Q2 Holdings, Inc.
Form 10-K
February 16, 2018

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

FORM 10-K

(Mark One)

ý Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the fiscal year ended December 31, 2017.
or
o Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Q2 Holdings, Inc.
(Exact name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization)	001-36350 (Commission File Number)	20-2706637 (IRS Employer Identification No.)

13785 Research Blvd, Suite 150
Austin, Texas 78750
(512) 275-0072
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

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

Title of each class	Name of each exchange on which registered
Common Stock, $0.0001 par value	New York Stock Exchange

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

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

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

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 x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes x No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or 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 ý	Non-accelerated filer o
Accelerated filer o	(Do not check if a smaller reporting company)
	Smaller reporting company o
	Emerging growth company o

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. o

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

Based on the closing price of the registrant's common stock on the last business day of the registrant's most recently completed second fiscal quarter, which was June 30, 2017, the aggregate market value of its shares held by non-affiliates on that date was approximately $1,225,118,154. Shares of common stock held by each officer and director and by each person who owns 5% or more of the outstanding Common Stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status was based on publicly filed documents and is not necessarily a conclusive determination for other purposes.

There were 42,028,275 shares of the registrant's common stock outstanding as of January 31, 2018.

Part III of this Annual Report on Form 10-K incorporates certain information by reference from the definitive proxy statement for the registrant's 2018 Annual Meeting of Stockholders to be filed within 120 days of the registrant's fiscal year ended December 31, 2017, or the Proxy Statement. Except with respect to information specifically incorporated by reference in this Annual Report on Form 10-K, the Proxy Statement is not deemed to be filed as part of this Annual Report on Form 10-K.

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PART I

Special Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K 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 Annual Report on Form 10-K 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 this Annual Report on Form 10-K 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 Annual Report on Form 10-K. You should read this Annual Report on Form 10-K 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.

Item 1. Business.

Overview

Q2 is a leading provider of secure, cloud-based digital banking solutions. We enable regional and community financial institutions, or RCFIs, to deliver a robust suite of integrated digital banking services to more effectively engage with their consumer and commercial account holders who expect to bank anytime, anywhere and on any device. Our solutions are often the most frequent point of interaction between our RCFI customers and their account holders. As such, we purpose build our solutions to deliver a compelling, consistent user experience across digital channels and drive the success of our customers by extending their local brands, enabling improved account holder retention and creating incremental sales opportunities.

Our founding team has provided software solutions to the RCFI market for over 25 years, and they started Q2 with the mission of using technology to help RCFIs succeed and strengthen the communities they serve. We leverage our deep domain expertise to develop highly-secure digital banking solutions designed to help our customers compete in the complex and heavily-regulated financial services industry. We internally design and develop our solutions around a common platform that tightly integrates our solutions with each other and with our customers' internal and third-party systems. This integrated approach delivers to account holders a unified and robust digital banking experience across online, mobile and voice channels and allows for close, lasting relationships. We design our solutions and data center infrastructure to comply with the stringent security and technical regulations applicable to financial institutions and safeguard our customers and their account holders.

The RCFI market includes approximately 11,500 banks and credit unions that compete to provide financial services in the U.S. RCFIs have historically sought to differentiate themselves and create account holder loyalty by providing localized, in-branch banking services and serving as centers of commerce and influence in their communities. However, account holders increasingly engage with their financial services providers across digital channels rather than in physical branches, making it easier for account holders to access competitive financial services and more difficult for RCFIs to maintain account holder loyalty. Innovation in financial services technologies, the proliferation of mobile and tablet devices and evolving consumer expectations for new financial services and modern and intuitive user experiences are pressuring RCFIs to deliver advanced digital banking and other financial services to successfully compete and grow. RCFIs are increasingly considering new ways to complement their digital banking services with innovative financial services, including developing their own applications integrated with their digital banking services and partnering with financial technology companies.

RCFIs, unlike larger national banks, typically operate without all of the resources and personnel required to effectively deploy, manage and enhance their own internally-developed digital banking offerings. In addition, RCFIs are required to spend increasing amounts of time and money complying with rapidly changing federal and state rules and regulations and frequent examinations by regulatory agencies. As a result, RCFIs are challenged to satisfy account holder expectations and compete effectively in what has become a complex and dynamic environment. These challenges often cause RCFIs to rely on disparate,

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third-party and internally-developed point solutions to deliver digital banking services. However, many of these solutions provide limited features and functionality or can be expensive and time-intensive to implement, maintain and upgrade.

Based on our current prices and digital banking solutions, we believe that the RCFI market is greater than $3.5 billion annually. Our current Q2 platform customers represent approximately 3% of the 11,420 federally-insured RCFIs in the U.S. with less than $50 billion in assets. We believe we can capture an increasing portion of the IT spend among RCFIs as we continue to grow our customer base and introduce new solutions.

Our software-as-a-service, or SaaS, delivery model is designed to scale with our RCFI customers as they add account holders on our solutions and expand the breadth of digital banking services they offer. Our SaaS delivery model is also designed to reduce the cost and complexity of implementing, maintaining and enhancing the digital banking services our RCFI customers provide to their account holders. Our solutions allow RCFIs the flexibility to configure the solutions to function in a manner that is consistent with their specific workflows, processes and controls and personalize the experiences they deliver to their account holders by extending the services and local character of their branches across digital channels.

We primarily sell subscriptions to our cloud-based solutions through our direct sales organization and recognize the related revenues over the terms of our customer agreements. The initial term of our Q2 platform customer agreements averages over five years, although it varies by customer. Our revenues increase as we add new customers and sell additional solutions to existing customers and as our customers increase the number of account holders on our solutions. We earn additional revenues based on the number of transactions that account holders perform on our digital banking solutions. We support the efforts of our sales organization through a network of key association partners, such as the American Bankers Association, National Association for Federally Insured Credit Unions, Texas Bankers Association and Western Bankers Association.

We have achieved significant growth since our inception. We had total revenues of $194.0 million, $150.2 million and $108.9 million in 2017, 2016 and 2015, respectively. We seek to deepen and grow our customer relationships by providing consistent, high-quality implementation and customer support services which we believe drives higher customer retention and incremental sales opportunities within our existing customer base. As of December 31, 2017, we had 382 installed Q2 platform customers located in 48 states. Those customers had approximately 10.4 million consumer and commercial users registered on our platform solutions, and these registered users executed over $574 billion in financial transactions with our platform solutions during 2017.

We have invested, and intend to continue to invest, to grow our business by expanding our sales and marketing activities, developing new solutions, enhancing our existing solutions and technical infrastructure and scaling our operations. We incurred net losses of $26.2 million, $36.4 million and $25.1 million in 2017, 2016 and 2015, respectively. As of December 31, 2017, 2016 and 2015, we had total assets of $212.8 million, $201.0 million and $204.5 million, respectively.

We were incorporated in March 2005 in the state of Delaware under the name CBG Holdings, Inc. We changed our name to Q2 Holdings, Inc. in March 2013. We are headquartered in Austin, Texas, and our principal executive offices are located at 13785 Research Blvd, Suite 150, Austin, Texas 78750. Our telephone number is (512) 275-0072.

Industry Background

RCFIs are a substantial and critical part of the economy

Regional and community banks and credit unions with less than $50 billion in assets comprised 11,420 of the approximately 11,500 federally-insured financial institutions in the U.S., as of September 30, 2017, according to data compiled by BauerFinancial. Further, banking institutions and credit unions with less than $50 billion in assets had assets of $4.8 trillion and $1.3 trillion, respectively, as of September 30, 2017, according to BauerFinancial.

The U.S. financial services market is intensely competitive, and RCFIs have historically sought to differentiate themselves by providing local, personalized banking services that are responsive to the changing needs and circumstances of their communities. Many RCFIs are locally-owned and obtain deposits and make lending decisions on a local basis. As a result, RCFIs often develop strong, lasting relationships with their account holders and serve as centers of commerce and influence in their communities.

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RCFIs must respond to innovations in banking

A substantial majority of U.S. banks and U.S. credit unions now offer digital banking services to their consumer and commercial account holders, and account holders have increasingly come to expect and rely upon a wider range of digital banking services to meet their banking needs. By providing online account access and other digital banking services, financial institutions are able to better engage with and sell more products and services to their account holders through digital channels. To appeal to those account holders who utilize digital banking services, RCFIs must deliver robust digital banking capabilities that allow account holders to seamlessly transition between physical branches and digital channels.

Financial service providers are innovating and expanding the digital banking services they offer. In recent years, digital banking services have grown beyond simple account access to view balances and pay bills, to more advanced self-service features such as remote check deposit, peer-to-peer payments and online loan application and approval. To remain competitive, RCFIs must keep pace with the innovation in the financial services industry by frequently enhancing the quality and scope of the digital banking services they offer.

The proliferation of mobile devices and evolving consumer expectations for modern and intuitive user experiences increase the challenges of offering digital banking solutions

The proliferation of smart mobile devices expands the channels through which account holders can perform digital banking activities, decreasing the need to visit physical bank branches. The accelerating adoption of these devices and the extension of digital banking services to new devices are making it increasingly difficult to provide a consistent, intuitive and personalized user experience and driving the need to provide digital banking solutions that support new and rapidly changing mobile operating systems and device types. The technical and operational complexities of delivering integrated digital banking services across multiple operating systems and devices increases the difficulty of providing a consistent, intuitive and personalized user experience.

Prominent consumer brands such as Amazon, Google and Netflix are continually innovating and shaping consumer expectations by delivering modern, intuitive user experiences across digital channels. We believe the frequency and duration with which consumers visit a website or mobile application is heavily influenced by the quality and ease-of-use of the user experience. As a result, RCFIs must deliver compelling user experiences to satisfy account holder expectations and increase engagement and account holder loyalty.

Security is of paramount importance in digital banking

The risks of theft and fraud have always existed in banking. However, as the adoption and use of digital banking services has increased, the incidence of fraud and theft in digital channels has grown substantially. The methods by which criminals seek to commit fraud are constantly changing, requiring financial institutions to continually modify their security strategies. In addition, safeguarding RCFI and account holder funds and information becomes increasingly complex as digital banking services grow and extend across new channels and devices.

Market dynamics are driving demand for third-party solutions

RCFIs, unlike larger national banks, typically operate without all of the resources and personnel required to effectively deploy, manage, and enhance their own internally-developed digital banking service offerings. Following the passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, and the increased rule-making and examination efforts imposed by federal and state regulatory officials, RCFIs are having to commit additional time and resources to compliance matters. As a result, RCFIs are challenged to operate successfully in what has become a complex and dynamic environment.

These market dynamics are driving greater demand among RCFIs for modern, intuitive digital banking solutions from leading third-party providers. Based on our current prices and digital banking solutions, we believe that the RCFI market is greater than $3.5 billion annually. As RCFIs continue to embrace digital banking, they will need partners who can help them maintain and enhance the level of personalization they can deliver to their account holders in an effort to continue to differentiate themselves. We believe we can capture an increasing portion of the market for RCFI spend on IT, and in particular their spend on new initiatives, as we continue to broaden the scope of our digital banking solutions by identifying additional solutions that will further benefit and grow our RCFI customers' account holder bases.

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Organizations are increasingly transitioning to SaaS providers

Many organizations are transitioning from solutions which are deployed on-premises under a traditional enterprise license arrangement to cloud-based solutions offered under a SaaS model. SaaS solutions can provide a number of benefits to RCFIs, such as lower costs of ownership and operation, improved performance and integration, greater flexibility and scalability, easier deployment of upgrades and enhancements and efficient compliance with regulatory requirements. In addition, legacy systems cannot easily handle the introduction of new channels and devices, resulting in ongoing costly and time-consuming work to keep pace with rapid technology innovation.

Traditional digital banking systems have limitations

Many traditional digital banking systems were originally developed over a decade ago to address a single type of account holder or specific digital channel such as voice banking. These systems can create the following challenges for RCFIs:

- integrating applications and digital channels from multiple vendors may increase an RCFI's implementation costs, time-to-market or both;
- managing relationships with multiple vendors may be more time consuming and require greater management infrastructure;
- operating, supporting and upgrading systems from multiple vendors can be difficult, costly and less secure and generally do not provide for a unified user experience or a comprehensive view of an account holder; and
- training account holders and internal personnel on the use of different point systems can be challenging, time-consuming and costly.

The use of multiple point systems for digital banking can require account holders to maintain different login credentials for their consumer and commercial accounts across digital channels and learn and understand different systems. Additionally, the disjointed nature of the underlying workflows, data and terminology caused by the implementation of multiple solutions can lead to decreased account holder adoption, retention and satisfaction. Account holders' adoption, retention and satisfaction can be adversely impacted by the dated user interfaces of older legacy systems.

We believe innovation in financial services technologies, the proliferation of mobile and tablet devices and evolving consumer expectations for modern and intuitive user experiences, combined with the limitations of traditional systems, create a significant opportunity for a SaaS provider to address the challenges RCFIs face as they seek to increase their level of engagement with account holders across digital channels and drive account holder loyalty. We believe this opportunity creates a substantial and growing market for cloud-based digital banking solutions that deliver modern, intuitive self-service banking capabilities with a compelling and personalized user experience across digital channels and devices, while complying with regulatory requirements and safeguarding RCFIs and their account holders from fraud and theft.

Our Solutions

We provide secure, compliant cloud-based software solutions designed to enable RCFIs to grow their account holder bases, increase their profitability and market share, simplify their operations and lower their operating expenses, all by leveraging the power of digital banking. Our solutions are often the most frequent point of interaction between our RCFI customers and their account holders. As such, we purpose build our solutions to deliver a compelling, consistent user experience across digital channels and devices, promoting account holder acquisition and retention and creating incremental sales opportunities.

Key Attributes

Our digital banking solutions include the following key attributes:

- Common platform: Our solutions all operate on a common platform that supports the delivery of unified digital banking services across online, mobile and voice channels. Our platform provides a single point of management enabling RCFIs to deliver targeted experiences including tailored rights, features and branding to account holders.
- Intuitive design: We initially design the features and user experience of our solutions to be optimized for touch-based devices and then extend that design to other digital channels. This design process and the broad feature set available in our common platform enable our solutions to deliver a modern, unified user experience across digital channels.

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- Comprehensive view of account holders: Our cloud-based solutions and common platform provide our RCFI customers with a comprehensive view of account holder access and activity across devices and channels. The understanding and analysis made possible by this comprehensive view enable an enhanced, personalized user experience, real-time risk and fraud assessment and other analytic features that improve the utility of our solutions.
- Flexible integration: We have developed a highly flexible set of integration tools, enabling the rapid integration of third-party applications and data sources. This large set of internally-developed integration tools connects with over 200 third-party applications, allowing us to seamlessly integrate with RCFIs' internal and third-party systems such as account services, payments and imaging.
- SaaS delivery model: We have developed our solutions to be cloud-based, and we host our solutions for substantially all of our RCFI customers. Our customers subscribe and pay for their use of our solutions over time, and our solutions do not require our customers to install any significant technical infrastructure.
- Regulatory compliance: Our solutions leverage our deep domain expertise and the significant investments we have made in the design and development of our data center architecture and other technical infrastructure to meet the stringent security and technical regulations applicable to financial institutions.
- Security: Our solutions provide both behavioral analytics and policy-based decision prompts to identify suspect transactions and allow RCFI administrators to analyze transaction activity.

Key Benefits

We believe our solutions provide the following key benefits to our RCFI customers and their account holders:

- Delivery of robust digital banking services across digital channels: Our solutions enable our RCFI customers to deliver robust and integrated digital banking services to their account holders who increasingly expect and appreciate the freedom to bank anytime, anywhere and on any device. Through a single log-in and consistent workflow, users are able to seamlessly conduct consumer and commercial transactions across digital channels and devices.
- Improved and more frequent engagement with account holders: The breadth of our digital banking solutions and quality of the user experience they provide enable our RCFI customers to increase the frequency and effectiveness of their interactions with account holders. Our customers interact significantly more on average with account holders through our solutions than in physical branches. The frequency of these interactions can strengthen the relationships between account holders and our RCFI customers and help our customers gain a better understanding of the behavior and activities of their account holders to better serve them.
- Drive account holder loyalty: We believe our RCFI customers are able to drive account holder loyalty by increasing their level of engagement with account holders and consolidating their digital banking activities on a single platform across devices and digital channels. Our customers are also able to tailor our solutions by offering individually relevant functionality as well as branded, localized user experiences. We believe this further strengthens loyalty by extending account holders' emotional ties to local branches into digital channels.
- More effective marketing of products and services: Our customers' marketing of their new and existing products and services through our solutions can be more frequent, timely and targeted than through traditional advertising. The ease and availability of communications within these digital channels also make it easier for account holders to find information about products and services whenever needed.
- Real-time security: Our Q2 Sentinel (formerly known as Risk & Fraud Analytics) offering allows our customers to better identify suspect activities and protect against fraud and theft by monitoring and understanding the behavior and activities of their account holders across channels. Customers leveraging Q2 Sentinel are able to block suspected fraudulent activity in real-time at the application layer and notify RCFI operations staff and account holders of suspect transactions prior to funds leaving the financial institution. By approaching security in this and other ways, our customers can better safeguard their account holders and themselves, reducing risk and protecting their reputations. The products added through our July 2015 acquisition of Centrix Solutions, Inc., or Centrix, further strengthen our security, compliance and risk management capabilities and offerings.
- Lower total cost of ownership: Our SaaS delivery model can reduce the total cost of ownership of our customers by providing on a subscription basis the development, implementation, integration, maintenance, monitoring and support of our cloud-based solutions. Our common platform is designed to support the rapid addition of new services as well

as the introduction of new devices and digital channels. As a result, our customers can easily and cost-effectively scale the use of our solutions with their needs as they add account holders and registered users and expand the digital banking services they offer.

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- Facilitate regulatory compliance: Customers who use our cloud-based solutions are able to satisfy security and technical compliance obligations by relying on the security programs and regulatory certification of our data centers and other technical infrastructure. By doing so, our customers eliminate significant cost and effort associated with building, maintaining and upgrading a regulatory-compliant environment on their own.

Our Business Strengths

Since our inception, our mission has been to help our RCFI customers succeed and strengthen the communities they serve. As a result, we have remained focused on designing and developing solutions that help them respond to the unique challenges they face. We believe our position as a leading provider of digital banking solutions to our RCFI customers stems from the following strengths:

- Our purpose-built solutions lead the RCFI digital banking market: We build our solutions to address the unique challenges that RCFIs face in providing digital banking services. Our common platform was created to support the proliferation of mobile and tablet devices and the speed at which their use has become a common part of daily life. Our platform reduces the inefficiencies of traditional point-to-point integration strategies and replaces multiple management consoles with a single unified view of the rules, rights and security involved with operating seamlessly across digital channels. Our solutions enable our RCFI customers to provide a compelling, unified user experience to consumer and commercial account holders using a single login anywhere, anytime and on any device.
- We have a proven track record in the markets we serve: Our founders and management have a track record of successfully building banking technology companies. In addition, our employees have deep domain expertise in financial services and community banking. We utilize this deep industry-specific experience to drive our continued growth and success.
- Our customer acquisition model is focused and efficient: We focus our customer acquisition efforts on RCFIs. This market opportunity drives our targeted go-to-market strategy which allows us to effectively direct our sales and marketing efforts. Utilizing the deep industry experience of our management and sales teams, we are able to leverage our relationships with leaders and influencers at many RCFIs as valuable sources of reference and promotion. As a result, our sales professionals are typically able to identify opportunities early and often reduce sales cycle time.
- We grow our customer relationships over time: Throughout our long-term customer relationships, we employ a structured strategy designed to inform, educate and enhance customer confidence and help our customers identify and implement additional solutions designed to benefit and grow their account holder bases.
- Our revenues are highly predictable: We generally recognize our revenues over the terms of our customer agreements. The initial term of our Q2 platform customer agreements averages over five years, although it varies by customer. Our long-term agreements and our high customer retention, as well as the growth over time in the number of account holders using our solutions, drive the recurring nature of our revenues and provide us with significant visibility into future revenues. Furthermore, we believe our customer services model drives high retention rates and incremental sales of our solutions.
- Our award-winning culture drives innovation and customer success: We believe our award-winning, innovation-focused culture and the location of our operations facilitate recruiting and retaining top development, integration and design talent. We are headquartered in Austin, Texas which is a vibrant city that continues to attract an increasing number of young professionals and has close ties to leading research institutions. In each of the past seven years, the Austin American Statesman recognized us as one of Austin's "Top Places to Work." Our mission, combined with our focus on delivering cloud-based digital banking solutions to RCFIs, continue to enable us to attract and retain top talent.

Our Growth Strategy

We intend to continue to expand our position as a leading provider of digital banking solutions to RCFIs. To accomplish this goal, we are pursuing the following growth strategies:

- Further penetrate our large market opportunity: We believe RCFIs are increasingly adopting cloud-based digital banking solutions. Our current Q2 platform customers represent approximately 3% of the 11,420 federally-insured RCFIs in the U.S. with less than $50 billion in assets. We intend to further penetrate our large market opportunity and increase our number of RCFI customers through investments in our sales and marketing organization and related activities.

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- Grow revenues by expanding our relationships with existing customers: We believe there is significant opportunity to expand our relationships with existing customers by selling additional solutions such as Q2 Corporate and Q2 SMART. In addition, our revenues from existing customers continue to grow as these customers increase the number of account holders on our solutions and as the number of transactions these account holders perform on our solutions increases.
- Continue to expand our solutions offerings and enhance our platform: We believe our history of innovation distinguishes us in the market, and we intend to continue to invest in our software development efforts and introduce new solutions that are largely informed by and aligned with the business objectives of our existing and new customers. For example, we added Q2 Corporate to our offerings, which is designed to support RCFIs in their efforts to attract and retain larger commercial accounts. Additionally, we successfully leveraged our common platform and integration capabilities which enabled us to derive rich analytics and build and deploy our Q2 Sentinel offering. We also introduced Q2 SMART, which utilizes machine learning and statistical analysis to unlock actionable customer insights to drive improved targeting, products, growth and revenue across channels. We plan to continue to expand our analytics capabilities and leverage the data generated on our platform to further support the strategic initiatives and growth of our existing and new customers. In June 2017, we introduced Q2 Open, a portfolio of open API financial services which are designed to allow RCFIs, as well as others wishing to provide innovative financial services, to develop and support their own applications and financial services technologies more quickly and effectively. Q2 Open additionally provides an opportunity for our RCFI customers to partner with financial technology companies in providing innovative financial services products to meet evolving consumer expectations.
- Further develop our key association partner relationships: We establish key association partner relationships with industry-leading providers to optimize our go-to-market strategy and enhance the value of our platform. Our association partners typically inform, educate and connect RCFIs with the services and solutions required to deliver new and innovative technology to their account holders. We plan to leverage our association partner ecosystem and cultivate our key association partners, such as the American Banking Association, National Association for Federally Insured Credit Unions, Texas Bankers Association and Western Bankers Association, to increase the awareness of our solutions.
- Selectively pursue acquisitions and strategic investments: In addition to continuing to develop our solutions organically, we regularly evaluate strategic opportunities, such as our acquisitions of Centrix and Smarty Pig, LLC, doing business as Social Money, or Social Money. We anticipate that we will continue to selectively pursue acquisitions of and strategic investments in businesses and technologies that will strengthen and expand the features and functionality of our solutions or provide access to new customers.

