing activities	3,428	207,198
Net increase (decrease) in cash, cash equivalents, and restricted cash	$ 2,201	$ 197,450

Cash Flows from Operating Activities

Cash provided by (used in) operating activities is primarily influenced by the amount and timing of customer receipts and vendor payments, fair value re-measurement related to contingent earnout payment liabilities and by the amount of cash we invest in personnel and infrastructure to support the anticipated growth of our business and increase in the number of installed customers.

For the three months ended March 31, 2019 , our net cash and cash equivalents used in operating activities were $10.9 million , which consisted of a net loss of $19.3 million and cash outflows from changes in operating assets and liabilities of $10.7 million , partially offset by non-cash adjustments of $19.1 million . Cash outflows were the result of a $9.1 million increase in deferred solution and implementation costs due to our increased customer growth and new and existing customers undergoing implementations during the period, a $3.0 million decrease in accrued liabilities driven primarily by the payment of annual bonuses during the first quarter, a $2.4 million increase in prepaid and other current assets related to various prepaid expenses, a $1.7 million decrease in other long-term liabilities, and a $1.0 million increase in contract assets. Cash inflows were the result of a $3.9 million increase in deferred revenue due to increased payments and deposits received from customers prior to the recognition of revenue from those related payments, a $1.4 million increase in accounts payable due to timing of payments in support of our expanding customer base, and a $1.2 million decrease in other long-term assets. Non-cash items consisted primarily of $9.2 million of stock-based compensation expense, $5.8 million of depreciation and amortization expense due to growth in our fixed assets and acquired intangible assets, $2.5 million in amortization of the Convertible Notes discount and related debt issuance costs, and $1.5 million of amortization of deferred implementation and deferred solution and other costs.

For the three months ended March 31, 2018, our net cash and cash equivalents used in operating activities were $7.1 million, which consisted of a net loss of $6.0 million and cash outflows from changes in operating assets and liabilities of $14.6 million, partially offset by non-cash adjustments of $13.5 million. Cash outflows were the result of a $4.7 million increase in deferred solution and implementation costs due to our increased customer growth and new and existing customers undergoing implementations during the period, a $4.3 million decrease in accrued liabilities mainly from the payment of annual bonuses, a $3.7 million increase in accounts receivable due to the timing of billings and customer payments, a $1.7 million increase in prepaid and other current assets related to various prepaid expenses, a $1.1 million decrease in accounts payable due to timing of payments, $0.8 million in contract assets added as a result of the adoption of Topic 606, and a $0.5 million net increase in other long-term assets and long-term liabilities. Cash inflows were the result of a $2.3 million increase in deferred revenue due to payments and deposits received from customers prior to the delivery of the related performance obligations. Non-cash items consisted primarily of $6.1 million of stock-based compensation expense, $3.9 million of depreciation and amortization expense due to growth in our fixed assets and acquired intangible assets, $2.2 million of amortization of deferred implementation and deferred solution and other costs, $1.2 million in amortization of Convertible Notes discount and related debt issuance costs, and $0.1 million of other non-cash items.

Cash Flows from Investing Activities

Our investing activities have consisted primarily of purchases and maturities of investments, our recent acquisitions, and purchases of property and equipment to support our growth. Purchases of property and equipment may vary period-to-period due to the timing of the expansion of our operations, data center and other technical infrastructure.

For the three months ended March 31, 2019 , net cash provided by investing activities was $9.7 million , consisting primarily of $24.9 million from maturities of investments, partially offset by $9.7 million for the purchase of investments, and $5.5 million for the purchase of property and equipment.

For the three months ended March 31, 2018 , net cash used in investing activities was $2.6 million, consisting primarily of $5.4 million for the purchase of property and equipment and $0.2 million for release of the hold back from the asset purchase in 2017, partially offset by $2.9 million from maturities of investments.

Cash Flows from Financing Activities

Our recent financing activities have consisted primarily of our February 2018 Convertible Note financing, net proceeds from exercises of options to purchase our common stock, as well as payments on financing obligations.

For the three months ended March 31, 2019 , net cash provided by financing activities of $3.4 million was related to cash received from the exercise of stock options.

For the three months ended March 31, 2018, net cash provided by financing activities was $207.2 million, which was primarily due to the issuance of $223.7 million principal amount of the Convertible Notes, net of issuance costs, and the related sale of warrants for $22.4 million, offset by the purchase of bond hedges for $41.7 million. In addition, cash flows from financing activities included $2.8 million of cash received from the exercise of stock options.

Contractual Obligations and Commitments

During the three months ended March 31, 2019 , and subsequent to March 31, 2019 , there were no material changes to our contractual obligations and commitments disclosures as set forth under the caption, "Contractual Obligations and

Commitments" in the Management's Discussion and Analysis of Financial Condition and Results of Operations, as reported in our Annual Report on Form 10-K, filed with the SEC on February 19, 2019.