The Q2 Solutions

Our solutions allow RCFIs to offer a comprehensive and unified suite of digital banking services to their account holders. We internally design and develop our solutions around a common platform that integrates our solutions with each other and RCFIs' other internal and third-party systems and enables digital banking services to extend across online, mobile and voice channels. Our common platform architecture, deep integration with other systems and the multi-tenant aspects of our infrastructure, enable us to develop solutions that allow our customers to harness the power of the information within their other systems to gain greater insights and to improve the overall security of their account holders and themselves.

Our common platform is deployed with the initial installation of our solutions and provides our customers with the following benefits:

- single-login and multi-layered security across channels and devices;
- deep integration with numerous other internal and third-party systems within RCFIs;
- single interface to an RCFI's core transaction processing system;
- unified user experience and consistent workflows, languages and data;
- more rapid configurability, development and deployment of new features and functionality; and
- comprehensive view of account holder activity across channels and devices.

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We leverage the benefits of our common platform to provide our customers the following solutions:
Q2online: Q2online is our browser-based digital banking solution. Q2online leverages the integration and other benefits of our common platform to securely deliver comprehensive RCFI-branded digital banking capabilities such as account access, check balancing, funds transfers, bill pay, recurring payments processing, statement viewing and new products and service applications. Q2online also supports single and batch ACH processing, payroll, state and federal tax payments and domestic and international wires. Q2online also provides our customers with management functionality such as account holder enrollment, password management, permissions, rights management, reports, integrated security as well as feature assignment for online, mobile and voice banking.
Q2 Sentinel: Q2 Sentinel, formerly known as Q2 Risk & Fraud Analytics, is our real-time security analytics solution designed to help our customers detect and block suspect transactions within our digital banking solutions. Q2 Sentinel provides both behavioral analytics and policy-based decision prompts for RCFI administrators. Our solution continuously learns account holder behaviors while providing an analysis of transaction activity via easy-to-use case management tools supporting either the authorization or interruption of transactions.
Q2 Corporate: Q2 Corporate is designed to support RCFIs in their efforts to attract and retain larger commercial accounts. Using Q2 Corporate, business accounts can more effectively manage higher volume and more complex transactions by restricting transactions based on accounts, subsidiaries, approval levels, user roles, date and time as well as geographic location. In addition, Q2 Corporate supports more advanced information reporting designed to help RCFIs deliver key business information to their commercial account holders.
Q2 SMART: Q2 SMART is an intelligent targeting and messaging platform that allows customers to analyze account holder data utilizing machine learning and statistical analysis to look for opportunities to grow their account holder relationships with targeted offerings based on specific account holder behavior. Q2 SMART relies on a multichannel approach, identifying traits across a broad range of account holder behavioral patterns to help customers create new account holder campaigns, conversations and offers based on specific account holder behaviors rather than just demographics. Q2 SMART includes a recommendation engine that uses the same analysis to determine which products an account holder is most likely to adopt. Q2 SMART is fully integrated with the Q2 platform and summarizes account holder behavioral data using clear and easily understood metrics, graphs and charts that are updated daily and presented through an intuitive user interface.
Q2 Account Opening: Q2 Account Opening provides RCFI customers with an intuitive, low-friction application for their account holders to set up checking and savings accounts online in a matter of minutes, with streamlined application forms and steps relative to traditional in-branch account opening processes. Q2 Account Opening also allows account holders to quickly fund their newly opened accounts using a credit or debit card. Q2 Account Opening is designed to function across devices giving financial institutions the ability to extend their market reach beyond their traditional geographic footprint.
Q2 Active/Active: Q2 operates multiple data centers, each of which contains the infrastructure required to maintain full load capacity for all account holders using Q2's platform solution. For all Q2 platform solution customers, all inbound traffic from digital banking logins and interactions are balanced equally among the two data centers, with account holders seamlessly directed to one data center or the other at login to ensure even sharing of online traffic. The Q2 Active/Active solution enhances this standard load balancing with application and storage resiliency to enhance performance and availability for RCFIs. The Q2 Active/Active solution keeps the databases in both centers in a mirrored state to allow for a fully automated failover that significantly minimizes recovery time and account holders affected.
Q2 Patrol: Q2 Patrol is an event-driven validation product designed to mitigate certain high-risk, non-transactional fraudulent activity. Q2 Patrol utilizes behavioral machine learning to identify potentially fraudulent digital banking sessions. It analyzes past login behavior and device details, including IP addresses, geolocation, device type, time stamps and more to create a digital footprint for each account holder. This added layer of insight enhances security by: requiring account holders to further authenticate a digital banking session if that session is deemed suspect based on abnormal behavioral login and device detail; providing regular reporting to RCFIs for regulatory compliance and risk reduction; and supplying session details in the user interface to better involve account holders in their own account

safety.

Q2mobility App: Q2mobility App is our mobile and tablet digital banking solution. With Q2mobility App, consumer and commercial account holders can access, engage and complete banking transactions such as adding and managing payees, transferring funds, executing single or recurring payments for multiple bank accounts, viewing e-statements or check images and managing other general banking services from their Apple iOS or Android-enabled mobile or tablet device. Q2mobility App uses the native functionality of mobile and tablet devices such as touch, camera and geo-location to enhance the digital banking experience of account holders.

Q2mobile Remote Deposit Capture: Q2mobile Remote Deposit Capture is a partnered solution that allows remote check deposit capture utilizing account holders' camera-ready mobile and tablet devices.

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Q2 Person-to-Person Payments (Q2 P2P): Q2 P2P is a partnered secure, integrated person-to-person payments solution that gives account holders the ability to pay anyone quickly, easily and securely, from any device.
Detection Monitoring Service (DMS): DMS provides RCFI customers with unified security threat tracking of the critical aspects of the customers security threat landscape, including phishing, pharming and malware detection and deactivation. DMS also provides RCFI customers with brand threat intelligence across thousands of "cousin" domains, social media platforms, blogs and mobile app stores.
Q2 CardSwap: Q2 CardSwap allows RCFI customers who issue debit or credit cards to enable account holders receiving newly issued cards to automatically change their payment information with existing subscription and digital point-of-sale services, which have previously been set up for payment with a different card, removing a traditionally significant barrier to card and account switching decisions by account holders. In addition to simplifying the account holder onboarding process, Q2 CardSwap can also be used to assist account holders with compromised card replacement.
Q2text: Q2text is our mobile solution designed to enable specific digital banking activities through the text messaging function of the device. Q2text provides self-service banking to account holders without the use of an app. Q2text enables account holders to check account balances, review transaction histories, transfer funds between accounts and manage alert and notification messaging to their mobile device.
Q2voice: Q2voice is our voice-based solution for telephones. With Q2voice account holders can use their traditional telephone or mobile phones to conduct voice banking such as checking account balances and transfers. Q2voice also enables our customers to provide alerts, notification, security and completion of an online initiated transaction to their account holders.
Q2themes: Q2themes is a personalization solution for Q2online customers. RCFIs can use Q2themes to customize their digital banking services through personal, local, loyalty- and audience-specific themes, such as language preferences, font styles and designs specific to our customers' account holders.
Q2clarity: Q2clarity is our analytics solution for our Q2online customers. Q2clarity leverages cross-channel data and security analysis to provide our customers' executives with a view of key performance indicators, such as solution performance, utilization and account holder interactions.
We also offer our RCFI customers the following Centrix-branded risk management, fraud detection and compliance products independently or as additional solutions on the Q2 platform:
Centrix Dispute Tracking System (DTS): DTS is our electronic transaction dispute management solution. It assists our customers in the administration of disputed electronic transactions (debit card, ATM, ACH and remittance transfers) for the purpose of compliance with Regulation E of the Electronic Fund Transfer Act. DTS includes an optional Fraud Alerts module which allows customers to quickly and accurately measure the financial impact of data breaches involving card payments.
Centrix Payments I.Q. System (PIQS): PIQS is our ACH file monitoring and risk reporting solution. PIQS offers simple and intuitive analytical reporting of both originated and inbound ACH activity, while also safeguarding against ACH fraud with calendaring and real-time validation of originated files.
Centrix Exact/Transaction Management System (Exact/TMS): Exact/TMS is a fraud prevention tool focused on the transaction management needs of our customers' corporate clients. It encompasses check positive pay with payee match, ACH positive pay and full account reconciliation.
In June 2017, we also introduced Q2 Open, a portfolio of open API financial services which are designed to allow RCFIs, as well as others wishing to provide innovative financial services, to develop and support their own applications and financial services technologies. Q2 Open additionally provides an opportunity for our RCFI customers to partner with financial technology companies in providing new innovative financial services technologies to meet evolving consumer expectations. Q2 Open is comprised of the following four services generally utilized through open APIs, which allow development-capable organizations to build front-end interfaces and experiences on top of the existing Q2 Open infrastructure:
Q2 Debit: Q2 Debit enables customers to develop applications which leverage federally insured checking accounts with branded debit cards integrated into Visa or MasterCard networks.

Q2 Save: Q2 Save allows customers to develop applications which utilize fully functional, compliant and cost-effective savings accounts with account and routing numbers.
Q2 Ledger: Q2 Ledger provides customers with ledgering functionality to support their applications leveraging "for the benefit of," or FBO, accounts, as an alternative to traditional checking and savings accounts.

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Q2 Biller Direct: Q2 Biller Direct provides customers with the ability to aggregate end users' bills and payments into a single view, enabling bill presentment, aggregation and bill pay functionality into the customers' applications. We also offer Q2 Biller Direct to our Q2 Platform customers as a bill payment solution integrated with the Q2 platform.

Implementation and Customer Support

We seek to deepen and grow our customer relationships by providing consistent, high-quality implementation and customer support services, which we believe drive higher customer retention and incremental sales opportunities within our existing customer base. We structure our implementation teams to effectively collaborate with the management and technology teams of our customers ensuring the rapid deployment and effective utilization of our solutions. Our implementation teams develop and execute a coordinated implementation plan for our customers centered around five key phases: initiation, configuration, application testing, limited production and production.

Our customer support personnel serve the comprehensive support-related needs of our customers. Due to the highly-regulated and complex nature of the financial services industry, our implementation and customer support service teams are aided by highly-trained, in-house resources who are knowledgeable about our solutions and the regulatory environment in which our customers operate.

Partner Offerings

The flexible nature of our common platform allows us to build rapid integrations with RCFIs' internal and third-party systems to support account holder activities and RCFI processes. Our ability to integrate with these systems enables our RCFI customers to offer a comprehensive set of consumer and commercial functionality to their account holders such as bill payment, personal finance management, online account opening and secure browsing while providing the RCFI a single view of the RCFI's activities and processes such as risk management, fraud detection and account reconciliation. This level of visibility enables our RCFI customers to evaluate the overall efficiency of their digital banking offerings.

Sales and Marketing

Our sales and marketing organization is responsible for growing our customer base and maintaining and expanding relationships with our existing customers. We sell our solutions mainly through our direct sales organization. Our direct sales organization consists of experienced sales professionals who are organized based on several different criteria including geography, account size, type of financial institution and whether a prospect is a new or existing customer. Our sales representatives are supported by our solutions consulting and sales operations teams.

Our marketing team complements our sales organization through lead generation, brand building, analyst relations and industry research. Our primary target market of RCFIs is well-defined due to the regulatory classifications of financial institutions. We focus our marketing efforts on industry-specific tradeshows, publications and digital newsletters as well as referral agreements with strategic industry partners. Our marketing team also conducts primary research to support our industry thought leadership and to identify emerging trends in account holder behavior and digital banking activities. Our marketing programs primarily target RCFI technology, finance, operations and marketing executives as well as senior business leaders.

Research and Development

Our focus on innovation has fueled our growth and enables us to provide our customers unified cloud-based digital banking solutions built on a common platform. We allocate significant resources to developing and improving our platform, digital banking and other solutions to meet our customers' evolving needs. We monitor and test our solutions regularly, and we maintain a disciplined release process to enhance our existing solutions and introduce new capabilities without interrupting service delivery. We follow state-of-the-art practices in software development and design, including using modern programming languages, data storage systems and other tools. Our multi-tiered architecture enables us to scale, add and modify features quickly in response to changing market dynamics, customer needs and regulatory requirements. Our platform was engineered to support rapid development and deployment of new features to address RCFI needs in the market. We also enable RCFIs to address their market-specific needs via our extension and integration frameworks, which is a key aspect of our technology strategy. Workflows and features that we deliver include automated enrollment, product specific payment workflows, loan origination, "save-the-change" programs, targeted marketing and new account opening.

Our research and development expenses were $40.3 million, $32.5 million and $21.5 million for the years ended December 31, 2017, 2016 and 2015, respectively.

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Technology and Operations

Due to the highly regulated nature of the financial services industry, our digital banking platform combines both multi-tenant and single instance aspects. This structure is designed to maximize account holder data security and minimize compliance cost and risks. Our solutions utilize a multi-tiered architecture that allows for scalability, operational simplicity, security and disaster recovery. We have also developed an internal operations and analytics platform that aggregates and leverages customer instance and account holder experience captured within our solutions to drive future innovation and scale.

We serve our Q2 platform customers from two secure, third-party, American National Standards Institute Tier 4 data center facilities, one located in Carrollton, Texas and the other located in Austin, Texas. Both data centers are operated by the same third-party provider. A small portion of our solutions are hosted by cloud-based hosting services, including Amazon Web Services and Microsoft Azure. We believe that our current data centers have sufficient capacity to meet our anticipated growth for the foreseeable future. Although we utilize a third party to manage our data center facilities for our Q2 platform solutions, we manage the hardware and software on which our Q2 platform solutions operate. We utilize industry standard hardware in resilient configurations to minimize service interruptions, and regularly consider and implement improvements to enhance the resiliency of our services, including our recent improvements to actively distribute services across both data centers. As a result of these improvements, our network infrastructure is fully redundant within each of our data centers, including network teaming to provide network redundancy that includes multiple upstream Internet connections. We have also purchased a private block of IP address space to simplify and expedite our disaster recovery management operations for our Q2 platform customers. Our Q2 platform solutions have had average uptimes in excess of 99.9% since January 2013. We actively monitor our infrastructure 24x7 for any sign of failure, and we seek to take preemptive action to minimize and prevent downtime. Our data centers employ advanced measures to ensure physical integrity and security, including redundant power from multiple substations and cooling systems, fire and flood prevention mechanisms, continual security coverage and biometric readers at entry points as well as perimeter boundary security measures. We have also implemented extensive disaster recovery measures and continue to invest in data center and other technical infrastructure.

All users are authenticated, authorized and validated before they can access our solutions. Users must have at a minimum, a valid user ID and associated password. Many of our customers also employ other authentication methods such as out-of-band one-time password delivery to log on to our platform solutions and hardware cryptographic tokens to authorize transactions. Our layered security model allows different groups of users to have different levels of access to our solutions. Our solutions' vulnerability is tested using internal tools prior to release, and an independent third-party performs penetration and vulnerability tests on our solutions periodically.

Intellectual Property

We rely on a combination of patent, trademark, trade secrets and copyright laws, as well as confidentiality procedures and contractual restrictions, to establish, maintain and protect our proprietary rights. As of December 31, 2017, we had seven U.S. patent applications pending and two issued U.S. patents. Our issued patents, which expire in March 2028, relate to our intellectual property created to address technology integration challenges for community banks and credit unions. We use the software components and methods claimed in these patents to access the data from several different types of RCFIs and to allow us to deliver our online, mobile, tablet, voice and text solutions to their account holders without having to individually integrate each solution with each RCFI's data. Despite substantial investment in research and development activities, we have not focused on patents and patent applications historically. We license third-party technologies, such as bill pay technologies, that are incorporated into some of our solutions.

The efforts we have taken to protect our intellectual property rights may not be sufficient or effective. It may be possible for other parties to copy or otherwise obtain and use the content of our solutions without authorization. Failure to protect our proprietary rights adequately could significantly harm our competitive position and operating results.

Companies in the Internet and technology industries, and other patent and trademark holders seeking to profit from royalties in connection with grants of licenses, own large numbers of patents, copyrights, trademarks and trade secrets and frequently enter into litigation based on allegations of infringement or other violations of intellectual property rights. We have received in the past, and will likely in the future, receive notices that claim we have misappropriated or misused other parties' intellectual property rights. There may be intellectual property rights held by others, including issued or pending patents and trademarks that cover significant aspects of our solutions. Any intellectual property claim against us, regardless of merit, could be time consuming and expensive to settle or litigate and could divert our management's attention and other resources. These claims could also subject us to significant liability for damages and could result in our having to stop using solutions found to be in violation of another party's rights. We might be required or may opt to seek a license for rights to intellectual property held by others, which may not be available on commercially reasonable terms, or at all. Even if a license is available, we could be required to pay significant royalties, which would increase our operating expenses. We may also be required to develop

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alternative non-infringing solutions, which could require significant effort and expense and which we may not be able to perform efficiently or at all. If we cannot license the intellectual property at issue or develop non-infringing solutions for any allegedly infringing aspect of our business, we may be unable to compete effectively.

Our Competition

The market for digital banking solutions is highly competitive. We compete with point solution vendors and core processing vendors, as well as internally developed solutions. We believe that our deep industry expertise, reputation for consistent, high-quality customer support and our comprehensive and unified cloud-based digital banking solutions that extend across online, mobile and voice channels and devices in a secure compliant manner distinguish us from the competition.

We currently compete with providers of technology and services in the financial services industry, including point system vendors and core processing vendors, as well as systems internally-developed by RCFIs. We have a number of point system competitors, including NCR Corporation, First Data Corporation, D3 Technology, Inc., and Alkami Technology, Inc. in the online, consumer and small business banking space and Finastra (formerly D+H Corporation), ACI Worldwide, Inc., Fidelity National Information Services, Inc., or FIS, and Bottomline Technologies (de), Inc. in the commercial banking space. We also compete with core processing vendors that provide systems and services such as Fiserv, Inc., Jack Henry and Associates, Inc. and FIS. Many of our competitors have significantly more financial, technical, marketing and other resources than we have, may devote greater resources to the promotion, sale and support of their systems than we can, have more extensive customer bases and broader customer relationships than we have and have longer operating histories and greater name recognition than we have. In addition, many of our competitors expend more funds on research and development.

Although we compete with point system vendors and core processing vendors, we also partner with some of these vendors for certain data and services utilized in our solutions and receive referrals from them. In addition, certain RCFIs have or can obtain the ability to create their own in-house systems, and while many of these systems have difficulties scaling and providing an integrated platform, we still face challenges displacing in-house systems and retaining customers that choose to develop an in-house system.

We believe the principal competitive factors in the digital banking services market include the following:

- alignment with the mission of the RCFIs;
- ability to provide a single platform for consumer and commercial account holders;
- functionality across online, mobile and voice channels;
- cloud-based technology platform and pricing model;
- ability to quickly integrate with third-party applications and systems;
- ease of use of the interface, view and login to digital banking services across channels;
- design of the account holder experience, including modern, intuitive and touch-centric features;
- configurability and RCFI branding capabilities;
- familiarity of workflows and terminology and feature-on-demand functionality;
- integrated multi-layered security and compliance of solutions with regulatory requirements;
- quality of implementation, integration and support services;
- domain expertise and innovation in banking technology;
- ability to innovate and respond to customer needs rapidly; and
- rate of development, deployment and enhancement of software.

We believe that we compete favorably with respect to these factors within the RCFI market for digital banking solutions, but we expect competition to continue and increase as existing competitors continue to evolve their offerings and as new companies enter our market. Many of our competitors have substantially greater financial, technical and other resources and have greater flexibility in bundling and pricing competing solutions. To remain competitive, we believe we must continue to invest in research and development, sales and marketing, customer support and our business operations generally.

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Employees
As of December 31, 2017, we had 844 employees, all of which are located in the U.S. We consider our current relationship with our employees to be good. None of our employees are represented by a labor union or are a party to a collective bargaining agreement.
Culture
Since our inception, our culture has been rooted in our mission to help our RCFI customers be more successful and better serve their communities. We believe our passion, dedication and commitment towards this mission is a significant differentiator for us with RCFIs and our employees. We share our culture through our customer interactions, employee functions and collaborative and educational customer events like our CONNECT client conference, user groups and collaborate focus groups. In each of the past seven years, the Austin American Statesman recognized us as one of Austin's "Top Places to Work."
Presented with regular opportunities to help our customers more successfully compete and grow, we seek out ways to enhance our culture and our ability to make a difference for our customers and their account holders and end users. Our culture is visible across our organization and highlighted through a host of initiatives, programs and committees including the following:

- our employee committees focused on culture, wellness, environmental and charitable causes and communications help create opportunities for employees to come together around important causes to make a difference in the work place and local communities;
- our emerging leaders management training program identifies and cultivates new and emerging leadership talent within our organization; and
- our flexible work spaces promote a collaborative, high-energy work environment and help facilitate team-based problem solving and cross-departmental learning.

Government Regulation
As a technology service provider to banks and credit unions, we are not required to be chartered by the Office of the Comptroller of the Currency, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the National Credit Union Administration or other federal or state agencies that regulate or supervise our customers and other providers of financial services.
Our customers and prospects are subject to extensive and complex regulations and oversight by federal and state regulatory authorities. These laws and regulations are constantly evolving and affect the conduct of our customers' operations and, as a result, our business. Our solutions must enable our customers to comply with applicable requirements such as the following:

- Dodd-Frank Wall Street Reform and Consumer Protection Act, or Dodd-Frank Act;
- the Electronic Funds Transfer Act;
- Mobile Banking Guidance
- the Electronic Signatures in Global and National Commerce Act;
- federal and state usury laws;
- the Gramm-Leach-Bliley Act;
- laws against unfair, deceptive, or abusive acts or practices;
- the Privacy of Consumer Financial Information regulations;
- the Guidance on Supervision of Technology Services Providers promulgated by the Federal Financial Institutions Examination Council, or FFIEC;
- the Guidance on Outsourcing Technology Services promulgated by the FFIEC; and
- other state and local laws and regulations.

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We are subject to periodic examination by banking regulators under the authority of the FFIEC under its Guidance on the Supervision of Technology Services Providers and the Gramm-Leach-Bliley Act of 1999, and other federal and state laws that apply to technology service providers as a result of the services we provide to the institutions they regulate. As an independent technology service provider, we are examined by federal financial regulators on a rotating basis. These examinations are based on guidance from the FFIEC, which is a formal interagency body empowered to prescribe uniform principles, standards and report forms for the examination of financial institutions and to make recommendations to promote uniformity in the supervision of financial institutions. The examinations cover a wide variety of subjects, including our management, acquisition and development activities, support and delivery, IT audits, as well as our disaster preparedness and business recovery planning. The banking regulators that make up the FFIEC have broad supervisory authority to remedy any shortcomings identified in an examination. Following an examination, our financial institutions customers may request an executive summary of the examination through their lead examination agency.

The Dodd-Frank Act granted the Consumer Financial Protection Bureau, or CFPB, authority to promulgate rules and interpret certain federal consumer financial protection laws, some of which apply to the solutions we offer. In certain circumstances, the CFPB also has examination and supervision powers with respect to service providers who provide a material service to a financial institution offering consumer financial products and services.

The compliance of our solutions with these requirements depends on a variety of factors, including the functionality and design of our solutions, the classification of our customers, and the manner in which our customers and their account holders utilize our solutions. For example, we are subject to the privacy and confidentiality provisions of the Gramm-Leach-Bliley Act and its implementing regulations. In order to comply with our obligations under these laws, we are required to implement operating policies and procedures to protect the privacy and security of our customers' and their account holders' information and to undergo periodic audits and examinations.

Available Information

Our website address is https://q2ebanking.com. Our Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 are available through the investor services page of our Internet website free of charge as soon as reasonably practicable after we electronically file such material with, or furnish it to the SEC. Our website and the information contained therein or connected thereto are not intended to be incorporated into this Annual Report on Form 10-K. The public may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site (http://www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

Item 1A. Risk Factors.

Our business, prospects, financial condition, operating results and the trading price of our common stock could be materially adversely affected by any of the risks and uncertainties described below, as well as other risks not currently known to us or that are currently considered immaterial. In assessing these risks, you should also refer to the other information contained in this Annual Report on Form 10-K, including our consolidated financial statements and related notes.

Risks Related to Our Business

We have experienced rapid growth in recent periods, including an increase in the size of our customers, and if we fail to manage our growth effectively, we may be unable to execute our business plan, maintain high levels of service and customer satisfaction or adequately address competitive challenges, and our financial performance may be adversely affected.

Since our inception, our business has rapidly grown, which has resulted in large increases in our number of employees, expansion of our infrastructure, enhancement of our internal systems and other significant changes and additional complexities. Our revenues increased from $108.9 million for the twelve months ended December 31, 2015 to $150.2 million for the twelve months ended December 31, 2016, and $194.0 million for the twelve months ended

December 31, 2017. While we intend to further expand our overall business, customer base, and number of employees, our recent growth rate is not necessarily indicative of the growth that we will achieve in the future. The growth in our business generally, our management of a growing workforce and customer base geographically-dispersed across the U.S. and the stress of such growth on our internal controls and systems require substantial management effort, infrastructure and operational capabilities. To support our growth, we must continue to improve our management resources and our operational and financial controls and systems, and these improvements may increase our expenses more than anticipated and result in a more complex business, and our failure to timely and effectively implement these improvements could have an adverse effect on our operations and financial results. In

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addition, our increased focus on selling to larger customers may result in greater uncertainty and variability in our business and sales results. We will also have to anticipate the necessary expansion of our relationship management, implementation, customer service and other personnel to support our growth and achieve high levels of customer service and satisfaction, particularly as we sell to larger customers that have heightened levels of complexity in their hardware, software and network infrastructure needs. Our success will depend on our ability to plan for and manage this growth effectively. If we fail to anticipate and manage our growth or are unable to provide high levels of system performance and customer service, our reputation, as well as our business, results of operations and financial condition, could be harmed.

If the market for our cloud-based digital banking solutions develops more slowly than we expect or changes in a way that we fail to anticipate, our sales would suffer and our operating results would be harmed.

Use of and reliance on cloud-based digital banking solutions is at an early stage, and we do not know whether RCFIs will continue to adopt digital banking solutions such as ours in the future, or whether the market will change in ways that we do not anticipate. Many RCFIs have invested substantial personnel and financial resources in legacy software, and these institutions may be reluctant or unwilling to convert from their existing systems to our solutions. For RCFIs, switching from one provider of digital banking solutions (or from an internally developed legacy system) to a new provider is a significant endeavor. Many potential customers believe switching providers involves too many potential disadvantages such as disruption of business operations, loss of accustomed functionality, and increased costs (including conversion and transition costs). Furthermore, some RCFIs may be reluctant or unwilling to use a cloud-based solution over concerns such as the security of their data and reliability of the delivery model. These concerns or other considerations may cause RCFIs to choose not to adopt cloud-based solutions such as ours or to adopt alternative solutions, either of which would harm our operating results. We attempt to overcome these concerns through value enhancing strategies such as a flexible integration process and continued investment in the enhanced functionality and features of our solutions. If RCFIs are unwilling to transition from their legacy systems, the demand for our digital banking solutions and related services could decline and adversely affect our business, operating results and financial condition.

Our future success also depends on our ability to sell additional solutions and enhanced solutions to our current customers. As we create new solutions and enhance our existing solutions to support new technologies and devices, these solutions and related services may not be attractive to customers. In addition, promoting and selling these new and enhanced solutions may require increasingly costly sales and marketing efforts, and if customers choose not to adopt these solutions, our business could suffer.

Our business could be adversely affected if our customers are not satisfied with our solutions, particularly as we introduce new products and solutions, or our systems and infrastructure fail to meet their needs.

Our business depends on our ability to satisfy our customers and meet their needs. Our customers use a variety of network infrastructure, hardware and software, which typically increases in complexity the larger the customer is, and our solutions must support the specific configuration of our customers' existing systems, including in many cases the solutions of third-party providers. If our solutions do not currently support a customer's required data format or appropriately integrate with a customer's applications and infrastructure, then we must configure our solutions to do so, which could negatively affect the performance of our systems and increase our expenses and the time it takes to implement our solutions. Any failure of or delays in our systems could cause service interruptions or impaired system performance. Some of our customer agreements require us to issue credits for downtime in excess of certain thresholds, and in some instances give our customers the ability to terminate the agreements in the event of significant amounts of downtime, or if we experience other defects with our solutions. If sustained or repeated, these performance issues could reduce the attractiveness of our solutions to new and existing customers, cause us to lose customers, and lower renewal rates by existing customers, each of which could adversely affect our revenue and reputation. In addition, negative publicity resulting from issues related to our customer relationships, regardless of accuracy, may damage our business by adversely affecting our ability to attract new customers and maintain and expand our relationships with existing customers.

If the use of our solutions increases, or if our customers demand more advanced features from our solutions, we will need to devote additional resources to improving our solutions, and we also may need to expand our technical infrastructure at a more rapid pace than we have in the past. This would involve spending substantial amounts to purchase or lease data center capacity and equipment, upgrade our technology and infrastructure and introduce new or enhanced solutions. It takes a significant amount of time to plan, develop and test changes to our infrastructure, and we may not be able to accurately forecast demand or predict the results we will realize from such improvements. There are inherent risks associated with changing, upgrading, improving and expanding our technical infrastructure. Any failure of our solutions to operate effectively with future infrastructure and technologies could reduce the demand for our solutions, resulting in customer dissatisfaction and harm to our business. Also, any expansion of our infrastructure would likely require that we appropriately scale our internal business systems and services organization, including implementation and customer support services, to serve our growing customer

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base. If we are unable to respond to these changes or fully and effectively implement them in a cost-effective and timely manner, our service may become ineffective, we may lose customers, and our operating results may be negatively impacted.

The markets in which we participate are intensely competitive, and pricing pressure, new technologies or other competitive dynamics could adversely affect our business and operating results.

We currently compete with providers of technology and services in the financial services industry, including point system vendors and core processing vendors, as well as systems internally-developed by RCFIs. We have a number of point system competitors, including NCR Corporation, First Data Corporation, D3 Technology, Inc., and Alkami Technology, Inc. in the online, consumer and small business banking space and Finastra (formerly D+H Corporation), ACI Worldwide, Inc., FIS and Bottomline Technologies (de), Inc. in the commercial banking space. We also compete with core processing vendors that provide systems and services such as Fiserv, Inc., Jack Henry and Associates, Inc. and FIS. Many of our competitors have significantly more financial, technical, marketing and other resources than we have, may devote greater resources to the promotion, sale and support of their systems than we can, have more extensive customer bases and broader customer relationships than we have and have longer operating histories and greater name recognition than we have. In addition, many of our competitors expend more funds on research and development.

We may also face competition from new companies entering our markets, which may include large established businesses that decide to develop, market or resell digital banking solutions, acquire one of our competitors or form a strategic alliance with one of our competitors. In addition, new companies entering our markets may choose to offer digital banking applications at little or no additional cost to the customer by bundling them with their existing applications, including adjacent banking technologies and core processing software. New entrants to the market might also include non-banking providers of payment solutions and other technologies. Competition from these new entrants may make our business more difficult and adversely affect our results.

If we are unable to compete in this environment, sales and renewals of our solutions could decline and adversely affect our business, operating results and financial condition. With the introduction of new technologies and potential new entrants into the digital banking solutions market, we expect competition to intensify in the future, which could harm our ability to increase sales and achieve profitability. In addition, we may face increased competition in our existing markets as we enter new sections of the market with larger customers and new products and services. Our industry has also experienced recent consolidation which we believe may continue. Any further consolidation our industry experiences could lead to increased competition and result in pricing pressure or loss of market share, either of which could have a material adverse effect on our business, limit our growth prospects or reduce our revenues.

If we are unable to effectively integrate our solutions with other systems used by our customers and prospective customers, including if we are forced to discontinue integration due to security or quality concerns with a third-party system, or if there are performance issues with such third-party systems, our solutions will not operate effectively and our operations will be adversely affected.

The functionality of our solutions depends on our ability to integrate with other third-party systems used by our customers, including core processing software. Certain providers of these third-party systems also offer solutions that are competitive with our solutions and may have an advantage over us with customers using their software by having better ability to integrate with their software and by being able to bundle their competitive products with other applications used by our customers and prospective customers at favorable pricing. We do not have formal arrangements with many of these third-party providers regarding our access to their application program interfaces to enable these customer integrations.

Our business may be harmed if any of our third-party providers:

- changes the features or functionality of its applications and platforms in a manner adverse to us;
- discontinues or limits our solutions' access to its systems;
- suffers a security incident or other incident that requires us to discontinue integration with its system;
- terminates or does not allow us to renew or replace our existing contractual relationships on the same or better terms;
- modifies its terms of service or other policies, including fees charged to, or other restrictions on, us or our customers;

- establishes more favorable relationships with one or more of our competitors, or acquire one or more of our competitors and offer competing services; or
- otherwise has or develops its own competitive offerings.

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Such changes could limit or prevent us from integrating our solutions with these third-party systems, which could impair the functionality of our solutions, prohibit the use of our solutions or limit our ability to sell our solutions to customers, each of which could harm our business. If we are unable to integrate with such third-party software as a result of changes to or restricted access to the software by such third parties during the terms of existing agreements with customers using such third-party software, we may not be able to meet our contractual obligations to customers, which may result in disputes with customers and harm to our business. In addition, if any third-party software providers experience an outage, our solutions integrated with such software will not function properly or at all, and our customers may be dissatisfied with our solutions. If the software of such third-party providers has performance or other problems, such issues may reflect poorly on us and the adoption and renewal of our solutions and our business may be harmed. Although our customers may be able to switch to alternative technologies if a provider's services were unreliable or if a provider was to limit such customer's access and utilization of its data or the provider's functionality, our business could nevertheless be harmed due to the risk that our customers could reduce their use of our solutions.

Our customers are highly regulated and subject to a number of challenges and risks. Our failure to comply with laws and regulations applicable to us as a technology provider to financial institutions and financial technology companies and to enable our customers to comply with the laws and regulations applicable to them could adversely affect our business and results of operations, increase costs and impose constraints on the way we conduct our business.

Our customers and prospective customers are highly regulated and may be required to comply with stringent regulations in connection with subscribing to and implementing our solutions. As a provider of technology to RCFIs, we are examined on a periodic basis by various regulatory agencies and required to review certain of our suppliers and partners. The examination handbook and other guidance issued by the FFIEC govern the examination of our operations and include a review of our systems and data center and technical infrastructure, management, financial condition, development activities and our support and delivery capabilities. If deficiencies are identified, customers may choose to terminate or reduce their relationships with us. In addition, while much of our operations are not directly subject to the same regulations applicable to RCFIs, we are generally obligated to our customers to provide software solutions and maintain internal systems and processes that comply with federal and state regulations applicable to them. In particular, as a result of obligations under our customer agreements, we are required to comply with certain provisions of the Gramm-Leach-Bliley Act related to the privacy of consumer information and may be subject to other privacy and data security laws because of the solutions we provide. In addition, numerous regulations have been proposed and are still being written to implement the Dodd-Frank Act, including requirements for enhanced due diligence of the internal systems and processes of companies like ours by their financial institution customers. In general, larger financial institutions are subject to more stringent regulations and as a result, as we sell our solutions to larger financial institutions, we will become obligated to meet more stringent regulatory standards, including more in-depth audits. Still further, President Donald Trump and the Congressional majority have indicated that the Dodd-Frank Act will be under further scrutiny and some of the provisions of the Dodd-Frank Act rules promulgated thereunder may be revised, repealed, or amended. If we have to make changes to our internal processes and solutions as a result of these regulatory changes, we could be required to invest substantial additional time and funds and divert time and resources from other corporate purposes to remedy any identified deficiency.

This evolving, complex and often unpredictable regulatory environment could result in our failure to provide compliant solutions, which could result in customers' not purchasing our solutions or terminating their agreements with us or the imposition of fines or other liabilities for which we may be responsible. In addition, federal, state and/or foreign agencies may attempt to further regulate our activities in the future. For example, Congress could enact legislation to regulate providers of electronic commerce services as consumer financial services providers or under another regulatory framework. If enacted or deemed applicable to us, such laws, rules or regulations could be imposed on our activities or our business thereby rendering our business or operations more costly, burdensome, less efficient or impossible, any of which could have a material adverse effect on our business, financial condition and operating results.

If our or our customers' security measures are compromised or unauthorized access to customer data is otherwise obtained, our solutions may be perceived as not being secure, customers may curtail or cease their use of our solutions, our reputation may be harmed, and we may incur significant liabilities.

Our operations involve access to and transmission of proprietary information and data and transaction and account details of our customers and their account holders and end users. Our security measures and the security measures of our customers may not be sufficient to prevent our systems from being compromised as a result of third-party action, the error or intentional misconduct of employees, customers or their account holders and end users, malfeasance or stolen or fraudulently obtained log-in credentials. Security incidents can result in unauthorized access to, loss of or unauthorized disclosure of this information, litigation, indemnity obligations and other possible liabilities, as well as negative publicity, which could damage our reputation, impair our sales and harm our business. Cyber-attacks, account take-over attacks, fraudulent representations and other malicious Internet-based activity continue to increase and financial institutions and financial technology companies, their

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account holders and end users, and digital banking providers are often targets of such attacks. In addition, third parties may attempt to fraudulently induce employees or customers into disclosing sensitive information such as user names, passwords or other information to gain access to our confidential or proprietary information or the data of our customers and their account holders and end users. A party who is able to compromise the security of our facilities could cause interruptions or malfunctions in our operations. We may be unable to anticipate or prevent techniques used to obtain unauthorized access or sabotage systems because they change frequently and generally are not detected until after an incident has occurred. As we increase our customer base and our brand becomes more widely known and recognized, we may become more of a target for third parties seeking to compromise our security systems or gain unauthorized access to the data of our customers and their account holders and end users. A failure or inability to meet our customers' expectations with respect to security and confidentiality could seriously damage our reputation and affect our ability to retain customers and attract new business.

Federal and state regulations may require us to notify customers and their account holders and end users of data security incidents involving certain types of personal data. Security compromises experienced by our competitors, by our customers or by us may lead to public disclosures and widespread negative publicity. Any security compromise in our industry, whether actual or perceived, could erode customer confidence in the effectiveness of our security measures, negatively impact our ability to attract new customers, cause existing customers to elect not to renew their subscriptions or subject us to third-party lawsuits, regulatory fines or other action or liability, which could materially and adversely affect our business and operating results.

In addition, some of our customers contractually require notification of any data security compromise and include representations and warranties that our solutions comply with certain regulations related to data security and privacy. Although our customer agreements typically include limitations on our potential liability, there can be no assurance that such limitations of liability would be enforceable or adequate or would otherwise protect us from any such liabilities or damages with respect to any particular claim. We also cannot be sure that our existing general liability insurance coverage and coverage for errors or omissions will continue to be available on acceptable terms or will be available in sufficient amounts to cover one or more claims, or that our insurers will not deny or attempt to deny coverage as to any future claim. The successful assertion of one or more claims against us, the inadequacy of or denial of coverage under our insurance policies, litigation to pursue claims under our policies or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, financial condition and results of operations.

We may experience quarterly fluctuations in our operating results due to a number of factors, which makes our future results difficult to predict and could cause our operating results to fall below expectations or our guidance.

Our quarterly operating results have fluctuated in the past and are expected to fluctuate in the future due to a variety of factors, many of which are outside of our control. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Our past results may not be indicative of our future performance. In addition to the other risks described in this report, factors that may affect our quarterly operating results include the following:

- the addition or loss of customers, including through acquisitions, consolidations or failures;
- the amount of use of our solutions in a period and the amount of any associated revenues and expenses;
- budgeting cycles of our customers and changes in spending on solutions by our current or prospective customers;
- seasonal variations in sales of our solutions, which may be lowest in the first quarter of the calendar year;
- changes in the competitive dynamics of our industry, including consolidation among competitors, changes to pricing or the introduction of new products and services that limit demand for our solutions or cause customers to delay purchasing decisions;
- the amount and timing of cash collections from our customers;
- long or delayed implementation times for new customers, including larger customers, or other changes in the levels of customer support we provide;
- the timing of customer payments and payment defaults by customers, including any buyouts by customers of the remaining term of their contracts with us in a lump sum payment that we would have otherwise recognized over the term of those contracts;

- the amount and timing of our operating costs and capital expenditures;

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- changes in tax rules or the impact of new accounting pronouncements, including the effects of our adoption of newly issued accounting standards regarding revenue recognition;
- general economic conditions that may adversely affect our customers' ability or willingness to purchase solutions, delay a prospective customer's purchasing decision, reduce our revenues from customers or affect renewal rates;
- unexpected expenses such as those related to litigation or other disputes;
- the timing of stock awards to employees and related adverse financial statement impact of having to expense those stock awards over their vesting schedules; and
- the amount and timing of costs associated with recruiting, hiring, training and integrating new employees, many of whom we hire in advance of anticipated needs.

Moreover, our stock price might be based on expectations of investors or securities analysts of future performance that are inconsistent with our actual growth opportunities or that we might fail to meet and, if our revenues or operating results fall below expectations, the price of our common stock could decline substantially.

We have a history of losses, and we do not expect to be profitable for the foreseeable future.

We have incurred losses from operations in each period since our inception in 2005, except for 2010 when we recognized a gain on the sale of a subsidiary. We incurred net losses of $26.2 million, $36.4 million and $25.1 million for the years ended December 31, 2017, 2016 and 2015, respectively. As of December 31, 2017, we had an accumulated deficit of $152.1 million. These losses and accumulated deficit reflect the substantial investments we have made to develop our solutions and acquire customers. As we seek to continue to grow our number of customers, we expect to incur significant sales, marketing, implementation and other related expenses. Our ability to achieve or sustain profitability will depend on our obtaining sufficient scale and productivity so that the cost of adding and supporting new customers does not adversely impact our margins. We also expect to make other significant expenditures to develop and expand our solutions and our business, including continuing to increase our marketing, services and sales operations and continuing our significant investment in research and development and our technical infrastructure. We expect to incur losses for the foreseeable future as we continue to focus on adding new customers, and we cannot predict whether or when we will achieve or sustain profitability. Our efforts to grow our business may be more costly than we expect, and we may not be able to increase our revenues enough to offset our higher operating expenses. In addition, as a public company, we incur significant legal, accounting and other expenses that we did not incur as a private company. These increased expenditures will make it harder for us to achieve and maintain profitability. While our revenues have grown in recent periods, such growth may not be sustainable, and our revenues could decline or grow more slowly than we expect. We also may incur additional losses in the future for a number of reasons, including due to litigation and other unforeseen reasons and the risks described in this report. Accordingly, we cannot assure you that we will achieve profitability in the future, nor that, if we do become profitable, we will be able to sustain profitability. If we are unable to achieve and sustain profitability, our customers may lose confidence in us and slow or cease their purchases of our solutions and we may be unable to attract new customers, which would adversely impact our operating results.

Our sales cycle can be unpredictable, time-consuming and costly, which could harm our business and operating results.

Our sales process involves educating prospective customers and existing customers about the use, technical capabilities and benefits of our solutions. Prospective customers, especially larger financial institutions, often undertake a prolonged evaluation process, which typically involves not only our solutions, but also those of our competitors and lasts from six to nine months or longer. We may spend substantial time, effort and money on our sales and marketing efforts without any assurance that our efforts will produce any sales. It is also difficult to predict the level and timing of sales opportunities that come from our referral partners.

Events affecting our customers' businesses may occur during the sales cycle that could affect the size or timing of a purchase, contributing to more unpredictability in our business and operating results. As a result of these factors, we may face greater costs, longer sales cycles and less predictability in the future.

We do not have an adequate history with our subscription or pricing models to accurately predict the long-term rate of customer subscription renewals or adoption, or the impact these renewals and adoption, or any customer terminations,

will have on our revenues or operating results.
We have limited experience with respect to determining the optimal prices for our solutions. As the markets for our existing solutions develop, we may be unable to attract new customers at the same price or based on the same pricing model as we have used historically. Moreover, large or influential RCFIs may demand more favorable pricing or other contract terms,

including termination rights. As a result, in the future we may be required to reduce our prices or accept other unfavorable contract terms, each of which could adversely affect our revenues, gross margin, profitability, financial position and cash flow.

Our customers have no obligation to renew their subscriptions for our solutions after the expiration of the initial subscription term, and our customers may renew for fewer solutions or on different pricing terms, if at all. Our renewal rates may decline or fluctuate as a result of a number of factors, including our customers' satisfaction with our pricing or our solutions or their ability to continue their operations and spending levels. Additionally, certain agreements may include termination rights allowing customers to terminate their customer agreements in the event of, among other things, defects with our solutions, changes in our solution, breach by us of our obligations, requirements from regulatory authorities or a change in control of our company. If our customers terminate or do not renew their subscriptions for our solutions on similar pricing terms, our revenues may decline and our business could suffer. As we create new solutions or enhance our existing solutions to support new technologies and devices, our pricing of these solutions and related services may be unattractive to customers or fail to cover our costs.

Defects or errors in our solutions could harm our reputation, result in significant costs to us, impair our ability to sell our solutions and subject us to substantial liability.

Our solutions are inherently complex and may contain defects or errors, particularly when first introduced or as new versions are released. Despite extensive testing, from time-to-time we have discovered defects or errors in our solutions. In addition, due to changes in regulatory requirements relating to our customers or to technology providers to financial institutions and financial technology companies like us, we may discover deficiencies in our software processes related to those requirements. Material performance problems or defects in our solutions might arise in the future.