The following table summarizes our contractual obligations and commitments at March 31, 2019 (in thousands):

	Payment due by period				
	Less Than 1 Year	1 to 3 Years	3 to 5 Years	More Than 5 Years	Total
Convertible Notes, including interest	$ 1,725	$ 5,175	$ 230,863	$ —	$ 237,763
Operating lease obligations	7,151	11,199	9,027	15,822	43,199
Purchase commitments	14,155	21,883	14,306	—	50,344
	$ 23,031	$ 38,257	$ 254,196	$ 15,822	$ 331,306

Off-Balance Sheet Arrangements

As of March 31, 2019 , we did not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K, such as the use of unconsolidated subsidiaries, structured finance, special purpose entities or variable interest entities.

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)," to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. In July 2018, the FASB issued ASU 2018-10, "Codification Improvements to Topic 842 (Leases)," which provides narrow amendments to clarify how to apply certain aspects of the new lease standard. In July 2018, the FASB also issued ASU 2018-11, "Targeted Improvements," which provides the option to adopt ASU No. 2016-02 retrospectively for each prior period presented or as of the adoption date with a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. In January 2019, the FASB issued ASU No. 2019-01, "Leases (Topic 842): Codification Improvements" to clarify the required disclosures of ASU No. 2016-02 and explicitly exempts entities from disclosing the effect of the change for the interim period. We adopted the standard effective January 1, 2019 and we elected the package of practical expedients permitted under the transition guidance within Topic 842, which among other things, allows us to carry forward the historical lease classification and the practical expedient to not separate lease and non-lease components of an agreement. Adoption of the new standard resulted in the recording of lease assets and lease liabilities of approximately $27.0 million and $36.2 million, respectively, as of January 1, 2019. The difference between the lease assets and lease liabilities is the reclassification of deferred rent on our balance sheet at the date of adoption. The standard had no impact on our condensed consolidated statement of comprehensive loss or our condensed consolidated statement of cash flows.

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments - Credit Losses (Topic 326)" which modifies the measurement of expected credit losses of certain financial instruments. Credit losses on trade and other receivables, held-to-maturity debt securities , and other instruments will reflect our current estimate of the expected credit losses and will generally result in the earlier recognition of allowance for losses. The new guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019, with early adoption permitted. We are currently evaluating the impact of adopting this new accounting guidance and do not expect the adoption of this standard to have a material impact on our condensed consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" which simplifies the accounting for goodwill impairment by removing Step 2 of the goodwill impairment test and requires an entity to write down the carrying value of goodwill up to the amount by which the carrying amount of a reporting unit exceeds its fair value. The standard is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years and early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. We do not expect the adoption of this standard to have a material impact on our condensed consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-15, "Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40)," which 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 (and hosting arrangements that include an internal-use software license). ASU 2018-15 will be effective beginning in our first quarter of 2020, with early adoption permitted. The ASU may be applied retrospectively or prospectively to all implementation costs incurred after the date of adoption. We have elected to early adopt the ASU as of January 1, 2019 on a prospective basis. No implementation costs related to hosting arrangements were capitalized during the three months ended March 31, 2019 .

Critical Accounting Policies and Estimates

The preparation of our interim unaudited condensed consolidated financial statements in accordance with GAAP requires estimates, judgments and assumptions that affect the reported amounts and classifications of assets and liabilities, revenues and expenses and the related disclosures of contingent liabilities in our interim unaudited condensed consolidated financial statements and accompanying notes. The SEC has defined a company's critical accounting policies as the ones that are most important to the portrayal of the company's financial condition and results of operations, and which require the company to make its most difficult and subjective judgments, often as a result of the need to make estimates of matters that are inherently uncertain. Based on this definition, we have identified the following critical accounting policies and estimates:

- Revenue recognition;
- Contract balances;
- Accounts receivable;
- Deferred revenues;
- Deferred implementation costs;
- Deferred solution and other costs;
- Stock-based compensation;
- Convertible senior notes;
- Purchase price allocation, intangible assets and goodwill;
- Capitalization of software development costs;
- Leases;
- Contingent consideration; and
- Income taxes.

We have other key accounting policies, which involve the use of estimates, judgments and assumptions that are significant to understanding our results. See Note 2 *Summary of Significant Accounting Policies* to the interim unaudited condensed consolidated financial statements included in this Quarterly Report on Form 10-Q. Of those policies, we believe that the accounting policies enumerated above involve the greatest degree of complexity and exercise of judgment by our management.

During the three months ended March 31, 2019 , there were no significant changes in our critical accounting policies or estimates which were included in the consolidated financial statements and the accompanying notes for the fiscal year ended December 31, 2018 , which are included in our Annual Report on Form 10-K, filed with the SEC on February 19, 2019.