Any such errors, defects, other performance problems or disruptions in service to provide bug fixes or upgrades, whether in connection with day-to-day operations or otherwise, could be costly for us to remedy, damage our customers' businesses and harm our reputation. In addition, if we have any such errors, defects or other performance problems, our customers could seek to terminate their agreements, elect not to renew their subscriptions, delay or withhold payment or make claims against us. Any of these actions could result in lost business, increased insurance costs, difficulty in collecting our accounts receivable, costly litigation and adverse publicity. Such errors, defects or other problems could also result in reduced sales or a loss of, or delay in, the market acceptance of our solutions.

Moreover, software development is time-consuming, expensive, complex and requires regular maintenance. Unforeseen difficulties can arise. If we do not complete our periodic maintenance according to schedule or if customers are otherwise dissatisfied with the frequency and/or duration of our maintenance services, customers could elect not to renew, or delay or withhold payment to us or cause us to issue credits, make refunds or pay penalties. Because our solutions are often customized and deployed on a customer-by-customer basis, rather than through a multi-tenant SaaS method of distribution, applying bug fixes, upgrades or other maintenance services may require updating each instance of our software, which could be time consuming and cause us to incur significant expense. We might also encounter technical obstacles, and it is possible that we discover problems that prevent our solutions from operating properly. If our solutions do not function reliably or fail to achieve customer expectations in terms of performance, customers could seek to cancel their agreements with us and assert liability claims against us, which could damage our reputation, impair our ability to attract or maintain customers and harm our results of operations.

Failures or reduced accessibility of third-party hardware and software on which we rely could impair the delivery of our solutions and adversely affect our business.

We rely on hardware that we purchase or lease and software that we develop or license from, or that is hosted by third parties, to offer our solutions. In addition, we obtain licenses from third parties to use intellectual property associated with the development of our solutions. These licenses might not continue to be available to us on acceptable terms, or at all. While we are not substantially dependent upon any third-party hardware or software, the loss of the right to use all or a significant portion of our third-party hardware or software required for the development, maintenance and delivery of our solutions could result in delays in the provision of our solutions until we develop or identify, obtain and integrate equivalent technology, which could harm our business.

Any errors or defects in the hardware or software we use could result in errors, interruptions or a failure of our solutions. Although we believe that there are alternatives, any significant interruption in the availability of all or a significant portion of such hardware or software could have an adverse impact on our business unless and until we can replace the functionality provided by these products at a similar cost. Furthermore, this hardware and software may not be available on commercially reasonable terms, or at all. The loss of the right to use all or a significant portion of this hardware or software could limit access to our solutions. Additionally, we rely upon third parties' abilities to enhance their current products, develop new products on a timely and cost-effective basis and respond to emerging industry standards and other technological changes. We may be unable

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to effect changes to such third-party technologies, which may prevent us from rapidly responding to evolving customer requirements. We also may be unable to replace the functionality provided by the third-party software currently offered in conjunction with our solutions in the event that such software becomes obsolete or incompatible with future versions of our solutions or is otherwise not adequately maintained or updated.

We depend on data centers operated by third parties and third-party Internet hosting providers, and any disruption in the operation of these facilities or access to the Internet could adversely affect our business.

We currently serve our RCFI customers primarily from two third-party data center hosting facilities located in Austin, Texas and Carrollton, Texas and certain of our solutions are hosted by cloud-based providers, including Amazon Web Services and Microsoft Azure. The owners and operators of these current and future facilities and cloud-based hosting services do not guarantee that our customers' access to our solutions will be uninterrupted, error-free or secure. We may experience website disruptions, outages and other performance problems. These problems may be caused by a variety of factors, including infrastructure changes, human or software errors, viruses, security attacks, fraud, spikes in customer usage and denial of service issues. In some instances, we may not be able to identify the cause or causes of these performance problems within an acceptable period of time. We do not control the operation of these data center facilities and cloud-based services, and such facilities and services are vulnerable to damage or interruption from human error, intentional bad acts, power loss, hardware failures, telecommunications failures, fires, wars, terrorist attacks, floods, earthquakes, hurricanes, tornadoes or similar catastrophic events. They also could be subject to break-ins, computer viruses, sabotage, intentional acts of vandalism and other misconduct. The occurrence of a natural disaster or an act of terrorism, a decision to close the facilities without adequate notice or terminate our hosting arrangement or other unanticipated problems could result in lengthy interruptions in the delivery of our solutions, cause system interruptions, prevent our customers' account holders or end users from accessing their accounts or services online, reputational harm and loss of critical data, prevent us from supporting our solutions or cause us to incur additional expense in arranging for new facilities, services and support.

We also depend on third-party Internet-hosting providers and continuous and uninterrupted access to the Internet through third-party bandwidth providers to operate our business. If we lose the services of one or more of our Internet-hosting or bandwidth providers for any reason or if their services are disrupted, for example due to viruses or denial of service or other attacks on their systems, or due to human error, intentional bad acts, power loss, hardware failures, telecommunications failures, fires, wars, terrorist attacks, floods, earthquakes, hurricanes, tornadoes or similar catastrophic events, we could experience disruption in our ability to offer our solutions and adverse perception of our solutions' reliability, or we could be required to retain the services of replacement providers, which could increase our operating costs and harm our business and reputation.

We derive substantially all of our revenues from customers in the financial services industry, and any downturn or consolidation in the financial services industry, or unfavorable economic conditions affecting regions in which a significant portion of our customers are concentrated, could harm our business.

Substantially all of our revenues are derived from RCFIs. RCFIs have experienced significant pressure in recent years due to economic uncertainty, liquidity concerns and increased regulation. In recent years, many RCFIs have failed, merged or been acquired. Failures and consolidations are likely to continue, and there are very few new RCFIs being created. Further, if our customers merge with or are acquired by other entities such as financial institutions that have in-house developed digital banking solutions or that are not our customers or use fewer of our solutions, our customers may discontinue, reduce or change the terms of their use of our solutions. It is also possible that the larger RCFIs that result from mergers or consolidations could have greater leverage in negotiating terms with us or could decide to replace some or all of our solutions. Any of these developments could have an adverse effect on our business, results of operations and financial condition.

In addition, any downturn in the financial services industry or unfavorable economic conditions affecting the regions in which our customers are concentrated may cause our customers to reduce their spending on digital banking solutions, seek to terminate or renegotiate their contracts with us or fail. A significant portion of our revenues is derived from RCFIs in states, in particular Texas, whose economies are substantially dependent upon the energy and natural resources market, in particular oil and gas exploration and production. Since 2014, the price of oil and gas has remained low resulting in economic uncertainty in Texas and such other states. Should the price of oil and gas decline further and/or remain at the current low price for an extended period, the general economic conditions in Texas and such other states could be negatively affected, which could have a material adverse effect on our RCFI customers, and accordingly our business, results of operations, and financial condition.

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Because we recognize revenues from our solutions over the terms of our customer agreements, the impact of changes in the subscriptions for our solutions will not be immediately reflected in our operating results, and rapid growth in our customer base may adversely affect our operating results in the short term since we expense a substantial portion of implementation costs as incurred.

We generally recognize revenues monthly over the terms of our customer agreements. The initial term of our digital banking customer agreements averages over five years, although it varies by customer. As a result, the substantial majority of the revenues we report in each quarter are related to agreements entered into during previous quarters. Consequently, a change in the level of new customer agreements or implementations in any quarter may have a small impact on our revenues in that quarter but will affect our revenues in future quarters. Accordingly, the effect of significant downturns in sales and market acceptance of our solutions, or changes in our rate of renewals may not be fully reflected in our results of operations until future periods. Our subscription model also makes it difficult for us to rapidly increase our revenues through additional sales in any period.

Additionally, we recognize our expenses over varying periods based on the nature of the expense. In particular, we recognize a substantial portion of implementation expenses as incurred even though we recognize the related revenues over extended periods. As a result, we may report poor operating results in periods in which we are incurring higher implementation expenses related to revenues that we will recognize in future periods, including implementations for larger customers that have heightened levels of complexity in their hardware, software and network infrastructure needs. Alternatively, we may report better operating results in periods due to lower implementation expenses, but such lower expenses may be indicative of slower revenue growth in future periods. As a result, our expenses may fluctuate as a percentage of revenues and changes in our business generally may not be immediately reflected in our results of operations.

As the number, size, type and complexity of customers that we serve increase and change, we may encounter implementation challenges, and we may have to delay revenue recognition for some complex engagements, which would harm our business and operating results.

We may face unexpected implementation challenges related to the complexity of our customers' implementation and integration requirements, particularly implementations for larger customers that have heightened levels of complexity in their hardware, software and network infrastructure needs. Our implementation expenses increase when customers have unexpected data, hardware or software technology challenges, or complex or unanticipated business or regulatory requirements. In addition, our customers typically require complex acceptance testing related to the implementation of our solutions. Implementation delays may also require us to delay revenue recognition under the related customer agreement longer than expected. Further, because we do not fully control our customers' implementation schedules, if our customers do not allocate the internal resources necessary to meet implementation timelines or if there are unanticipated implementation delays or difficulties, our revenue recognition may be delayed. Losses of account holders or end users or any difficulties or delays in implementation processes could cause customers to delay or forgo future purchases of our solutions, which would adversely affect our business, operating results and financial condition.

Shifts over time in the number of account holders and registered users of our solutions, their use of our solutions and our customers' implementation and customer support needs could negatively affect our profit margins.

Our profit margins can vary depending on numerous factors, including the scope and complexity of our implementation efforts, the number of account holders and registered users on our solutions, the frequency and volume of their use of our solutions and the level of customer support services required by our customers. For example, our services offerings typically have a much higher cost of revenues than subscriptions to our solutions, so any increase in sales of services as a proportion of our subscriptions would have an adverse effect on our overall gross margin and operating results. If we are unable to increase the number of registered users and the number of transactions they perform on our solutions, the types of customers that purchase our solutions changes, or the mix of solutions purchased by our customers changes, our profit margins could decrease and our operating results could be adversely affected.

If we fail to provide effective customer training on our solutions and high-quality customer support, our business and reputation would suffer.

Effective customer training on our solutions and high-quality, ongoing customer support are important to the successful marketing and sale of our solutions and for the renewal of existing customer agreements. Providing this training and support requires that our customer training and support personnel have financial services knowledge and expertise, making it difficult for us to hire qualified personnel and scale our training and support operations. The demand on our customer support organization will increase as we expand our business and pursue new customers, and such increased support could require us to devote significant development services and support personnel, which could strain our team and infrastructure and reduce our profit margins. If we do not help our customers quickly resolve any post-implementation issues and provide effective ongoing customer support, our ability to sell additional solutions to existing and future customers could suffer and our reputation would be harmed.

If we fail to respond to evolving technological requirements or introduce adequate enhancements and new features, our solutions could become obsolete or less competitive.

The market for our solutions is characterized by rapid technological advancements, changes in customer requirements and technologies, frequent new product introductions and enhancements and changing regulatory requirements. The life cycles of our solutions are difficult to estimate. Rapid technological changes and the introduction of new products and enhancements by new or existing competitors or large financial institutions could undermine our current market position. Other means of digital banking may be developed or adopted in the future, and our solutions may not be compatible with these new technologies. In addition, the technological needs of, and services provided by, customers may change if they or their competitors offer new services to account holders and end users. Maintaining adequate research and development resources to meet the demands of the market is essential. The process of developing new technologies and solutions is complex and expensive. The introduction of new solutions by our competitors, the market acceptance of competitive solutions based on new or alternative technologies or the emergence of new technologies or solutions in the broader financial services and financial technology industry could render our solutions obsolete or less effective.

The success of any enhanced or new solution depends on several factors, including timely completion, adequate testing and market release and acceptance of the solution. Any new solutions that we develop or acquire may not be introduced in a timely or cost-effective manner, may contain defects or may not achieve the broad market acceptance necessary to generate significant revenues. If we are unable to anticipate customer requirements or work with our customers successfully on implementing new solutions or features in a timely manner or enhance our existing solutions to meet our customers' requirements, our business and operating results may be adversely affected.

If we fail to effectively expand our sales and marketing capabilities and teams, including through partner relationships, we may not be able to increase our customer base and achieve broader market acceptance of our solutions.

Increasing our customer base and achieving broader market acceptance of our solutions will depend on our ability to expand our sales and marketing organizations and their abilities to obtain new customers and sell additional solutions and services to existing customers. We believe there is significant competition for direct sales professionals with the skills and knowledge that we require, and we may be unable to hire or retain sufficient numbers of qualified individuals in the future. Our ability to achieve significant future revenue growth will depend on our success in recruiting, training and retaining a sufficient number of direct sales professionals. New hires require significant training and time before they become fully productive and may not become as productive as quickly as we anticipate. As a result, the cost of hiring and carrying new representatives cannot be offset by the revenues they produce for a significant period of time. Our growth prospects will be harmed if our efforts to expand, train and retain our direct sales team do not generate a corresponding significant increase in revenues. Additionally, if we fail to sufficiently invest in our marketing programs or they are unsuccessful in creating market awareness of our company and solutions, our business may be harmed and our sales opportunities limited.

In addition to our direct sales team, we also extend our sales distribution through formal and informal relationships with referral partners. While we are not substantially dependent upon referrals from any partner, our ability to achieve significant revenue growth in the future will depend upon continued referrals from our partners and growth of the network of our referral partners. These partners are under no contractual obligation to continue to refer business to us, nor do these partners have exclusive relationships with us and may choose to instead refer potential customers to our competitors. We cannot be certain that these partners will prioritize or provide adequate resources for promoting our solutions or that we will be successful in maintaining, expanding or developing our relationships with referral partners. Our competitors may be effective in providing incentives to third parties, including our partners, to favor their solutions or prevent or reduce subscriptions to our solutions either by disrupting our relationship with existing customers or limiting our ability to win new customers. Establishing and retaining qualified partners and training them with respect to our solutions requires significant time and resources. If we are unable to devote sufficient time and resources to establish and train these partners, or if we are unable to maintain successful relationships with them, we may lose sales opportunities and our revenues could suffer.

We rely on our management team and other key employees, and the loss of one or more key employees could harm our business.

Our success and future growth depend upon the continued services of our management team, in particular our Chief Executive Officer, and other key employees, including in the areas of research and development, marketing, sales, services and general and administrative functions. From time to time, there may be changes in our management team resulting from the hiring or departure of executives, which could disrupt our business. We also are dependent on the continued service of our existing development professionals because of the complexity of our solutions, including complexity arising as a result of the

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regulatory requirements that are applicable to our customers and the pace of technology changes impacting our customers and their account holders and end users. We may terminate any employee's employment at any time, with or without cause, and any employee may resign at any time, with or without cause; however, our employment agreements with our named executive officers provide for the payment of severance under certain circumstances. We have also entered into employment agreements with our other executive officers which provide for the payment of severance under similar circumstances as in our named executive officers' employment agreements. The loss of one or more of our key employees could harm our business.

Because competition for key employees is intense, we may not be able to attract and retain the highly-skilled employees we need to support our operations and future growth.

Competition for executive officers, software developers and other key employees in our industry is intense. In particular, we compete with many other companies for executive officers, for software developers with high levels of experience in designing, developing and managing software, as well as for skilled sales and operations professionals and knowledgeable customer support professionals, and we may not be successful in attracting the professionals we need. Our research and development organization is principally located in Austin, Texas, where competition for software development and engineering personnel is intense. We may have difficulty hiring and retaining suitably skilled personnel or expanding our research and development organization. In addition, job candidates and existing employees often consider the actual and potential value of the equity awards they receive as part of their overall compensation. Thus, if the perceived value or future value of our stock declines, our ability to attract and retain highly skilled employees may be adversely affected. In addition, many of our existing employees may exercise vested options or vest in outstanding restricted stock units and sell our stock, which may make it more difficult for us to retain key employees. If we fail to attract and retain new employees, our business and future growth prospects could be harmed.

Our failure to comply with laws and regulations related to the Internet and mobile usage could adversely affect our business and results of operations, increase costs and impose constraints on the way we conduct our business.

We and our customers are subject to laws and regulations applicable to doing business over the Internet and through the use of mobile devices. It is often not clear how existing laws governing issues such as property ownership, sales and other taxes apply to the Internet and mobile usage, as these laws have in some cases failed to keep pace with technological change. Laws governing the Internet could also impact our business or the business of our customers. For instance, existing and future regulations on taxing Internet use, pricing, characterizing the types and quality of services and products or restricting the exchange of information over the Internet or mobile devices could result in reduced growth of our business, a general decline in the use of the Internet by financial service institutions, financial technology companies, or their account holders or end users, diminished viability of our solutions and could significantly restrict our customers' ability to use our solutions. Changing federal and state laws and regulations, industry standards and industry self-regulation regarding the collection, use and disclosure of certain data may have similar effects on our and our customers' businesses. Any such constraint on the growth in Internet and mobile usage could decrease its acceptance as a medium of communication and commerce or result in increased adoption of new modes of communication and commerce that may not be supported by our solutions. Any such adverse legal or regulatory developments could substantially harm our operating results and our business.

Legislation relating to consumer privacy may affect our ability to collect data that we use in providing our customers' account holder and end user information, which, among other things, could negatively affect our ability to satisfy our customers' needs.

We collect and store personal and identifying information regarding our customers' account holders and end users to enable certain functionality of our solutions and provide our customers with data about their account holders and end users. The enactment of new or amended legislation or industry regulations pertaining to consumer or private sector privacy issues could have a material adverse impact on our collection, storage and sharing of such information. Legislation or industry regulations regarding consumer or private sector privacy issues could place restrictions upon the collection, sharing and use of information that is currently legally available, which could materially increase our cost of collecting some data. These types of legislation or industry regulations could also prohibit us from collecting or disseminating certain types of data, which could adversely affect our ability to meet our customers' requirements and our profitability and cash flow targets. While every state, the District of Columbia and the FFIEC have enacted data breach notification laws or requirements, there is no such federal law generally applicable to our businesses. These legislative measures impose strict requirements on reporting time frames for providing notice, as well as the contents of such notices. The costs of compliance with, the inability to determine whether a data breach has occurred within the time frame provided by, and other burdens imposed by, such laws and regulations may lead to significant fines, penalties or liabilities for any noncompliance with such privacy laws. Even the perception of privacy concerns, whether or not valid, may inhibit market adoption of our solutions.

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In addition to government activity, privacy advocacy groups and the technology and other industries are considering various new, additional or different self-regulatory standards that may place additional burdens on us. If the collecting, storing and processing of personal information were to be curtailed, our solutions would be less effective, which may reduce demand for our solutions and adversely affect our business.

Any use of our solutions by our customers in violation of regulatory requirements could damage our reputation and subject us to additional liability.

If our customers or their account holders or end users use our digital banking solutions in violation of regulatory requirements and applicable laws, we could suffer damage to our reputation and could become subject to claims. We rely on contractual obligations made to us by our customers that their use and their account holders' and end users' use of our solutions will comply with applicable laws. However, we do not audit our customers or their account holders or end users to confirm compliance. We may become subject to or involved with claims for violations by our customers or their account holders or end users of applicable laws in connection with their use of our solutions. Even if claims asserted against us do not result in liability, we may incur costs in investigating and defending against such claims. If we are found liable in connection with our customers' or their account holders' or end users' activities, we could incur liabilities and be required to redesign our solutions or otherwise expend resources to remedy any damages caused by such actions and to avoid future liability.

Any future litigation against us could be costly and time-consuming to defend.

We may become subject, from time to time, to legal proceedings and claims that arise in the ordinary course of business such as claims brought by our customers in connection with commercial disputes or employment claims made by our current or former employees. Litigation might result in substantial costs and may divert management's attention and resources, which might seriously harm our business, overall financial condition and operating results. Insurance might not cover such claims, might not provide sufficient payments to cover all the costs to resolve one or more such claims and might not continue to be available on terms acceptable to us. A claim brought against us that is uninsured or underinsured could result in unanticipated costs, thereby reducing our operating results and leading analysts or potential investors to reduce their expectations of our performance, which could reduce the trading price of our stock.

Lawsuits by third parties against us and our customers for alleged infringement of the third parties' proprietary rights or for other intellectual property related claims could result in significant expenses and harm our operating results.

Our industry is characterized by the existence of a large number of patents, copyrights, trademarks, trade secrets and other intellectual property and proprietary rights. Companies in our industry are often required to defend against litigation claims based on allegations of infringement or other violations of intellectual property rights. Furthermore, our customer agreements typically require us to indemnify our customers against liabilities incurred in connection with claims alleging our solutions infringe the intellectual property rights of a third party. From time to time, we have been involved in disputes related to patent and other intellectual property rights of third parties, none of which have resulted in material liabilities. We expect these types of disputes to continue to arise in the future. Our business could be adversely affected by any significant disputes between us and our customers as to the applicability or scope of our indemnification obligations to them. There can be no assurances that any existing limitations of liability provisions in our contracts would be enforceable or adequate, or would otherwise protect us from any such liabilities or damages with respect to any particular claim. If such claims are successful, or if we are required to indemnify or defend our customers from these or other claims, these matters could be disruptive to our business and management and have an adverse effect on our business, operating results and financial condition.

Furthermore, our technologies may not be able to withstand any third-party claims or rights against their use. As a result, our success depends upon our not infringing upon the intellectual property rights of others. Our competitors, as well as a number of other entities and individuals, may own or claim to own intellectual property relating to our industry. We have a very limited patent portfolio, which will likely prevent us from deterring patent infringement claims, and our competitors and others may now and in the future have significantly larger patent portfolios than we have. From time to time, we have received and may continue to receive threatening letters or notices or in the future may be the subject of claims that our solutions and underlying technology infringe or violate the intellectual property rights of others, and we may be found to be infringing upon such rights. The risk of patent litigation has been amplified by the increase in the number of non-practicing patent asserting entities, or patent trolls. Any claims or litigation could cause us to incur significant expenses and, if successfully asserted against us or our customers whom we indemnify, could require that we pay substantial damages or ongoing royalty payments, prevent us from offering our solutions or require that we comply with other unfavorable terms. Even if the claims do not result in litigation or are resolved in our favor, these claims and the time and resources necessary to resolve them, could divert the resources of our management and harm our business and operating results.

The frequency of these types of claims may increase as we continue to add new customers and as a result of our being a public company.

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If we are unable to protect our intellectual property, our business could be adversely affected.

Our success depends upon our ability to protect our intellectual property, which may require us to incur significant costs. We have developed much of our intellectual property internally, and we rely on a combination of confidentiality obligations in contracts, patents, copyrights, trademarks, service marks, trade secret laws and other contractual restrictions to establish and protect our intellectual property and other proprietary rights. In particular, we enter into confidentiality and invention assignment agreements with our employees and consultants and enter into confidentiality agreements with the parties with whom we have business relationships in which they will have access to our confidential information. We also rely upon licenses to intellectual property from third parties. No assurance can be given that these agreements or other steps we take to protect our intellectual property or the third-party intellectual property used in our solutions will be effective in controlling access to and distribution of our solutions and our confidential and proprietary information. We will not be able to protect our intellectual property if we are unable to enforce our rights or if we do not detect unauthorized uses of our intellectual property.

Despite our precautions, it may be possible for third parties to copy our solutions and use information that we regard as proprietary to create solutions and services that compete with ours. Third parties may also independently develop technologies that are substantially equivalent to our solutions. Some license provisions protecting against unauthorized use, copying, transfer and disclosure of our solutions may be unenforceable under the laws of certain jurisdictions.

In some cases, litigation may be necessary to enforce our intellectual property rights or to protect our trade secrets. Litigation could be costly, time consuming and distracting to management and could result in the impairment or loss of portions of our intellectual property. Furthermore, our efforts to enforce our intellectual property rights may be met with defenses, counterclaims and countersuits attacking the validity and enforceability of our intellectual property rights and exposing us to significant damages or injunctions. Our inability to protect our intellectual property against unauthorized copying or use, as well as any costly litigation or diversion of our management's attention and resources, could delay sales or the implementation of our solutions, impair the functionality of our solutions, delay introductions of new solutions, result in our substituting less-advanced or more-costly technologies into our solutions or harm our reputation. In addition, we may be required to license additional intellectual property from third parties to develop and market new solutions, and we cannot assure you that we could license that intellectual property on commercially reasonable terms or at all.

We cannot be certain that any patents will be issued with respect to our current or future patent applications.

As of December 31, 2017, we had seven U.S. patent applications pending and two issued U.S. patents. We do not know whether our pending patent applications will result in the issuance of patents or whether the examination process will require us to narrow the scope of our claims. To the extent that our pending patent applications or any portion of such applications proceed to issuance as a patent, any such future patent may be opposed, contested, circumvented, designed around by a third party or found to be invalid or unenforceable. In addition, our existing and any future issued patents may be opposed, contested, circumvented, designed around by a third party or found to be invalid or unenforceable. The process of seeking patent protection can be lengthy and expensive. We rely on a combination of patent, copyright, trade secret, trademark and other intellectual property laws to protect our intellectual property, and much of our technology is not covered by any patent or patent application.

We use "open source" software in our solutions, which may restrict how we use or distribute our solutions, require that we release the source code of certain software subject to open source licenses or subject us to litigation or other actions that could adversely affect our business.

We currently use in our solutions, and may use in the future, software that is licensed under "open source," "free" or other similar licenses where the licensed software is made available to the general public on an "as-is" basis under the terms of a specific non-negotiable license. Some open source software licenses require that software subject to the license be made available to the public and that any modifications or derivative works based on the open source code be licensed in source code form under the same open source licenses. Although we monitor our use of open source software, we cannot assure you that all open source software is reviewed prior to use in our solutions, that our programmers have not incorporated open source software into our solutions, or that they will not do so in the future.

In addition, some of our products may incorporate third-party software under commercial licenses. We cannot be certain whether such third-party software incorporates open source software without our knowledge. In the past, companies that incorporate open source software into their products have faced claims alleging noncompliance with open source license terms or infringement or misappropriation of proprietary software. Therefore, we could be subject to suits by parties claiming noncompliance with open source licensing terms or infringement or misappropriation of proprietary software. Because few courts have interpreted open source licenses, the manner in which these licenses may be interpreted and enforced is subject to some uncertainty. There is a risk that open source software licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to market or provide our solutions. As a result of using open source software subject to such licenses, we could be required to release our proprietary source code,

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pay damages, re-engineer our products, limit or discontinue sales or take other remedial action, any of which could adversely affect our business.

The market data and forecasts included in this report may prove to be inaccurate, and even if the markets in which we compete achieve the forecasted growth, we cannot assure you that our business will grow at similar rates, or at all.

The market data and forecasts included in our Annual Report on Form 10-K for the year ended December 31, 2017 and our previous filings with the SEC, including the data and forecasts published by BauerFinancial, among others, and our internal estimates and research are subject to significant uncertainty and are based on assumptions and estimates that may not prove to be accurate. If the forecasts of market growth or anticipated spending prove to be inaccurate, our business and growth prospects could be adversely affected. Even if the forecasted growth occurs, our business may not grow at a similar rate, or at all. Our future growth is subject to many factors, including our ability to successfully implement our business strategy, which itself is subject to many risks and uncertainties. Such reports speak as of their respective publication dates and the opinions expressed in such reports are subject to change. Accordingly, potential investors in our common stock are urged not to put undue reliance on such forecasts and market data.

Uncertain or weakened economic conditions may adversely affect our industry, business and results of operations.

Our overall performance depends on economic conditions, which may remain challenging or uncertain for the foreseeable future. Financial developments seemingly unrelated to us or our industry may adversely affect us. Domestic and international economies have been impacted by threatened sovereign defaults and ratings downgrades, falling demand for a variety of goods and services, restricted credit, threats to major multinational companies, poor liquidity, reduced corporate profitability, volatility in credit, equity and foreign exchange markets, bankruptcies and overall uncertainty. These conditions affect the rate of technology spending and could adversely affect our customers' ability or willingness to purchase our solutions, delay prospective customers' purchasing decisions, reduce the value or duration of their subscriptions or affect renewal rates, any of which could adversely affect our operating results. We cannot predict the timing, strength or duration of the economic recovery or any subsequent economic slowdown in the U.S. or in our industry.

We may not be able to utilize a significant portion of our net operating loss carryforwards, which could adversely affect our operating results and cash flows.

As of December 31, 2017, we had approximately $168.1 million of U.S. federal net operating loss carryforwards. Utilization of these net operating loss carryforwards depends on many factors, including our future income, which cannot be assured. Our loss carryforwards begin to expire in 2026. In addition, Section 382 of the Internal Revenue Code generally imposes an annual limitation on the amount of net operating loss carryforwards that may be used to offset taxable income when a corporation has undergone an ownership change. An ownership change is generally defined as a greater than 50% change in equity ownership by value over a 3-year period. We have undergone one or more ownership changes as a result of prior financings, and may have undergone an ownership change as a result of our Initial Public Offering, or our IPO, in March 2014 and/or our follow-on offerings in March 2015 and September 2015, and any such change in ownership and the corresponding annual limitation may prevent us from using our current net operating losses prior to their expiration. Future ownership changes or future regulatory changes could further limit our ability to utilize our net operating loss carryforwards. To the extent we are not able to offset our future income against our net operating loss carryforwards, this would adversely affect our operating results and cash flows if we attain profitability.

Our business may be subject to additional obligations to collect and remit sales tax and other taxes, and we may be subject to tax liability for past sales. Any successful action by state, local or other authorities to collect additional or past sales tax could adversely harm our business.

We file sales tax returns in certain states within the U.S. as required by law and certain customer contracts for a portion of the solutions that we provide. Our sales tax liabilities with respect to sales and use taxes in various states and local jurisdictions were $0.3 million as of December 31, 2017. From time to time we face sales tax audits, and we will likely continue to do so in the future, and our liability for these taxes could exceed our estimates as state tax authorities could still assert that we are obligated to collect additional amounts as taxes from our customers and remit those taxes to those authorities.

We do not collect sales or other similar taxes in other states and many of the states do not apply sales or similar taxes to certain of our solutions. State and local taxing jurisdictions have differing rules and regulations governing sales and use taxes, and these rules and regulations are subject to varying interpretations that may change over time. In particular, the applicability of sales taxes to our solutions in various jurisdictions is unclear. We review these rules and regulations periodically and, when we believe we are subject to sales and use taxes in a particular state, we may voluntarily engage state tax authorities to determine how to comply with their rules and regulations. A successful assertion by one or more states, including states for which we have not accrued tax liability, requiring us to collect sales or other taxes with respect to sales of our solutions or

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customer support could result in substantial tax liabilities for past transactions, including interest and penalties, discourage customers from purchasing our solutions or otherwise harm our business and operating results.

Changes in financial accounting standards or practices may cause adverse, unexpected financial reporting fluctuations and affect our reported results of operations.

Financial accounting standards may change or their interpretation may change. A change in accounting standards or practices can have a significant effect on our reported results and may even affect our reporting of transactions completed before the change becomes effective. Changes to existing rules or the re-examining of current practices may adversely affect our reported financial results or the way we conduct our business. Accounting for revenues from sales of our solutions is particularly complex, is often the subject of intense scrutiny by the SEC and will evolve as the Financial Accounting Standards Board, or FASB, continues to consider applicable accounting standards in this area. In particular, in order to be able to comply with the requirements of the new revenue recognition standard under Accounting Standards Codification, or ASC, 606 beginning in the first quarter of 2018, we have been updating and enhancing our internal accounting systems and processes and our internal controls over financial reporting. This has required, and will continue to require, additional investments by us, and may require incremental resources and system configurations that could increase our operating costs in future periods. Further, as companies begin adopting ASC 606, its interpretation and application will likely evolve over time which could adversely impact our current and historical financial results and require further changes to our disclosures, internal systems and processes and internal controls.

We may acquire or invest in companies, or pursue business partnerships, which may divert our management's attention and present additional risks, and we may be unable to integrate acquired businesses and technologies successfully or achieve the expected benefits of such acquisitions or investments, all of which could have a material adverse effect on our business and results of operations.

We have completed, and may in the future evaluate and consider, potential strategic transactions, including acquisitions of, or investments in, businesses, technologies, services, products and other assets. We also may enter into relationships with other businesses to expand our solutions, which could involve preferred or exclusive licenses, additional channels of distribution, discount pricing or investments in other companies. Negotiating these transactions can be time-consuming, difficult and expensive, and our ability to close these transactions may be subject to approvals that are beyond our control. In addition, we have limited experience in acquiring other businesses. We may not be able to find and identify desirable additional acquisition targets, we may incorrectly estimate the value of an acquisition target, and we may not be successful in entering into an agreement with any particular target. Consequently, these transactions, even if undertaken and announced, may not close.

We may not achieve the anticipated benefits from our past acquisitions or any additional businesses we acquire due to a number of factors, including:

- our inability to integrate, manage or benefit from acquired operations, technologies or services;
- unanticipated costs or liabilities associated with the acquisition, including the assumption of liabilities or commitments of the acquired business that were not disclosed to us or that exceeded our estimates;
- difficulty integrating the accounting systems, operations and personnel of the acquired business;
- difficulties and additional expenses associated with supporting legacy solutions and hosting infrastructure of the acquired business;
- uncertainty of entry into markets in which we have limited or no prior experience or in which competitors have stronger market positions;
- difficulty converting the customers of the acquired business to our solutions and contract terms, including disparities in the revenues, licensing, support or professional services model of the acquired company;
- diversion of management's attention from other business concerns;
- adverse effects to our existing business relationships with business partners and customers as a result of the acquisition;
- use of resources that are needed in other parts of our business;
-

the use of a substantial portion of our cash that we may need to operate our business and which may limit our operational flexibility and ability to pursue additional strategic transactions;

- the issuance of additional equity securities that would dilute the ownership interests of our stockholders;

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- incurrence of debt on terms unfavorable to us or that we are unable to repay;
- incurrence of large charges or substantial liabilities;
- our inability to apply and maintain internal standards, controls, procedures and policies with respect to the acquired businesses;
- difficulties retaining key employees of the acquired company or integrating diverse software codes or business culture; and
- become subject to adverse tax consequences, substantial depreciation or deferred compensation charges.

In addition, a significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill and other intangible assets, which must be assessed for impairment at least annually. In the future, if our acquisitions do not yield expected returns, we may be required to take charges to our operating results based on this impairment assessment process, which could adversely affect our results of operations.

We may not be able to secure sufficient additional financing on favorable terms, or at all, to meet our future capital needs.

We may require additional capital in the future to pursue business opportunities or acquisitions or respond to challenges and unforeseen circumstances. We may also decide to engage in equity or debt financings or enter into credit facilities for other reasons. We may not be able to secure additional debt or equity financing in a timely manner, on favorable terms, or at all. Any debt financing we obtain in the future could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and pursue business opportunities, including potential acquisitions.

Risks Related to Ownership of Our Common Stock

Our stock price could decline due to the large number of outstanding shares of our common stock eligible for future sale.

As of January 31, 2018, we had an aggregate of 42,028,275 outstanding shares of common stock. The shares sold in our IPO and follow-on offerings can be freely sold in the public market without restriction. The remaining shares can be freely sold in the public market, subject in some cases to volume and other restrictions under Rule 144 and 701 under the Securities Act of 1933, as amended, and various agreements.

In addition, we have registered 14,090,763 shares of common stock that we have issued and may issue under our stock plans. These shares can be freely sold in the public market upon issuance, subject in some cases to volume and other restrictions under Rules 144 and 701 under the Securities Act, and various vesting agreements. In addition, some of our employees, including some of our executive officers, have entered into 10b5-1 trading plans regarding sales of shares of our common stock. These plans provide for sales to occur from time to time. If any of these additional shares are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline.

Also, in the future, we may issue additional securities in connection with investments and acquisitions. The amount of our common stock issued in connection with an investment or acquisition could constitute a material portion of our then outstanding stock. Due to these factors, sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock.

If securities or industry analysts publish unfavorable or misleading research about our business, or cease coverage of our company, our stock price and trading volume could decline.

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us or our business. If one or more of the securities or industry analysts who covers us downgrades our stock or publishes unfavorable or misleading research about our business, our stock price would likely decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, we could lose visibility in the market for our stock, and demand for our stock could decrease, which could cause our stock price or trading volume to decline.

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We have incurred and will continue to incur significant increased expenses and administrative burdens as a public company, which could have a material adverse effect on our operations and financial results.

We face increased legal, accounting, administrative and other costs and expenses as a public company that we did not incur as a private company prior to our IPO in March 2014. The Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, including the requirements of Section 404, as well as rules and regulations subsequently implemented by the SEC, the Public Company Accounting Oversight Board and the New York Stock Exchange, impose additional reporting and other obligations on public companies. Compliance with public company requirements have and will increase our costs and make some activities more time-consuming. Since our IPO, we have created new board committees and have adopted new internal controls and disclosure controls and procedures. In addition, we have and will continue to incur additional expenses associated with our SEC reporting requirements. Furthermore, if we identify any issues in complying with those requirements (for example, if our financial systems prove inadequate or we or our auditors identify deficiencies in our internal control over financial reporting), we could incur additional costs rectifying those issues, and the existence of those issues could adversely affect us, our reputation or investor perceptions of us. It is also more expensive to maintain director and officer liability insurance as a public company. Risks associated with our status as a public company may make it more difficult for us to attract and retain qualified persons to serve on our board of directors or as executive officers. The additional reporting and other obligations imposed on us by these rules and regulations have and we expect will continue to increase our legal and financial compliance costs and the costs of our related legal, accounting and administrative activities. These costs require us to divert a significant amount of money that we could otherwise use to expand our business and achieve our strategic objectives. Proposals submitted by stockholders at our annual meeting or other advocacy efforts by stockholders and third parties may also prompt additional changes in governance and reporting requirements, which could further increase our costs.

In addition, changing laws, regulations and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs and making some activities more time consuming. These laws, regulations and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This situation could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to their application and practice, regulatory authorities may initiate investigations, inquiries, administrative proceedings or legal proceedings against us and our business may be adversely affected.

Insiders continue to have significant control over us, which may limit our stockholders' ability to influence corporate matters and delay or prevent a third party from acquiring control over us.

As of January 31, 2018, our directors, executive officers and holders of more than 5% of our common stock, together with their affiliates, beneficially owned, in the aggregate, approximately 19.2% of our outstanding common stock. This significant concentration of ownership may adversely affect the trading price for our common stock because investors often perceive disadvantages in owning stock in companies with one or more large stockholders. In addition, these stockholders will be able to exercise significant influence over all matters requiring stockholder approval, including the election of directors and approval of corporate transactions, such as a merger or other sale of our company or its assets. This concentration of ownership could limit other stockholders' ability to influence corporate matters and may have the effect of delaying or preventing a change in control, including a merger, consolidation or other business combination involving us, or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control, even if that change in control would benefit our other stockholders.

Our management has broad discretion over the use of the proceeds we received in our IPO and follow-on offerings and might not apply those proceeds in ways that increase the value of our common stock.

Our management has broad discretion to use the net proceeds from our IPO and our follow-on offerings. Our management might not apply the net proceeds of the IPO or follow-on offerings in ways that increase the value of our common stock. We utilized our net proceeds from the IPO to repay approximately $6.2 million of outstanding indebtedness under our previous credit facility with Wells Fargo Bank, National Association, or Credit Facility, and approximately $31.7 million, including amounts held back to cover indemnification, to acquire Centrix and Social Money, paid $8.2 million to the former Centrix shareholders based upon the achievement of certain milestones and continued employment with Q2, completed an asset purchase for $1.5 million in cash in January 2017 (which includes a hold-back of $150,000), and expect to use the balance for general corporate purposes, including working capital and capital expenditures, which may in the future include investments in, or acquisitions of, complementary businesses, services or technologies. Our management might not be able to yield a significant return, if any, on any use of these net proceeds.

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If we fail to maintain proper and effective internal controls, our ability to produce accurate and timely financial statements could be impaired, which could harm our operating results, our ability to operate our business and investors' views of us.

Ensuring that we have adequate internal financial and accounting controls and procedures in place so that we can produce accurate financial statements on a timely basis is a costly and time-consuming effort that needs to be re-evaluated frequently. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and preparation of financial statements in accordance with United States generally accepted accounting principles, or GAAP. While we have documented and assessed our internal controls, we continue to evaluate opportunities to further strengthen the effectiveness and efficiency of our internal controls and procedures for compliance with Section 404 of the Sarbanes-Oxley Act, which requires annual management assessment and annual independent registered public accounting firm attestation reports of the effectiveness of our internal control over financial reporting. If we fail to maintain proper and effective internal controls, our ability to produce accurate and timely financial statements could be impaired, which could harm our operating results, harm our ability to operate our business and reduce the trading price of our stock.

Our stock price may be volatile.

The trading price of our common stock has been and is expected to continue to be highly volatile and could be subject to wide fluctuations in response to various factors, including the risk factors described in this report, and other factors beyond our control. Factors affecting the trading price of our common stock include:

- variations in our operating results or the operating results of similar companies;
- announcements of technological innovations, new solutions or enhancements or strategic partnerships or agreements by us or by our competitors;
- changes in the estimates of our operating results, our financial guidance or changes in recommendations by any securities analysts that follow our common stock;
- the gain or loss of customers, particularly our larger customers;
- adoption or modification of regulations, policies, procedures or programs applicable to our business and our customers' business;
- marketing and advertising initiatives by us or our competitors;
- threatened or actual litigation;
- changes in our senior management;
- recruitment or departure of key personnel;
- market conditions in our industry, the industries of our customers and the economy as a whole;
- the overall performance of the equity markets;
- sales of shares of our common stock by existing stockholders; and
- volatility in our stock price, which may lead to higher stock-based compensation expenses under applicable accounting standards.

In addition, the stock market in general and the market for technology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry factors may harm the market price of our common stock regardless of our actual operating performance. Each of these factors, among others, could adversely affect your investment in our common stock. Some companies that have had volatile market prices for their securities have had securities class action lawsuits filed against them. If a suit were filed against us, regardless of its merits or outcome, it could result in substantial costs and divert management's attention.

We currently do not intend to pay dividends on our common stock, and, consequently, your only opportunity to achieve a return on your investment is if the price of our common stock appreciates.

We have never declared nor paid cash dividends on our capital stock. We currently do not plan to declare dividends on shares of our common stock in the foreseeable future. We currently intend to retain any future earnings to finance the operation and expansion of our business. Any payment of future dividends will be at the discretion of our board of directors and will

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depend on our financial condition, results of operations, capital requirements, general business conditions and other factors that our board of directors may deem relevant. Consequently, your only opportunity to achieve a return on your investment in our company will be if the market price of our common stock appreciates and you sell your shares at a profit. There is no guarantee that the price of our common stock that will prevail in the market will ever exceed the price that you paid for your common stock.

Anti-takeover provisions in our charter documents and Delaware law could discourage, delay or prevent a change in control of our company and may affect the trading price of our common stock.

We are a Delaware corporation and the anti-takeover provisions of the Delaware General Corporation Law, which apply to us, may discourage, delay or prevent a change in control by prohibiting us from engaging in a business combination with an interested stockholder for a period of three years after the stockholder becomes an interested stockholder, even if a change in control would be beneficial to our existing stockholders. In addition, our amended and restated certificate of incorporation and amended and restated bylaws may discourage, delay or prevent a change in our management or control over us that stockholders may consider favorable. Our certificate of incorporation and bylaws:

- authorize the issuance of "blank check" preferred stock that could be issued by our board of directors to help defend against a takeover attempt;
- establish a classified board of directors, as a result of which the successors to the directors whose terms have expired will be elected to serve from the time of election and qualification until the third annual meeting following their election;
- require that directors only be removed from office for cause and only upon a supermajority stockholder vote;
- provide that vacancies on the board of directors, including newly created directorships, may be filled only by a majority vote of directors then in office rather than by stockholders;
- prevent stockholders from calling special meetings;
- include advance notice procedures for stockholders to nominate candidates for election as directors or bring matters before an annual meeting of stockholders;
- prohibit stockholder action by written consent, requiring all actions to be taken at a meeting of the stockholders; and
- provide that certain litigation against us can only be brought in Delaware.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 2. Properties.

Our principal executive offices are located in Austin, Texas in two adjacent buildings under separate lease agreements, pursuant to the first of which we lease approximately 67,000 square feet of office space under a lease agreement 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 we lease approximately 129,000 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. We also lease office space in south Austin, Texas; Lincoln, Nebraska; Des Moines, Iowa; Atlanta, Georgia; and Asheville, North Carolina. We believe our current facilities will be adequate for our needs for the foreseeable future.

Item 3. Legal Proceedings.

From time to time, we may become involved in legal proceedings arising in the ordinary course of our business. Our 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 4. Mine Safety Disclosures.

Not applicable.

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PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities.

Market Information and Holders

Our common stock has been listed on the New York Stock Exchange under the symbol "QTWO" since March 20, 2014. Prior to that date, there was no public trading market for our common stock. Our common stock was priced at $13.00 per share in our initial public offering on March 20, 2014. The following table sets forth for the periods indicated the high and low intra-day sale prices per share of our common stock as reported on the New York Stock Exchange:

	High	Low
2017		
First Quarter 2017	$37.58	$28.30
Second Quarter 2017	40.50	34.65
Third Quarter 2017	41.80	31.95
Fourth Quarter 2017	44.35	36.25
2016		
First Quarter 2016	$25.95	$16.43
Second Quarter 2016	28.69	21.75
Third Quarter 2016	30.73	25.31
Fourth Quarter 2016	32.85	25.23

As of December 31, 2017, we had 30 holders of record of our common stock. The actual number of holders of common stock is greater than this number of record holders and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and nominees. The number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Dividend Policy

We have never declared or paid any cash dividends on our common stock. Any future determination to declare cash dividends on our common stock will be made at the discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements, general business conditions and other factors that our board of directors may deem relevant. We do not anticipate paying cash dividends on our common stock for the foreseeable future.

Use of Proceeds From Registered Securities

On March 25, 2014, we completed our IPO of 7,760,870 shares of common stock, at a price of $13.00 per share, before underwriting discounts and commissions, and on April 2, 2014 we completed the sale of an additional 1,164,131 shares of our common stock, at a price of $13.00 per share, before underwriting discounts and commissions, as a result of the underwriters' exercise of their over-allotment option to purchase additional shares. We sold 7,414,131 of such shares and existing stockholders sold an aggregate of 1,510,870 of such shares. We did not receive any proceeds from the sale of shares by the selling stockholders in the IPO. The offer and sale of all of the shares in the IPO were registered under the Securities Act pursuant to a registration statement on Form S-1 (File No. 333-193911), which was declared effective by the SEC on March 19, 2014.