We evaluate our estimates, judgments and assumptions on an ongoing basis, and while we believe that our estimates, judgments and assumptions are reasonable, they are based upon information available at the time. Actual results may differ significantly from these estimates under different assumptions, judgments or conditions.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Market risk is the risk of loss to future earnings, values or future cash flows that may result from changes in the price of a financial instrument. The value of a financial instrument might change as a result of changes in interest rates, exchange rates, commodity prices, equity prices and other market changes. We do not use derivative financial instruments for speculative, hedging or trading purposes, although in the future we might enter into exchange rate hedging arrangements to manage the risks described below.

Interest Rate Risk

We have cash and cash equivalents held primarily in cash and money market funds. In addition, we have marketable securities which are primarily held in U.S. government agency bonds, corporate bonds and commercial paper, and certificates of deposit. Cash and cash equivalents are held for working capital purposes. Marketable securities are held and invested with capital preservation as the primary objective. Due to the short-term nature of these investments, we believe that we do not have any material exposure to changes in the fair value of our investment portfolio as a result of changes in interest rates. Any declines in interest rates will reduce future interest income. As of March 31, 2019 , we had an outstanding principal amount of $230.0 million of Convertible Notes, which have a fixed annual interest rate of 0.75% . If overall interest rates fell by 10% in 2019 or 2018, our interest income would not have been materially affected.

Foreign Currency Risk

During 2018, we commenced international operations. As a result, our results of operations and cash flows are subject to fluctuations due to changes in foreign currency exchange rates. As of March 31, 2019 , our most significant currency exposures were the Indian rupee, British pound, and Australian dollar. As of March 31, 2019 , we had operating subsidiaries in India, the United Kingdom, and Australia. Due to the relative low volume of payments made by us through these foreign subsidiaries, we do not believe we have significant exposure to foreign currency exchange risks. However, fluctuations in currency exchange rates could harm our results of operations in the future.

We currently do not use derivative financial instruments to mitigate foreign currency exchange risks. We will continue to review this issue and may consider hedging certain foreign exchange risks in future years.

Inflation Risk

We do not believe that inflation has had a material effect on our business, financial condition or results of operations. We continue to monitor the impact of inflation in order to reduce its effects through pricing strategies, productivity improvements and cost reductions. If our costs were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, financial condition and results of operations.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act refers to controls and procedures that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that such information is accumulated and communicated to a company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures as of March 31, 2019 , the end of the period covered by this Quarterly Report on Form 10-Q. Based upon such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of such date.

Changes in Internal Control over Financial Reporting

There were no material changes in our internal control over financial reporting during the three-month period covered by this Quarterly Report on Form 10-Q, which were identified in connection with management's evaluation required by Rules 13a-15(d) and 15d-15(d) under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, we may become involved in legal proceedings arising in the ordinary course of our business. Management believes that there are no claims or actions pending against us, the ultimate disposition of which would have a material impact on our business, financial condition, results of operations or cash flows.

Item 1A. Risk Factors.

Reference is made to the factors set forth under the caption "Special Note Regarding Forward-Looking Statements" in Part I, Item 2 of this Quarterly Report on Form 10-Q and other risk factors described in Part I, Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, which are incorporated herein by reference. There have been no material changes from the risk factors disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(a) Sales of Unregistered Securities

None.

(b) Use of Proceeds

None.

(c) Repurchases

	Total Number of Shares Purchased [1]	Average Price Paid Per Share [2]	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Be Purchased Under the Plans or Programs
January 1 - 31, 2019	—	$ —	$ —	$ —
February 1 - 28, 2019	804	67.18	—	—
March 1 - 31, 2019	2,392	68.24	—	—
Total	3,196	67.97	$ —	$ —

(1) Total shares purchased are attributable to shares of common stock tendered to us by one or more holders of common stock options to cover the exercise price of options exercised.
(2) Reflects the closing price of Q2 Holdings, Inc. shares as reported on the New York Stock Exchange on the date of exercise.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

The information required by this Item is set forth on the exhibit index that precedes the signature page of this Quarterly Report on Form 10-Q.