There have been no material changes in the planned use of proceeds from our IPO from that described in the final prospectus filed with the SEC pursuant to Rule 424(b) on March 20, 2014. With a portion of the proceeds of the IPO, we repaid approximately $6.2 million of our previous outstanding indebtedness under our Credit Facility, completed the acquisition of Centrix for total consideration of $21.0 million in cash (which included an escrow amount of $2.0 million), completed the acquisition of Social Money for $10.7 million in cash (which included a hold-back of $2.5 million), paid $8.2 million to the former Centrix shareholders based upon the achievement of certain milestones and continued employment with Q2, and completed an asset purchase for $1.5 million in cash in January 2017 (which includes a hold-back of $150,000). The former

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shareholders of Centrix have the right to receive an additional $1.0 million based upon continued employment of certain shareholders, which will also be funded through the use of a portion of the proceeds of the IPO.

On March 4, 2015, we completed a follow-on offering of 5,890,705 shares of our common stock at a price of $19.75 per share, before underwriting discounts and commissions, including 768,352 shares of our common stock resulting from the underwriters' exercise of their over-allotment option. We sold 1,757,290 of such shares and existing stockholders sold an aggregate of 4,133,415 of such shares. We did not receive any proceeds from the sale of shares by the selling stockholders in the March follow-on offering. The offer and sale of all of the shares in the March follow-on offering were registered under the Securities Act pursuant to a registration statement on Form S-1 (File No. 333-202109), which was declared effective by the SEC on February 26, 2015. There have been no material changes in the planned use of proceeds from the March follow-on offering from that described in the final prospectus filed with the SEC pursuant to Rule 424(b) on February 27, 2015.

On September 30, 2015, we completed a follow-on offering of 3,798,996 shares of our common stock at a price of $25.50 per share, before underwriting discounts and commissions, and on October 15, 2015 we completed the sale of an additional 569,850 shares of our common stock, at a price of $25.50 per share, before underwriting discounts and commissions, as a result of the underwriters' exercise of their over-allotment option to purchase additional shares. We sold 853,409 of such shares and existing stockholders sold an aggregate of 3,515,437 of such shares. We did not receive any proceeds from the sale of shares by the selling stockholders in this follow-on offering or as a result of the underwriters exercising their over-allotment option in this offering. The offer and sale of all of the shares in the September follow-on offering were registered under the Securities Act pursuant to a registration statement on Form S-3 (File No. 333-206869), which was declared effective by the SEC on September 24, 2015. There have been no material changes in the planned use of proceeds from our September follow-on offering from that described in the final prospectus filed with the SEC pursuant to Rule 424(b) on September 25, 2015.

Equity Compensation Plan Information

Information regarding the securities authorized for issuance under our equity compensation plans will be included in our Proxy Statement relating to our 2018 annual meeting of stockholders to be filed with the SEC within 120 days after the end of our fiscal year ended December 31, 2017, and is incorporated herein by reference.

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Performance Graph

The graph set forth below compares the cumulative total stockholder return on our common stock between March 20, 2014 (the date of our IPO) and December 31, 2017, with the cumulative total return of (i) the Russell 2000 Index and (ii) the S&P 1500 Application Software Index. This graph assumes the investment of $100 on March 20, 2014 in our common stock at our IPO offering price of $13.00 per share, the S&P 1500 Application Software Index and the Russell 2000 Index, and assumes the reinvestment of dividends, if any. Note that historic stock price performance is not necessarily indicative of future stock price performance.

The information contained in the Stock Performance Graph shall not be deemed to be soliciting material or to be filed with the SEC nor shall such information be incorporated by reference into any future filing under the Securities Act or the Exchange Act, except to the extent we specifically incorporate it by reference into such filing.

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Issuer Purchases of Equity Securities

	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
October 1 - 31, 2017	—	$ —	$ —	$ —
November 1 - 30, 2017	1,488	42.79	—	—
December 1 - 31, 2017	4,686	41.37	—	—
Total	6,174	$ 41.71	$ —	$ —

(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 shares as reported on the New York Stock Exchange on the date of exercise.

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Item 6. Selected Financial Data.

The following selected consolidated statements of operations data for the years ended December 31, 2017, 2016 and 2015, and the selected consolidated balance sheet data as of December 31, 2017 and 2016 are derived from our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K. The selected consolidated statement of operations data for the years ended December 31, 2014 and 2013 and the balance sheet data as of December 31, 2015, 2014 and 2013 were derived from our audited consolidated financial statements not included in this Annual Report on Form 10-K. The selected consolidated financial data should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations," our consolidated financial statements, related notes, and other financial information included elsewhere in this Annual Report on Form 10-K. Our historical results are not necessarily indicative of our results to be expected in any future period. All amounts are in thousands, except per share data.

	Year Ended December 31,				
	2017	2016	2015	2014	2013
Consolidated Statements of Operations Data:					
Revenues	$193,978	$150,224	$108,867	$79,129	$56,872
Cost of revenues(1)(2)	99,485	77,429	59,128	46,054	36,261
Gross profit	94,493	72,795	49,739	33,075	20,611
Operating expenses:					
Sales and marketing(2)	41,170	36,284	26,999	23,069	16,726
Research and development(2)	40,338	32,460	21,534	12,086	9,029
General and administrative(2)	37,179	31,959	22,977	16,991	11,742
Acquisition related costs	1,232	6,307	2,493	—	—
Amortization of acquired intangibles	1,481	1,470	576	—	—
Unoccupied lease charges(3)	—	33	—	—	236
Total operating expenses	121,400	108,513	74,579	52,146	37,733
Loss from operations	(26,907)	(35,718)	(24,840)	(19,071)	(17,122)
Total other income (expense), net	429	(209)	(3)	(492)	(499)
Loss before income taxes	(26,478)	(35,927)	(24,843)	(19,563)	(17,621)
Benefit from (provision for) income taxes	314	(427)	(220)	(71)	(55)
Loss from continuing operations	(26,164)	(36,354)	(25,063)	(19,634)	(17,676)
Loss from discontinued operations, net of tax(4)	—	—	—	—	(199)
Net loss	$(26,164)	$(36,354)	$(25,063)	$(19,634)	$(17,875)
Net loss per common share:					
Loss from continuing operations per common share, basic and diluted	$(0.63)	$(0.92)	$(0.67)	$(0.67)	$(1.49)
Loss from discontinued operations per common share, basic and diluted	$—	$—	$—	$—	$(0.02)
Net loss per common share, basic and diluted	$(0.63)	$(0.92)	$(0.67)	$(0.67)	$(1.51)
Weighted average common shares outstanding:					
Basic and diluted	41,218	39,649	37,275	29,257	11,866
Other Financial Data:					
Adjusted EBITDA(5)	$10,210	$(4,539)	$(8,138)	$(10,418)	$(12,310)

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(1) Includes amortization of acquired technology of $3.6 million, $3.2 million, and $0.7 million for the years ended December 31, 2017, 2016, and 2015, respectively, and zero for all other years presented.

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

	Year Ended December 31,				
	2017	2016	2015	2014	2013
Cost of revenues	$3,729	$2,043	$1,134	$623	$264
Sales and marketing	3,243	2,231	1,570	774	274
Research and development	4,464	2,934	1,186	527	257
General and administrative	9,503	5,432	3,472	2,646	810
Total stock-based compensation expenses	$20,939	$12,640	$7,362	$4,570	$1,605

(3) Unoccupied lease charges include costs related to our early exit from our previous Lincoln, Nebraska facility in 2016 and our early exit from our previous headquarters in 2013, partially offset by sublease income from those facilities.

(4) We previously had a subsidiary which we fully divested in March 2013. Loss from discontinued operations, net of tax reflects the financial results of this divested subsidiary.

(5) We define adjusted EBITDA as net loss before depreciation, amortization, loss from discontinued operations, 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.

The following table presents a reconciliation of net loss to adjusted EBITDA for each of the periods indicated:

	Year Ended December 31,				
	2017	2016	2015	2014	2013
Reconciliation of Net Loss to Adjusted EBITDA:					
Net loss	$(26,164)	$(36,354)	$(25,063)	$(19,634)	$(17,875)
Depreciation and amortization	14,946	12,199	6,847	4,083	2,971
Stock-based compensation expense	20,939	12,640	7,362	4,570	1,605
Acquisition related costs	1,232	6,307	2,493	—	—
Loss from discontinued operations, net of tax	—	—	—	—	199
(Benefit from) provision for income taxes	(314)	427	220	71	55
Total other (income) expense, net	(429)	209	3	492	499
Unoccupied lease charges	—	33	—	—	236
Adjusted EBITDA	$10,210	$(4,539)	$(8,138)	$(10,418)	$(12,310)

	Year Ended December 31,				
	2017	2016	2015	2014	2013
Consolidated Balance Sheet Data:					
Cash and cash equivalents	$57,961	$54,873	$67,049	$67,979	$18,675
Restricted cash	2,315	1,315	2,123	829	116
Investments	41,685	42,249	43,571	20,956	—
Total current assets	131,087	125,669	133,218	104,522	33,871
Deferred solution and other costs, total	22,219	19,964	16,114	12,219	8,482
Deferred implementation costs, total	11,857	11,034	8,485	7,374	6,374
Total current liabilities	68,073	59,211	45,693	32,404	29,191
Deferred revenues, total	66,668	61,830	52,239	36,725	27,501
Total redeemable preferred and common stock	—	—	—	—	42,052
Total stockholders' equity (deficit)	106,622	100,235	117,974	78,940	(36,316)

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. In addition to historical consolidated financial information, the following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report on Form 10-K, particularly in the section titled "Risk Factors."

Overview

We are a leading provider of secure, cloud-based digital banking solutions. We enable regional and community financial institutions, or RCFIs, to deliver a robust suite of integrated digital banking services to more effectively engage with their consumer and commercial account holders who expect to bank anytime, anywhere and on any device. Our solutions are often the most frequent point of interaction between our RCFI customers and their account holders. As such, we purpose build our solutions to deliver a compelling, consistent user experience across digital channels and drive the success of our customers by extending their local brands, enabling improved account holder retention and creating incremental sales opportunities.

The effective delivery and management of secure and advanced digital banking solutions in the complex and heavily-regulated financial services industry requires significant resources, personnel and expertise. We provide digital banking solutions that are designed to be highly configurable, scalable and adaptable to the specific needs of our RCFI customers. Our solutions deliver to account holders a unified digital banking experience across online, mobile and voice channels by leveraging a common platform that integrates our solutions with each other and with our customers' other internal and third-party systems. In addition, we design our solutions and our data center infrastructure to comply with stringent security and technical regulations applicable to financial institutions and to safeguard our customers and their account holders through features such as real-time risk and fraud analytics.

RCFIs have historically sought to differentiate themselves and create account holder loyalty by providing localized, in-branch banking services and serving as centers of commerce and influence in their communities. However, account holders increasingly engage with their financial services providers across digital channels rather than in physical branches, making it easier for account holders to access competitive financial services and more difficult for RCFIs to maintain account holder loyalty. Innovation in financial services technologies, the proliferation of mobile and tablet devices and evolving consumer expectations for new financial services and modern and intuitive user experiences are pressuring RCFIs to deliver advanced digital banking and other financial services to successfully compete and grow. RCFIs are increasingly considering new ways to complement their digital banking services with innovative financial services, including developing their own applications integrated with their digital banking services and partnering with financial technology companies.

In June 2017, we introduced Q2 Open, a portfolio of open API financial services which are designed to allow RCFIs, as well as others wishing to provide innovative financial services, to develop and support their own applications and financial services technologies more quickly and effectively. Q2 Open additionally provides an opportunity for our RCFI customers to partner with financial technology companies in providing innovative financial services products to meet evolving consumer expectations.

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 customers host our solutions in their own data centers under term license and maintenance agreements. Our customers have numerous account holders and end users, and those account holders and end users can represent one or more registered users on our solutions. We generally price our solutions based on the number of solutions purchased by our customers and the number of registered users utilizing our solutions. We earn additional revenues based on the number of bill-pay and certain other transactions that registered users perform on our solutions in excess of the levels included in our standard subscription fee. As a result, our revenues 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.

We have achieved significant growth since our inception. During each of the past six years, our average number of registered users per 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.

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We believe we have a significant opportunity to continue to grow our business, and we intend 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 customers will improve our margins. However, we do not have any control or influence over whether account holders elect to become registered users of our customers' digital banking services.

We sell our solutions primarily through our professional sales organization. Our primary target market of RCFIs is well-defined as a result of applicable governmental regulations. As a result, we are able to effectively concentrate our sales and marketing efforts on these readily-identifiable financial institutions. We intend to add sales representatives for both banks and credit unions across the U.S. 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 seek to help our customers succeed by providing advanced digital banking and financial technology solutions that allow our customers to distinguish themselves from competing financial institutions and financial technology companies, better engage with their account holders and end users, and meet evolving consumer expectations for financial services. We believe that we successfully compete in our market due to our deep domain expertise, reputation for innovation and the quality, breadth and integration of our solutions and common platform. We have made significant investments, and intend to increase investments in technology innovation and software development as we enhance our solutions and platform and increase or expand the number of solutions that we offer to RCFIs and financial technology companies and their account holders and end users.

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 RCFIs and financial technology companies 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 the Q2 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 382, 385 and 369 installed customers on the Q2 platform as of December 31, 2017, 2016 and 2015, respectively.

Registered Users

We define a registered user as an individual related to an account holder of an installed customer on the Q2 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 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 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 users. Our installed customers had approximately 10.4 million, 8.6 million and 6.3 million registered users as of December 31, 2017, 2016 and 2015, respectively.

Revenue Retention Rate

We believe that our ability to retain our installed 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 from customers who were installed customers on any Q2 solution as of December 31 of the prior year, expressed as a percentage of the total revenues during the prior year from those installed customers on any Q2 solution. Our revenue retention rate provides insight into the impact on current year revenues of the number of new customers implemented on any Q2 solution during the prior year, the timing of our implementation of those new customers in the prior year, growth in the number of registered users and changes in their usage of our solutions, sales of new products and services to our existing installed customers during the current year and installed 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 become installed customers. 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 122% for each of the years ended December 31, 2017, 2016 and 2015.

Churn

We utilize churn to monitor the satisfaction of our digital banking customers and evaluate the effectiveness of our business strategies. We define churn as the amount of any monthly recurring revenue losses due to installed 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 installed 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 six years, and we had annual churn of 4.9%, 5.1% and 3.5% for the years ended December 31, 2017, 2016 and 2015, 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.

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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):

	Year Ended December 31,		
	2017	2016	2015
Reconciliation of Net Loss to Adjusted EBITDA:			
Net loss	$(26,164)	$(36,354)	$(25,063)
Depreciation and amortization	14,946	12,199	6,847
Stock-based compensation expense	20,939	12,640	7,362
Acquisition related costs	1,232	6,307	2,493
(Benefit from) provision for income taxes	(314)	427	220
Total other (income) expense, net	(429)	209	3
Unoccupied lease charges	—	33	—
Adjusted EBITDA	$10,210	$(4,539)	$(8,138)

Components of Operating Results

Revenues

All of our 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 as well as revenues for implementation and customer support services related to our solutions. A small portion of our customers host our solutions in their own data centers under term license and maintenance agreements, and we recognize the corresponding revenues over the term of those customer agreements. Subscription fees are based on the number of solutions purchased by our customers, the number of registered users 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 Q2 platform customer agreements averages over five years, although it varies by customer. We begin recognizing subscription fees on the date a 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 agreement term beginning on the date we commence recognizing subscription fees. Amounts that have been invoiced but not paid are recorded in accounts receivable and in revenues or deferred revenues, depending on whether our revenue recognition criteria have been met.

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We consider subscription fees to be fixed or determinable unless the fees are subject to refund or adjustment or are not payable within our standard payment terms. In determining whether collection of subscription fees is reasonably assured, we consider financial and other information about customers, such as a customer's current credit-worthiness and payment history over time. Historically, our bad debt expenses have not been significant.

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, 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 remaining term of the customer agreement. 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 consolidated balance sheet. During the year ended 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 life of the customer agreement.

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 registered users utilizing our solutions grows and those users increase the number of transactions on our solutions.

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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 includes 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 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 Centrix and Social Money which are recognized as earned, 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.

Unoccupied Lease Charges

Unoccupied lease charges include costs related to the early exit from our previous Lincoln, Nebraska facility, partially offset by the sublease income from that facility.

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 incurred on our Credit Facility which expired in April 2017, and fees and interest associated with the letter of credit issued to our landlord for the security deposit for our corporate headquarters.

Benefit from (Provision for) Income Taxes

As a result of our current net operating loss position, current income tax expenses consist primarily of state income taxes, and deferred income tax expenses relate to the tax amortization of recently acquired goodwill, resulting in the recognition of a net deferred tax liability. We incurred minimal state income taxes for each of the years ended December 31, 2017, 2016 and 2015. Our net operating loss carryforwards for federal income tax purposes were $168.1 million and $129.5 million at December 31, 2017 and 2016, respectively, which will expire at various dates beginning in 2026, if not utilized. We also held state tax credits of $0.5 million and $0.2 million for the years ended December 31, 2017 and 2016, respectively, federal alternative minimum tax credits of $0.1 million for each of the years ended December 31, 2017 and 2016, and federal R&D tax credits of $1.2 million and zero for the years ended December 31, 2017 and 2016, respectively. The state tax credits will expire in 2026 if not utilized, the federal R&D tax credits will expire at various dates beginning in 2027, if not utilized, and the federal alternative minimum tax credits have an indefinite carryforward period.

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Critical Accounting Policies and Significant Judgments and Estimates
Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of these consolidated financial statements requires us 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 consolidated financial statements, and the reported amounts of revenues and expenses. In accordance with GAAP, we base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances. Actual results might differ from these estimates under different assumptions or conditions.
Our significant accounting policies are described in Note 2 to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K, and we believe that the accounting policies discussed below involve the greatest degree of complexity and exercise of significant judgments and estimates by our management. The methods, estimates and judgments that we use in applying our accounting policies have a significant impact on our results of operations and, accordingly, we believe the policies described below are the most critical for understanding and evaluating our financial condition and results of operations.
Revenue Recognition
All revenue-generating activities are directly related 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 as well as revenues for implementation and customer support services related to our solutions. A small portion of our customers host our solutions in their own data centers under term license and maintenance agreements, and we recognize the corresponding revenues ratably over the term of those customer agreements.
Revenues are recognized net of sales credits and allowances. We begin to recognize revenue for a customer when all of the following conditions are satisfied:
- there is persuasive evidence of an arrangement;
- the service has been or is being provided to the customer;
- the collection of the fees is reasonably assured; and
- the amount of fees to be paid by the customer is fixed or determinable.

Determining whether and when these criteria have been met can require significant judgment and estimates. In general, revenue recognition commences when our solutions are implemented and made available to the customers. Our software solutions are available for use in hosted application arrangements under subscription fee agreements. Subscription fees from these applications, including related customer support, are recognized ratably over the customer agreement term beginning on the date the 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 our revenue recognition criteria have been met.
We consider subscription fees to be fixed or determinable unless the fees are subject to refund or adjustment or are not payable within our standard payment terms. In determining whether collection of subscription fees is reasonably assured, we consider financial and other information about customers, such as a customer's current credit-worthiness and payment history over time. Historically, bad debt expenses have been insignificant.
We enter into arrangements with multiple-deliverables that generally include multiple subscription and implementation services. Additional agreements with existing customers that are not in close proximity to the original arrangements are treated as separate contracts for accounting purposes.
For multiple-deliverable arrangements, arrangement consideration is allocated to deliverables based on their relative selling price. In order to treat deliverables in a multiple-deliverable arrangement as separate units of accounting, the deliverables must have standalone value upon delivery. Our subscription services have standalone value as such services are often sold separately. In determining whether implementation services have standalone value apart from the subscription services, we consider various factors including the availability of the services from other vendors. To date, we have concluded that the implementation services included in multiple-deliverable arrangements do not have standalone value. As a result, when implementation services are sold in a multiple-deliverable arrangement, we defer

any arrangement fees for implementation services and recognize such amounts ratably over the period of performance for the initial agreement term.

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When multiple-deliverables included in an arrangement are separated into different units of accounting, the arrangement consideration is allocated to the identified separate units based on a relative selling price hierarchy. The selling price for a deliverable is based on its vendor-specific objective evidence of selling price, or VSOE, if available, third-party evidence of selling price, or TPE, if VSOE is not available or best estimate of selling price, or BESP, if neither VSOE nor TPE is available. We have not established VSOE for our subscription services due to lack of pricing consistency, the introduction of new services and other factors. We have determined that TPE is not a practical alternative due to differences in our service offerings compared to other parties and the availability of relevant third-party pricing information. Accordingly, we use BESP to determine the relative selling price. The amount of revenue allocated to delivered items is limited by contingent revenues.

We determine BESP by considering our overall pricing objectives and market conditions. Significant pricing practices taken into consideration include our discounting practices, the size and volume of transactions, customer characteristics, price lists, go-to-market strategy, historical standalone sales and agreement prices. As our go-to-market strategies evolve, we may modify our pricing practices in the future, which could result in changes in relative selling prices, and include both VSOE and BESP.

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. We recognize 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. Deferred revenues that are expected to be recognized as revenues during the succeeding twelve-month period are recorded in current liabilities as deferred revenues, current portion, and the remaining portion is recorded in long-term liabilities as deferred revenues, net of current portion.

Deferred Implementation Costs

We capitalize certain personnel and other costs such as employee salaries, benefits and the associated payroll taxes that are direct and incremental to the implementation of our solutions. We analyze implementation costs that may be capitalized to assess their recoverability, and only capitalize costs that we anticipate to be recoverable. We assess the recoverability of our 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. We begin amortizing the deferred implementation costs for an implementation once the revenue recognition criteria have been met, and we amortize those deferred implementation costs ratably over the remaining term of the customer agreement. 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.

Deferred Solution and Other Costs

We capitalize sales commissions and other third-party costs such as third-party licenses and maintenance related to our customer agreements. We capitalize 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. We begin amortizing deferred solution and other costs for a particular customer agreement once the revenue recognition criteria are met and amortize those deferred costs over the remaining term of the customer agreement. We analyze solution and other costs that may be capitalized to assess their recoverability and only capitalize costs that we anticipate to be 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.

Accounts Receivable, Net

Accounts receivable are stated at net realizable value, including both billed and unbilled receivables to customers. Unbilled receivable balances arise primarily when we provide services in advance of billing for these services and also when we earn revenues based on the number of registered users and the number of bill-pay and certain other transactions that registered users perform on our solutions in excess of the levels included in our minimum subscription fee. Generally, billing for revenues related to the number of registered users and the number of transactions processed by our registered users occurs one month in arrears. Included in the accounts receivable balances as of December 31, 2017 and December 31, 2016 were unbilled receivables of $2.1 million and $1.2 million, respectively.

We assess the collectability of outstanding accounts receivable on an ongoing basis and maintain an allowance for doubtful accounts for accounts receivable deemed uncollectable. As of December 31, 2017 and December 31, 2016, we did not provide for an allowance for doubtful accounts, as all amounts outstanding were deemed collectable. Historically, our collection experience has not varied significantly, and bad debt expenses have been insignificant.

We maintain 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, we analyze 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 $0.2 million as of both December 31, 2017 and 2016.

Stock-Based Compensation

Stock-based awards and restricted stock units awarded to employees, directors and consultants are measured at fair value at each grant date. We recognize stock-based compensation expense ratably over the requisite service period of the option or restricted stock unit award. As of January 1, 2017, we no longer use a forfeiture rate to recognize compensation expense as a result of the adoption of Accounting Standards Update, or ASU, No. 2016-09, "Improvements to Employee Share-Based Payment Accounting." 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.

We value 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 our 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. We 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 our 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. We have assumed no dividend yield because we do not expect to pay dividends in the near future, which is consistent with our history of not paying dividends.

We value restricted stock units at the closing market price on the date of grant and recognize compensation expense ratably over the requisite service period of the restricted stock unit award.

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. We early adopted ASU No. 2017-01, "Business Combinations (Topic 805): Clarifying the Definition of a Business" as of January 1, 2017. Under ASU 2017-01, we first determine 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's not met, we determine whether the single asset or group of assets, as applicable, meets the definition of a business.

In connection with our acquisitions of Centrix in July 2015, Social Money in November 2015, and an asset purchase in January 2017, we 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. We periodically review the estimated useful lives and fair values of our identifiable intangible assets, taking into consideration any events or circumstances which might result in a diminished fair value or revised useful life. See Note 3, Business Combinations and Asset Acquisitions, for additional information.

The excess purchase price over the fair value of assets acquired is recorded as goodwill. We test goodwill for impairment annually in October, or whenever events or changes in circumstances indicate an impairment may have occurred. Because we operate 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. We estimate 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 our 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, we could incur impairment charges in a future period. The annual impairment test was performed as of October 31, 2017. No impairment of goodwill was identified during 2017.

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 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 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. We recognized $0.5 million of amortization of capitalized software development costs for the year ended December 31, 2017 as all of the related individual products reached general release during 2017. We capitalized software development costs in the amount of $1.0 million and $2.7 million during the years ended December 31, 2017 and 2016, respectively.
Income Taxes
We account for income taxes under the asset and liability method. We record deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, as well as for operating loss and tax credit carryforwards. We measure deferred tax assets and liabilities using enacted tax rates expected to apply to taxable income in the years in which we expect to recover or settle those temporary differences. We recognize the effect of a change in tax rates on deferred tax assets and liabilities in the results of operations in the period that includes the enactment date. We assess the likelihood that deferred tax assets will be realized, and we recognize 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, we have provided a valuation allowance against our deferred tax assets as we believe the objective and verifiable evidence of our historical pretax net losses outweighs any positive evidence of our forecasted future results. Although we believe that our tax estimates are reasonable, the ultimate tax determination involves significant judgment. We will continue to monitor the positive and negative evidence and will adjust the valuation allowance as sufficient objective positive evidence becomes available.
We account for uncertain tax positions by recognizing the financial statement effects of a tax position only when, based upon technical merits, it is more likely than not that the position will be sustained upon examination. We recognize potential accrued interest and penalties associated with unrecognized tax positions within our global operations in income tax expense.
The Tax Cuts and Jobs Act, or the Tax Act, was enacted on December 22, 2017. The Tax Act reduces the U.S. federal corporate tax rate from 35% to 21%, requiring companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred and creates new taxes on certain foreign sourced earnings. As of December 31, 2017, we did not have any foreign subsidiaries and the international aspects of the Tax Act are not applicable.
In connection with the initial analysis of the impact of the Tax Act, we remeasured certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which is generally 21%. The remeasurement of our deferred tax balance was primarily offset by application of our valuation allowance. We are still analyzing certain aspects of the Tax Act and refining our calculations, which could potentially affect the measurement of these balances or potentially give rise to new deferred tax amounts. Where we have been able to make reasonable estimates of the effects for which our analysis is not yet complete, we have recorded provisional amounts related to the remeasurement of the deferred tax balance as a tax benefit of $0.2 million. Where we have not yet been able to make reasonable estimates of the impact of certain elements, we have not recorded any amounts related to those elements and have continued accounting for them in accordance with ASC Topic 740, “Income Taxes - Implementation Guidance on Accounting for Uncertainty in Income Taxes and Disclosure Amendments for Nonpublic Entities,” or ASC 740, on the basis of the tax laws in effect immediately prior to the enactment of the Tax Act.

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Results of Operations

Consolidated Statements of Operations Data

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

	Year Ended December 31,		
	2017	2016	2015
Revenues	$193,978	$150,224	$108,867
Cost of revenues[(1)(2)]	99,485	77,429	59,128
Gross profit	94,493	72,795	49,739
Operating expenses:			
Sales and marketing[(2)]	41,170	36,284	26,999
Research and development[(2)]	40,338	32,460	21,534
General and administrative[(2)]	37,179	31,959	22,977
Acquisition related costs	1,232	6,307	2,493
Amortization of acquired intangibles	1,481	1,470	576
Unoccupied lease charges[(3)]	—	33	—
Total operating expenses	121,400	108,513	74,579
Loss from operations	(26,907)	(35,718)	(24,840)
Total other income (expense), net	429	(209)	(3)
Loss before income taxes	(26,478)	(35,927)	(24,843)
Benefit from (provision for) income taxes	314	(427)	(220)
Net loss	$(26,164)	$(36,354)	$(25,063)

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(1) Includes amortization of acquired technology of $3.6 million, $3.2 million and $0.7 million for the years ended December 31, 2017, 2016 and 2015, respectively.

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

	Year Ended December 31,		
	2017	2016	2015
Cost of revenues	$3,729	$2,043	$1,134
Sales and marketing	3,243	2,231	1,570
Research and development	4,464	2,934	1,186
General and administrative	9,503	5,432	3,472
Total stock-based compensation expenses	$20,939	$12,640	$7,362

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(3) Unoccupied lease charges include costs related to our early exit from our previous Lincoln, Nebraska facility.

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

	Year Ended December 31,		
	2017	2016	2015
Revenues	100.0 %	100.0 %	100.0 %
Cost of revenues[1][2]	51.3 %	51.5 %	54.3 %
Gross profit	48.7 %	48.5 %	45.7 %
Operating expenses:			
Sales and marketing[2]	21.2 %	24.2 %	24.8 %
Research and development[2]	20.8 %	21.6 %	19.8 %
General and administrative[2]	19.2 %	21.3 %	21.1 %
Acquisition related costs	0.6 %	4.2 %	2.3 %
Amortization of acquired intangibles	0.8 %	1.0 %	0.5 %
Unoccupied lease charges[3]	— %	— %	— %
Total operating expenses	62.6 %	72.3 %	68.5 %
Loss from operations	(13.9)%	(23.7)%	(22.8)%
Total other income (expense), net	0.2 %	(0.1)%	— %
Loss before income taxes	(13.7)%	(23.8)%	(22.8)%
Benefit from (provision for) income taxes	0.2 %	(0.3)%	(0.2)%
Net loss	(13.5)%	(24.1)%	(23.0)%

(1) Includes amortization of acquired technology of 1.9%, 2.1% and 0.6% for the years ended December 31, 2017, 2016 and 2015, respectively.

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

	Year Ended December 31,		
	2017	2016	2015
Cost of revenues	1.9 %	1.4%	1.0%
Sales and marketing	1.7 %	1.5%	1.4%
Research and development	2.3 %	2.0%	1.1%
General and administrative	4.9 %	3.6%	3.2%
Total stock-based compensation expenses	10.8%	8.5%	6.7%

(3) Unoccupied lease charges include costs related to our early exit from our previous Lincoln, Nebraska facility.

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

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Comparison of Year Ended December 31, 2017 and 2016, and the Year Ended December 31, 2016 and 2015

Revenues

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

	Year Ended December 31,		Change		Year Ended December 31,		Change	
	2017	2016	$	(%)	2016	2015	$	(%)
Revenues	$193,978	$150,224	$43,754	29.1%	$150,224	$108,867	$41,357	38.0%

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016. Revenues increased by $43.8 million, or 29.1%, from $150.2 million for the year ended December 31, 2016 to $194.0 million for the year ended December 31, 2017. This increase was primarily attributable to a $38.9 million increase from the growth in new registered users from a combination of strong customer retention, the purchase of additional solutions by existing customers and the addition of registered users from newly installed customers. The remaining $4.9 million increase was generated from increases in the number of transactions processed using our solutions. In particular, the number of registered users on our Q2 platform solutions increased from 8.6 million at December 31, 2016 to 10.4 million at December 31, 2017.

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015. Revenues increased by $41.4 million, or 38.0%, from $108.9 million for the year ended December 31, 2015 to $150.2 million for the year ended December 31, 2016. This increase was primarily attributable to a $36.8 million increase from the growth in new registered users from a combination of strong customer retention, the purchase of additional solutions by existing customers and the addition of registered users from newly installed customers. The remaining $4.6 million increase was generated from increases in the number of transactions processed using our solutions. In particular, the number of registered users on our Q2 platform solutions increased from 6.3 million at December 31, 2015 to 8.6 million at December 31, 2016.

While we anticipate that revenue growth from transactions processed by our solutions will increase in absolute dollars, we expect the year over year growth rate to be lower than in recent periods.

Cost of Revenues

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

	Year Ended December 31,		Change		Year Ended December 31,		Change	
	2017	2016	$	(%)	2016	2015	$	(%)
Cost of revenues	$99,485	$77,429	$22,056	28.5%	$77,429	$59,128	$18,301	31.0%
Percentage of revenues	51.3 %	51.5 %			51.5 %	54.3 %		

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016. Cost of revenues increased by $22.1 million, or 28.5%, from $77.4 million for the year ended December 31, 2016 to $99.5 million for the year ended December 31, 2017. This increase was primarily attributable to a $10.1 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 $1.7 million increase in stock-based compensation expense allocated to cost of revenue 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 $4.5 million increase in co-location facility costs and depreciation of our data center assets resulting from the increased infrastructure necessary to support our expanding customer base, a $4.1 million increase in direct costs related to bill-pay transaction processing and other third-party intellectual property included in our solutions which was related to the increase in the number of new registered users and transactions processed on our solutions and increases in implementation and support expenses that are reimbursable from our customers, a $2.0 million increase in facilities and other overhead costs which were allocated to our implementation and support departments, a $1.4 million increase from capitalized services amortization, and a $0.4 million increase in amortization of acquired customer technology. These increases were partially offset by a $0.4 million decrease in travel and other discretionary expenses.

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015. Cost of revenues increased by $18.3 million, or 31.0%, from $59.1 million for the year ended December 31, 2015 to $77.4 million for the year ended December 31, 2016. This increase was primarily attributable to a $5.5 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 $0.9 million increase in stock-based compensation expense allocated to cost of revenue 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

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our stock price. In addition, there was a $4.2 million increase in direct costs related to bill-pay transaction processing and other third-party intellectual property included in our solutions which was related to the increase in the number of new registered users and transactions processed on our solutions and increases in implementation and support expenses that are reimbursable from our customers, a $3.3 million increase in co-location facility costs and depreciation of our data center assets resulting from the increased infrastructure necessary to support our expanding customer base, a $2.5 million increase in amortization of acquired customer technology, a $1.7 million increase in facilities and other overhead costs which were allocated to our implementation and support departments, a $0.5 million increase from capitalized services amortization, and a $0.5 million increase in travel 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 same period in which the related revenue is recognized. 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

	Year Ended December 31,		Change		Year Ended December 31,		Change	
	2017	2016	$	(%)	2016	2015	$	(%)
Sales and marketing	$41,170	$36,284	$4,886	13.5%	$36,284	$26,999	$9,285	34.4%
Percentage of revenues	21.2 %	24.2 %			24.2 %	24.8 %		

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016. Sales and marketing expenses increased by $4.9 million, or 13.5%, from $36.3 million for the year ended December 31, 2016 to $41.2 million for the year ended December 31, 2017. This increase was primarily attributable to a $3.7 million increase in personnel costs due to the growth of our sales and marketing organizations. The increase in personnel costs includes a $1.0 million increase in stock-based compensation expense allocated to sales and marketing 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 $0.5 million increase in facilities and other overhead costs which were allocated to our sales and marketing departments, a $0.4 million increase in discretionary marketing spend as a result of efforts to drive brand awareness and expanded marketing efforts to attract new customers and retain and grow existing customers and a $0.3 million increase in travel related expenses due to increased employee travel to attract new customers and efforts to support our sales and marketing initiatives.

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015. Sales and marketing expenses increased by $9.3 million, or 34.4%, from $27.0 million for the year ended December 31, 2015 to $36.3 million for the year ended December 31, 2016. This increase was primarily attributable to a $7.0 million increase in personnel costs due to the growth of our sales and marketing organizations. The increase in personnel costs includes a $0.7 million increase in stock-based compensation expense allocated to sales and marketing 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 $1.2 million increase in facilities and other overhead costs which were allocated to our sales and marketing departments, a $0.6 million increase in discretionary marketing spend as a result of efforts to drive brand awareness and expanded marketing efforts to attract new customers and retain and grow existing customers and a $0.5 million increase in travel related expenses due to increased employee travel to attract new customers and efforts to support our sales and marketing initiatives.

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.

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Research and Development

	Year Ended December 31,		Change		Year Ended December 31,		Change	
	2017	2016	$	(%)	2016	2015	$	(%)
Research and development	$40,338	$32,460	$7,878	24.3%	$32,460	$21,534	$10,926	50.7%
Percentage of revenues	20.8 %	21.6 %			21.6 %	19.8 %		

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016. Research and development expenses increased by $7.9 million, or 24.3%, from $32.5 million for the year ended December 31, 2016 to $40.3 million for the year ended December 31, 2017. This increase was primarily attributable to a $4.9 million increase in personnel costs as a result of the growth in our research and development organization for continued enhancements to our solutions, which includes a $1.5 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. An additional $1.7 million of the increase resulted from the reduction of capitalization of research and development salaries as software development costs during 2017 because all products previously being capitalized reached general release during 2017 and a $1.5 million increase in facilities and other overhead costs. These increases were partially offset by a $0.2 million decrease in travel and other discretionary expenses.

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015. Research and development expenses increased by $10.9 million, or 50.7%, from $21.5 million for the year ended December 31, 2015 to $32.5 million for the year ended December 31, 2016. This increase was primarily attributable to a $11.4 million increase in personnel costs as a result of the growth in our research and development organization for continued enhancements to our solutions, which includes a $1.8 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. Also contributing to the year-over-year increase was a $1.8 million increase in facilities and other overhead costs and a $0.3 million increase in travel and other discretionary expenses. These increases were partially offset by a $2.4 million increase in research and development salaries capitalized as software development costs during 2016 and a $0.2 million decrease in recruiting 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

	Year Ended December 31,		Change		Year Ended December 31,		Change	
	2017	2016	$	(%)	2016	2015	$	(%)
General and administrative	$37,179	$31,959	$5,220	16.3%	$31,959	$22,977	$8,982	39.1%
Percentage of revenues	19.2 %	21.3 %			21.3 %	21.1 %		

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016. General and administrative expenses increased by $5.2 million, or 16.3%, from $32.0 million for the year ended December 31, 2016 to $37.2 million for the year ended December 31, 2017. The increase in general and administrative expenses was primarily attributable to a $6.5 million increase in personnel costs to support the growth of our business including the addition of certain senior executives. The increase in personnel costs includes a $4.1 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. The remaining increase was attributable to a $0.7 million increase in facilities and other overhead costs. This increase was partially offset by a $1.2 million decrease in professional services for legal and consulting fees and a $0.8 million decrease in sales tax expense and other miscellaneous charges.

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015. General and administrative expenses increased by $9.0 million, or 39.1%, from $23.0 million for the year ended December 31, 2015 to $32.0 million for the year ended December 31, 2016. The increase in general and administrative expenses was primarily attributable to a $5.1 million increase in personnel costs to support the growth of our business including the addition of certain senior executives. The increase in personnel costs includes a $2.0 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

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value of the awards granted due to the increase in our stock price. The remaining increase was attributable to a $2.0 million increase in professional services due to our increased public-company compliance requirements, a $1.7 million increase in facilities and other overhead costs and a $0.2 million increase in travel related expenses.
General and administrative expenses include costs to comply with Section 404 of the Sarbanes-Oxley Act, or SOX, and other regulations governing public companies, costs of directors' and officers' liability insurance and investor relations activities. As of June 30, 2016, the market value of our common stock held by non-affiliates exceeded $700 million. Effective January 1, 2017, we became a "large accelerated filer" and, accordingly, can no longer qualify as an emerging growth company and are no longer able to rely on certain exemptions that were previously available to us as an emerging growth company. 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 SOX and other regulatory compliance. We expect such expenses to decline as a percentage of our revenues over time as our revenues grow.

Acquisition Related Costs

	Year Ended December 31,		Change		Year Ended December 31,		Change	
	2017	2016	$	(%)	2016	2015	$	(%)
Acquisition related costs	$1,232	$6,307	$(5,075)	(80.5)%	$6,307	$2,493	$3,814	153.0%
Percentage of revenues	0.6 %	4.2 %			4.2 %	2.3 %		

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016. Acquisition related costs decreased by$5.1 million, or 80.5%, from $6.3 million for the year ended December 31, 2016 to $1.2 million for the year ended December 31, 2017. The expense for the year ended December 31, 2017 is comprised of compensation expense related to the remaining retention bonuses for employees of the companies acquired in 2015, while the expense for the year ended December 31, 2016 included $4.4 million of compensation expense related to the milestone provisions for certain former Centrix shareholders, $1.7 million related to retention bonuses for employees of the companies acquired in 2015, and $0.2 million of legal and other expenses incurred related to the acquisitions. During the year ended December 31, 2017, we paid out $6.0 million to former Centrix shareholders, based upon the achievement of certain milestone-based objectives and $1.4 million in retention bonuses based upon continued employment. The final retention bonus payments, to the extent earned based on continued employment of applicable employees, will be made in 2018.
Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015. Acquisition related costs increased by$3.8 million, or 153.0%, from $2.5 million for the year ended December 31, 2015, to $6.3 million for the year ended December 31, 2016. These expenses are related to the companies acquired in 2015. The increase in expense for the year ended December 31, 2016 was primarily related to a full year of compensation expense related to the achievement of milestone and retention bonuses for employees of the companies acquired in 2015 as compared to only a partial year in 2015, and an additional $0.2 million of legal and other expenses incurred in 2016 related to the acquisition of Social Money.

Amortization of Acquired Intangibles

	Year Ended December 31,		Change		Year Ended December 31,		Change	
	2017	2016	$	(%)	2016	2015	$	(%)
Amortization of acquired intangibles	$1,481	$1,470	$11	0.7%	$1,470	$576	$894	155.2%
Percentage of revenues	0.8 %	1.0 %			1.0 %	0.5 %		

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016. Amortization of acquired intangibles was relatively flat for the year ended December 31, 2017 compared to the year ended December 31, 2016. The acquired intangible assets are related to our business combinations in 2015 and asset purchase in 2017, and these amounts are amortized on a straight-line basis over the estimated useful lives of the related assets.
Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015. Amortization of acquired intangibles increased by $0.9 million, or 155.2%, from $0.6 million for the year ended December 31, 2015, to $1.5

million for the year ended December 31, 2016. The increase in expense for the year ended December 31, 2016 was primarily related to a full year of amortization of the acquired intangibles in 2016 compared to only a partial year in 2015.

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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 interaction between our customers and their account holders. 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 account holders and increase the registration of new 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, or IPO, and follow-on offerings and cash flows from operations. At December 31, 2017, our principal sources of liquidity were cash, cash equivalents and investments of $99.6 million.

Cash Flows

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

	Year Ended December 31,		
	2017	2016	2015
Net cash provided by (used in):			
Operating activities	$9,472	$3,394	$5,399
Investing activities	(17,943)	(16,514)	(58,416)
Financing activities	11,559	944	52,087
Net increase (decrease) in cash and cash equivalents	$3,088	$(12,176)	$(930)

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 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 year ended December 31, 2017, our net cash and cash equivalents provided by operating activities were $9.5 million, which consisted of non-cash adjustments of $43.4 million, offset by a net loss of $26.2 million and cash outflows from changes in operating assets and liabilities of $7.7 million. Cash outflows are the result of a $10.5 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 $4.4 million decrease in accrued liabilities mainly from the payment of milestone and retention bonuses related to the companies acquired in 2015, a $1.0 million increase in accounts receivable due to the timing of billings at the end of the current year, a $0.2 million increase in other long-term assets, and a $0.1 million decrease in deferred rents and other long-term liabilities. Cash inflows were the result of a $4.8 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 $3.4 million increase in accounts payable due to timing of payments in support of our expanding customer base and related growth in our technical infrastructure and expanded facilities, and a $0.2 million decrease in other prepaid assets. Non-cash items consisted primarily of $20.9 million of stock-based compensation expense, $14.9 million of depreciation and amortization expense, and $7.5 million of amortization of deferred implementation and deferred solution and other costs.

For the year ended December 31, 2016, our net cash and cash equivalents provided by operating activities were $3.4 million, which consisted of a net loss of $36.4 million, offset by cash inflows from changes in operating assets and liabilities of $7.1 million and non-cash adjustments of $32.7 million. Cash inflows were the result of a $11.1 million increase in accounts

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payable and accrued liabilities as a result of increased spending in support of our expanding customer base, related growth in our technical infrastructure and our expanding operations, a $9.6 million increase in deferred revenue due to increased payments and deposits received from customers prior to the recognition of revenue from those related payments, and a $3.0 million increase in deferred rents and other accrued liabilities as a result of the tenant improvement allowances for our new facilities. Cash outflows are the result of a $13.2 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 $3.2 million increase in accounts receivable due to the timing of billings at the end of the current year, and a $0.2 million increase in other prepaid assets. Non-cash items consisted primarily of $12.6 million of stock-based compensation expense, $12.2 million of depreciation and amortization expense, $6.8 million of amortization of deferred implementation and deferred solution and other costs, and $1.1 million of other non-cash items.

For the year ended December 31, 2015, our net cash and cash equivalents provided by operating activities were $5.4 million, which consisted of a net loss of $25.1 million, offset by cash inflows from changes in operating assets and liabilities of $10.7 million and non-cash adjustments of $19.8 million. Cash inflows were the result of a $14.0 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 $5.4 million increase in accounts payable and accrued liabilities as a result of increased spending in support of our expanding customer base and related growth in our technical infrastructure, and a $3.5 million increase in deferred rents and other accrued liabilities primarily due to the payments on our facilities leases. Cash outflows are the result of a $8.8 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 $3.3 million increase in accounts receivable due to the timing of billings at the end of the current year, and a $0.2 million increase in other assets. Non-cash items consisted primarily of $5.0 million of amortization of deferred implementation and deferred solution and other costs, $6.8 million of depreciation and amortization expense due to growth in our fixed asset base, and $7.4 million of stock-based compensation expense.