EXHIBIT INDEX

Exhibit Number		Description of Document
3.1	*	Fourth Amended and Restated Certificate of Incorporation of the Registrant (filed as Exhibit 3.2 of the Registrant's Form S-1 Registration Statement (Registration No. 333-193911)).
3.2	*	Amended and Restated Bylaws of the Registrant (filed as Exhibit 3.4 of the Registrant's Form S-1 Registration Statement (Registration No. 333-193911)).
10.1	**	Form of Amendment to Employment Agreement entered into between the Registrant and each of its executive officers.
31.1	**	Certification of Chief Executive Officer pursuant to Exchange Act Rule, 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	**	Certification of Chief Financial Officer pursuant to Exchange Act Rule, 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	#	Certification pursuant to 18 U.S.C. 1350, adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, by Chief Executive Officer.
32.2	#	Certification pursuant to 18 U.S.C. 1350, adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, by Chief Financial Officer.
101.INS	**	XBRL Instance Document.
101.SCH	**	XBRL Taxonomy Extension Schema Document.
101.CAL	**	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	**	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	**	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	**	XBRL Taxonomy Extension Presentation Linkbase Document.

* Incorporated herein by reference to the indicated filing.
** Filed herewith.
\# Furnished herewith.

Table of Contents

SIGNATURES

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

	Q2 HOLDINGS, INC.	
May 8, 2019	By:	/s/ MATTHEW P. FLAKE Matthew P. Flake *President and Chief Executive Officer* *(Principal Executive Officer)*
May 8, 2019	By:	/s/ JENNIFER N. HARRIS Jennifer N. Harris *Chief Financial Officer* *(Principal Financial and Accounting Officer)*

Exhibit 10.1

AMENDMENT TO EMPLOYMENT AGREEMENT

This Amendment to Employment Agreement ("***Amendment***"), effective as of March __, 2019, between Q2 Software, Inc., a Delaware corporation with principal offices at 13785 Research Blvd., Suite 150, Austin, Texas 78750 ("***Q2***"), and __________, amends that certain Employment Agreement dated as of __________ __, 201_, as the same has been amended from time to time (the "***Agreement***").

AGREEMENT

I. Changes to the Agreement. For purposes of this Amendment, the following are changes to the Agreement:

1. Section __ of the Agreement be, and it hereby is, amended and restated in its entirety to read as follows:

"Notwithstanding anything set forth in this Agreement to the contrary, no amount payable pursuant to this Agreement which constitutes a "deferral of compensation" within the meaning of the Treasury Regulations issued pursuant to Section 409A (the "***Section 409A Regulations***") of the Internal Revenue Code of 1986, as amended (the "***Code***"), and which is payable upon termination of employment, shall be paid unless and until Executive has incurred a "separation from service" within the meaning of the Section 409A Regulations. Furthermore, to the extent that Executive is a "specified Executive" within the meaning of the Section 409A Regulations as of the date of Executive's separation from service, no amount that constitutes a deferral of compensation which is payable on account of Executive's separation from service shall be paid to Executive before the date (the "***Delayed Payment Date***") which is the first day of the seventh month after the date of Executive's separation from service or, if earlier, the date of Executive's death following such separation from service. All such amounts that would, but for this Section, become payable prior to the Delayed Payment Date will be accumulated and paid on the Delayed Payment Date."

This Amendment hereby amends the Agreement to incorporate the terms and conditions set forth in this Amendment. The relationship of the parties shall continue to be governed by the terms and conditions of the Agreement, as amended. In the event of a conflict between the terms and conditions of the Agreement and this Amendment, the terms and conditions of this Amendment shall control.

All capitalized terms shall have the meanings defined for such terms in this Amendment or, if not defined in the Amendment, the meanings defined in the Agreement.

IN WITNESS WHEREOF, the Parties have executed this Amendment to be effective as of the date first above given.

Q2 Software, Inc.	**Executive**
By:_______________________	_______________________________
Name:_____________________	__________________
Title:_____________________	

EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO SECTION 302(a) OF THE SARBANES-OXLEY ACT OF 2002

I, Matthew P. Flake, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Q2 Holdings, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 8, 2019

/s/ MATTHEW P. FLAKE

Matthew P. Flake
President and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO SECTION 302(a) OF THE SARBANES-OXLEY ACT OF 2002

I, Jennifer N. Harris, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Q2 Holdings, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 8, 2019

/s/ JENNIFER N. HARRIS

Jennifer N. Harris
Chief Financial Officer
(Principal Financial and Accounting Officer)

EXHIBIT 32.1

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

The undersigned, the President and Chief Executive Officer of Q2 Holdings, Inc. (the “Company”), does hereby certify under the standards set forth and solely for the purposes of 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q of the Company for the three months ended March 31, 2019 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in that Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 8, 2019

/s/ MATTHEW P. FLAKE
Matthew P. Flake
President and Chief Executive Officer
(Principal Executive Officer)

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

EXHIBIT 32.2

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

The undersigned, the Chief Financial Officer of Q2 Holdings, Inc. (the “Company”), does hereby certify under the standards set forth and solely for the purposes of 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q of the Company for the three months ended March 31, 2019 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in that Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 8, 2019

/s/ JENNIFER N. HARRIS

Jennifer N. Harris
Chief Financial Officer
(Principal Financial and Accounting Officer)

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.