Cash Flows from Investing Activities

Our investing activities have consisted primarily of purchases and maturities of investments, our recent acquisitions, purchases of property and equipment to support our growth and costs incurred for the development of capitalized software. 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 year ended December 31, 2017, net cash used in investing activities was $17.9 million, consisting primarily of $27.7 million for the purchase of investments, $12.3 million for the purchase of property and equipment, $3.8 million for an asset purchase and release of the hold back from the Social Money acquisition, $1.0 million in capitalized software development costs and a $1.0 million net increase in restricted cash for the security deposit for our corporate headquarters. These outflows were partially offset by $27.9 million received from the maturities of investments.

For the year ended December 31, 2016, net cash used in investing activities was $16.5 million, consisting primarily of $40.2 million for the purchase of investments, $14.3 million for the purchase of property and equipment, $2.7 million in capitalized software development costs and $0.3 million from the purchase of other intangible assets. These outflows were partially offset by $41.1 million received from the maturities of investments.

For the year ended December 31, 2015, net cash used in investing activities was $58.4 million, consisting primarily of $43.9 million for the purchase of investments, $27.5 million used for acquisitions, $7.1 million for the purchase of property and equipment, a $0.5 million increase in restricted cash for the deposit securing the lease for the expansion of our corporate headquarters and $0.3 million in capitalized software development costs. These outflows were partially offset by $20.9 million received from the maturities of investments.

Cash Flows from Financing Activities

Our financing activities have consisted primarily of net proceeds from the issuance of common stock in our IPO and follow-on offerings and from exercises of options to purchase common stock, as well as payments on financing obligations and payments on capital lease obligations.

For the year ended December 31, 2017, net cash provided by financing activities was $11.6 million, consisting solely of cash received from the exercise of stock options.

For the year ended December 31, 2016, net cash provided by financing activities was $0.9 million, consisting primarily of $6.0 million from the exercise of stock options, which was partially offset by $4.9 million of payments on financing obligations and $0.2 million of payments on capital lease obligations.

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For the year ended December 31, 2015, net cash provided by financing activities was $52.1 million, consisting primarily of proceeds from the completion of our follow-on offerings, which were completed on March 4, 2015 and September 30, 2015. We received $52.6 million in net proceeds from our follow-on offerings after deducting the payment of underwriters' discounts and commissions and offering costs. In addition, we received $4.2 million from the exercise of stock options, which was partially offset by $4.2 million of payments on financing obligations and $0.4 million of payments on capital lease obligations.

Contractual Obligations and Commitments

Our principal commitments consist of non-cancelable operating leases related to our facilities, minimum purchase commitments for third-party products, co-location fees and other product costs and the acquisition-related hold back for our asset purchase in 2017. We are 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 estimated amounts for usage and other factors are not included within the table below.

The following table summarizes our contractual obligations and commitments at December 31, 2017 (in thousands):

	Payment due by period				
Contractual Obligations:	Less Than 1 Year	1 to 3 Years	3 to 5 Years	More Than 5 Years	Total
Operating lease obligations	$5,675	$11,386	$9,077	$20,442	$46,580
Purchase commitments	13,227	18,473	14,710	5,517	51,927
Acquisition hold back	150	—	—	—	150
Total	$19,052	$29,859	$23,787	$25,959	$98,657

Off-Balance Sheet Arrangements

As of December 31, 2017, 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 May 2014, the Financial Accounting Standards Board, or FASB, issued ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)," or ASU 2014-09, which amends the existing accounting standards for revenue recognition. ASU 2014-09 is based on principles that govern the recognition of revenue at an amount an entity expects to be entitled to when products are transferred to customers. In August 2015, the FASB issued ASU No. 2015-14, "Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date," or ASU 2015-14, that deferred the effective date by one year to December 15, 2017 for interim and annual reporting periods beginning after that date. In 2016, the FASB issued the following amendments to ASC 606: ASU No. 2016-08, "Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net)," which clarifies the implementation guidance on principal versus agent considerations; ASU No. 2016-10, "Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing," which clarifies guidance on identification of performance obligations and licensing implementation; ASU No. 2016-12, "Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients," which provides clarifying guidance on assessing collectibility, presentation of sales taxes, noncash consideration, contract modifications and completed contracts; and ASU No. 2016-20, "Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers," which clarifies narrow aspects of ASC 606 or corrects unintended application of the guidance. ASC 606 will be effective for us beginning in our first quarter of 2018 using the modified retrospective method.

We continue to evaluate all potential impacts of the new standard, as well as the changes that are required to systems, processes and internal controls to meet the new standard's reporting and disclosure requirements. We currently believe the most significant impact relates to our accounting for arrangements that include contractual provisions providing for periodic price increases in subscription fee arrangements. Under current GAAP, we account for periodic price increases in the period in which they occur, and under the new standard, we will recognize revenue for periodic price increases on a ratable basis over the term of the contract. Additionally under current GAAP, for contracts in which customers host and manage our solutions on-premises or in third-party data centers under term license and maintenance agreements, we recognize the entire arrangement consideration monthly over the term of the software license as we do not have VSOE of fair value for the license and

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maintenance. Under the new standard, we will be able to recognize software license revenue once the customer obtains control of the license, which will generally occur at the start of each license term. Under current GAAP, we also defer only direct and incremental commission costs to obtain a contract and amortize those costs over the term of the related contract. Under the new standard, we will be required to defer additional incremental costs related to the customer contract and amortize those costs over the expected period of customer benefit. Also a portion of the commission payment will now be expensed as incurred. We are substantially complete with our evaluation of the effect that the adoption will have on our consolidated financial statements. In connection with the adoption of Topic 606, we expect to record a cumulative-effect adjustment to accumulated deficit of approximately $14 million to $16 million on December 31, 2017. The adjustment reflects the acceleration of revenues and deferral of expenses.

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. The standard is effective for public entities for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and early application is permitted. We anticipate that the adoption of Topic 842 will impact our consolidated balance sheets as most of our operating lease commitments will be subject to the new standard and recognized as right-of-use assets and corresponding operating lease liabilities upon the adoption of ASU 2016-02, which will increase the total assets and total liabilities that we report relative to such amounts prior to adoption.

In March 2016, the FASB issued ASU No. 2016-09, "Improvements to Employee Share-Based Payment Accounting," or ASU 2016-09, which amends ASC Topic 718, "Compensation – Stock Compensation." ASU 2016-09 simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The standard is effective for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years and early adoption is permitted. We adopted this standard as of January 1, 2017 and have elected to not use a forfeiture rate as of January 1, 2017. The adoption resulted in a cumulative-effect adjustment to accumulated deficit of $0.2 million, which was included in the condensed consolidated financial statements for the quarter ended March 31, 2017.

In August 2016, the FASB issued ASU No. 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments," to clarify and provide specific guidance on eight cash flow classification issues that are not addressed by current GAAP and thereby reduce the current diversity in practice. The standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years and early adoption is permitted. We do not expect the adoption of this standard to have a material impact on our consolidated financial statements.

In November 2016, the FASB issued ASU No. 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash," which provides guidance on the classification of restricted cash in the statement of cash flows. The standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years and early adoption is permitted. We do not expect the adoption of this standard to have a material impact on our consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-01, "Business Combinations (Topic 805): Clarifying the Definition of a Business" to clarify the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years and early adoption is permitted. We early adopted this standard as of January 1, 2017, and its adoption did not have a material impact on our consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-03, "Accounting Changes and Error Corrections (Topic 250) and Investments - Equity Method and Joint Ventures (Topic 323)" to clarify the scope of Subtopic 610-20, "Other Income-Gains and Losses from the Derecognition of Nonfinancial Assets," and to add guidance for partial sales of nonfinancial assets. This ASU amends the disclosure requirements for ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)," ASU No. 2016-02, "Leases (Topic 842)" and ASU No. 2016-13, "Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments." This ASU states

that if a registrant does not know or cannot reasonably estimate the impact that the adoption of the above ASUs is expected to have on the financial statements, then in addition to making a statement to that effect, the registrant should consider additional qualitative financial statement disclosures to assist the reader in assessing the significance of the impact that the standard will have on the financial statements of the registrant when adopted. This ASU was effective upon issuance. We adopted this ASU and added qualitative financial statement disclosures as necessary.
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

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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 consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, "Compensation - Stock Compensation (Topic 718)" to provide clarity and reduce both diversity in practice and cost and complexity when applying the guidance in Topic 718, Compensation-Stock Compensation, to a change to the terms or conditions of a share-based payment award. The standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years and early adoption is permitted. We do not expect the adoption of this standard to have a material impact on our consolidated financial statements.

Item 7A. 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. Further, the expiration of our Credit Facility on April 11, 2017 reduced our market risk related to changes in interest rates, to the extent that such risk existed before the termination. Any declines in interest rates will reduce future interest income. If overall interest rates fell by 10% in the years ended December 31, 2017, 2016 and 2015, our interest income would not have been materially affected.

Foreign Currency Risk

Our results of operations and cash flows are not subject to fluctuations due to changes in foreign currency exchange rates. We bill our customers in U.S. dollars and receive payment in U.S. dollars, and substantially all of our operating expenses are denominated in U.S. dollars. If we grow sales of our solutions outside the U.S., our agreements with foreign customers may not be denominated in U.S. dollars, and we may become subject to changes in currency exchange rates.

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 8. Financial Statements and Supplementary Data.

The information required by this item is incorporated by reference to the consolidated financial statements and accompanying notes set forth on pages F-1 through F-34 of this Annual Report on Form 10-K.

Item 9. Change in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

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Item 9A. Controls and Procedures.

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 December 31, 2017, the end of the period covered by this Annual Report on Form 10-K. 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.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2017 based on the guidelines established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Our internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the financial statements.

Based on that evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2017.

Our independent registered public accounting firm, Ernst & Young, LLP, issued an attestation report on our internal control over financial reporting. This report appears on page F-3.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2017 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Controls

Our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives as specified above. Management does not expect, however, that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all error and fraud. Any control system, no matter how well designed and operated, is based upon certain assumptions and can provide only reasonable, not absolute, assurance that its objectives will be met. Further, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the Company have been detected.

Item 9B. Other Information.

Not applicable.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Information required by Part III, Item 10, will be included in our Proxy Statement relating to our 2018 annual meeting of stockholders to be filed with the SEC within 120 days after the end of our fiscal year ended December 31, 2017, and is incorporated herein by reference.

Item 11. Executive Compensation.

Information required by Part III, Item 11, will be included in our Proxy Statement relating to our 2018 annual meeting of stockholders to be filed with the SEC within 120 days after the end of our fiscal year ended December 31, 2017, and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Information required by Part III, Item 12, will be included in our Proxy Statement relating to our 2018 annual meeting of stockholders to be filed with the SEC within 120 days after the end of our fiscal year ended December 31, 2017, and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

Information required by Part III, Item 13, will be included in our Proxy Statement relating to our 2018 annual meeting of stockholders to be filed with the SEC within 120 days after the end of our fiscal year ended December 31, 2017, and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

Information required by Part III, Item 14, will be included in our Proxy Statement relating to our 2018 annual meeting of stockholders to be filed with the SEC within 120 days after the end of our fiscal year ended December 31, 2017, and is incorporated herein by reference.

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PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a) Documents Filed with Report

(1) Financial Statements.

Report of Independent Registered Public Accounting Firm	F-2
Report of Independent Registered Public Accounting Firm on Internal Control over Financial Reporting	F-3
Consolidated Balance Sheets	F-4
Consolidated Statements of Comprehensive Loss	F-5
Consolidated Statements of Changes in Stockholders' Equity	F-6
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Statements

(2) Financial Statement Schedules.

Schedules required by this item have been omitted since they are either not required or not applicable or because the information required is included in the consolidated financial statements included elsewhere herein or the notes thereto.

(3) Exhibits.

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

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Exhibit Index

Exhibit Number		Description	Incorporated by Reference Form	Filing No.	Filing Date	Exhibit No.	Filed / Furnished Herewith
2.1		Stock Purchase Agreement, dated July 31, 2015, by and among Q2 Software, Inc., Centrix Solutions, Inc., all shareholders of Centrix Solutions, Inc. and Timothy Schnell, as Agent	8-K	001-36350	7/31/2015	2.1	
3.1		Fourth Amended and Restated Certificate of Incorporation of the Registrant	S-1/A	333-193911	3/6/2014	3.2	
3.2		Amended and Restated Bylaws of the Registrant	S-1/A	333-193911	3/6/2014	3.4	
4.1		Third Amended and Restated Investors' Rights Agreement, dated March 1, 2013	S-1	333-193911	2/12/2014	4.1	
10.1		Form of Indemnification Agreement for directors and officers	S-1/A	333-193911	2/25/2014	10.1	
10.2.1	†	2007 Stock Plan, as amended	S-1/A	333-193911	2/25/2014	10.2.1	
10.2.2	†	Form of Stock Option Agreement under the 2007 Stock Plan	S-1	333-193911	2/12/2014	10.2.2	
10.2.3	†	Form of Stock Option Agreement for Executive Officers under the 2007 Stock Plan	S-1	333-193911	2/12/2014	10.2.3	
10.2.4	†	Form of Stock Option Agreement for Directors under the 2007 Stock Plan	S-1	333-193911	2/12/2014	10.2.4	
10.3.1		Credit Agreement, dated April 11, 2013, by and among Wells Fargo Bank, National Association, as administrative agent for the lenders named therein, the Registrant, and Q2 Software, Inc.	S-1	333-193911	2/12/2014	10.3.1	
10.3.2		Amendment Number One to Credit Agreement, dated March 24, 2014, by and among Wells Fargo Bank, National Association, as administrative agent for the lenders named therein, the Company, and the Subsidiary	8-K	001-36350	3/28/2014	10.1	
10.3.3		Amendment Number Two to Credit Agreement, dated August 11, 2014, by and among Wells Fargo Bank, National Association, as administrative agent for the	10-Q	001-36350	8/12/2014	10.1	

	lenders named therein, the Company, and the Subsidiary				
10.3.4	Amendment Number Three to Credit Agreement, dated July 30, 2015, by and among Wells Fargo Bank, National Association, as administrative agent for the lenders named therein, Q2 Holdings, Inc., and Q2 Software, Inc.	8-K	001-36350	7/31/2015	10.1
10.3.5	Amendment Number Four to Credit Agreement, dated effective March 31, 2016, by and among Wells Fargo Bank, National Association, as administrative agent for the lenders named therein, Q2 Holdings, Inc., and Q2 Software, Inc.	10-Q	001-36350	8/4/2016	10.1
10.3.6	Guaranty and Security Agreement, dated April 11, 2013, by and among Wells Fargo Bank, National Association, as administrative agent for the lenders named therein, the Registrant, and Q2 Software, Inc.	S-1	333-193911	2/12/2014	10.3.2
10.3.7	Patent Security Agreement, dated April 11, 2013, by and among Wells Fargo Bank, National Association, as administrative agent for the lenders named therein, the Registrant, and Q2 Software, Inc.	S-1	333-193911	2/12/2014	10.3.3
10.4.1	Lease Agreement, dated November 20, 2012, by and among the Q2 Software, Inc. and 13785 Research Blvd, LLC	S-1	333-193911	2/12/2014	10.4
10.4.2	First Amendment to Lease Agreement and Tri-Party Agreement, dated February 27, 2015, by and among Q2 Software, Inc., FPG Aspen Lake Owner, L.P. and FPG TOH Owner, L.P., amending the Lease Agreement, dated November 20, 2012, by and among the Q2 Software, Inc. and 13785 Research Blvd, LLC	10-Q	001-36350	5/8/2015	10.1
10.4.3	Second Amendment to Lease Agreement and Tri-Party Agreement, dated April 1, 2015, by and among Q2 Software, Inc., FPG Aspen Lake Owner, L.P. and FPG TOH Owner, L.P., amending the Lease Agreement, dated November 20, 2012, by and among the Q2 Software, Inc. and 13785 Research Blvd, LLC	10-Q	001-36350	5/8/2015	10.2

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Exhibit Number		Description	Incorporated by Reference Form	Filing No.	Filing Date	Exhibit No.	Filed / Furnished Herewith
10.4.4		Third Amendment to Lease Agreement, dated October 8, 2015, by and among Q2 Software, Inc. and FPG Aspen Lake Owner, L.P., amending the Lease Agreement, dated November 20, 2012, by and among the Q2 Software, Inc. and 13785 Research Blvd, LLC	10-Q	001-36350	11/6/2015	10.2	
10.4.5		Lease Agreement, dated July 18, 2014, by and among Q2 Software, Inc. and CREF Aspen Lake Building II, LLC	8-K	001-36350	7/23/2014	10.1	
10.4.6		First Amendment to Lease Agreement, dated May 1, 2015, by and among Q2 Software, Inc. and CREF Aspen Lake Building II, LLC	8-K	001-36350	5/4/2015	10.1	
10.4.7		Second Amendment to Lease Agreement, dated February 3, 2016, by and among Q2 Software, Inc. and CREF Aspen Lake Building II, LLC	10-Q	001-36350	5/10/2016	10.1	
10.5	†	Amended and Restated Employment Agreement, dated February 20, 2014, by and among the Registrant and Matthew P. Flake	S-1/A	333-193911	2/25/2014	10.5	
10.7	†	Employment Agreement, dated February 20, 2014, by and among the Registrant and Jennifer N. Harris	10-K	001-36350	2/12/2015	10.7	
10.8	†	Employment Agreement, dated February 20, 2014, by and among the Registrant and Adam D. Blue	10-K	001-36350	2/12/2015	10.8	
10.9.1	†	2014 Equity Incentive Plan and forms of agreements thereunder	S-1/A	333-193911	3/6/2014	10.9	
10.9.2	†	Forms of Restricted Stock Units Agreements under the Registrant's 2014 Equity Incentive Plan.	10-Q	001-36350	11/10/2014	10.2	
10.9.3	†	Form of Stock Option Agreement and Restricted Stock Unit Agreement for Remote Executive Officers under Registrant's 2014 Equity Incentive Plan	10-Q	001-36350	11/6/2015	10.3	
10.10	†	2014 Employee Stock Purchase Plan	S-1/A	333-193911	3/6/2014	10.10	
10.11.1			S-1		2/12/2014	10.12	

		Master Service Agreement dated January 11, 2010, by and among the Registrant and Cyrus Networks, LLC		333-193911			
10.11.2		Service Level Agreement dated January 11, 2010, by and among the Registrant and Cyrus Networks, LLC	S-1	333-193911	2/12/2014	10.12.1	
10.12	†	Employment Agreement, dated February 20, 2014, by and among the Registrant and John E. Breeden	10-K	001-36350	2/12/2016	10.13	
10.13	†	Employment Agreement, dated effective August 22, 2016, by and among Q2 Software, Inc. and Odus Edward Wittenburg, Jr.	8-K	0001-36350	8/15/2016	10.1	
10.14	†	Employment Agreement, dated February 20, 2014, by and among the Registrant and William M. Furrer	S-1/A	333-193911	2/25/2014	10.7	
10.15	†	Employment Agreement, dated November 1, 2017, by and among the Registrant and Christine A. Petersen					*
21.1		List of Subsidiaries of the Registrant					*
23.1		Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm					*
24.1		Power of Attorney (see the signature pages to this Annual Report on Form 10-K).					*
31.1		Certification of Principal Executive Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of The Sarbanes-Oxley Act of 2002.					*
31.2		Certification of Principal Financial Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of The Sarbanes-Oxley Act of 2002.					*
32.1		Certification of Principal Executive Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. §1350 as adopted pursuant to Section 906 of The Sarbanes-Oxley Act of 2002.					#

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		Incorporated by Reference				
Exhibit Number	Description	Form	Filing No.	Filing Date	Exhibit No.	Filed / Furnished Herewith
32.2	Certification of Principal Financial Officer Required under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. §1350 as adopted pursuant to Section 906 of The Sarbanes-Oxley Act of 2002.					#
101.INS	XBRL Instance Document.					*
101.SCH	XBRL Taxonomy Extension Schema.					*
101.CAL	XBRL Taxonomy Extension Calculation Linkbase.					*
101.LAB	XBRL Taxonomy Extension Calculation Label Linkbase.					*
101.PRE	XBRL Taxonomy Extension Presentation Linkbase.					*
101.DEF	XBRL Taxonomy Extension Definition Linkbase.					*

* Filed herewith
\# Furnished herewith
† Management contract, compensatory plan or arrangement

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

Item 16. Form 10-K Summary.
None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

Date:	Q2 HOLDINGS, INC.
February 16, 2018	By: /s/ MATTHEW P. FLAKE
	Matthew P. Flake
	Chief Executive Officer

SIGNATURES AND POWER OF ATTORNEY

Each person whose individual signature appears below hereby authorizes and appoints Matthew P. Flake, with full power of substitution and re-substitution and full power to act without the other, as his or her true and lawful attorney-in-fact and agent to act in his or her name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated below, and to file any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing, ratifying and confirming all that said attorney-in-fact and agents or any of them or their or his substitute or substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated.

Name	Title	Date
/s/ MATTHEW P. FLAKE Matthew P. Flake	Chief Executive Officer (Principal Executive Officer) and Director	February 16, 2018
/s/ JENNIFER N. HARRIS Jennifer N. Harris	Chief Financial Officer (Principal Financial and Accounting Officer)	February 16, 2018
/s/ R. H. "HANK" SEALE, III	Executive Chairman of the Board of Directors	February 16, 2018

R.H. "Hank" Seale, III		
/s/ R. LYNN ATCHISON R. Lynn Atchison	Director	February 16, 2018
/s/ JEFFREY T. DIEHL Jeffrey T. Diehl	Director	February 16, 2018
/s/ CHARLES T. DOYLE Charles T. Doyle	Director	February 16, 2018
/s/ MICHAEL J. MAPLES, SR. Michael J. Maples, Sr.	Director	February 16, 2018
/s/ JAMES R. OFFERDAHL James R. Offerdahl	Director	February 16, 2018
/s/ CARL JAMES SCHAPER Carl James Schaper	Director	February 16, 2018

Q2 HOLDINGS, INC.
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Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of Q2 Holdings, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Q2 Holdings, Inc. (the Company) as of December 31, 2017 and 2016, the related consolidated statements of comprehensive loss, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the consolidated financial position of the Company at December 31, 2017 and 2016, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework) and our report dated February 16, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2013.

Austin, Texas

February 16, 2018

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Q2 Holdings, Inc.

Opinion on Internal Control over Financial Reporting

We have audited Q2 Holdings, Inc.'s internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Q2 Holdings, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of Q2 Holdings, Inc. as of December 31, 2017 and 2016, the related consolidated statements of comprehensive loss, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes and our report dated February 16, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Ernst & Young LLP

Austin, Texas
February 16, 2018

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

	December 31, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$57,961	$54,873
Restricted cash	2,315	1,315
Investments	41,685	42,249
Accounts receivable, net	13,203	12,240
Prepaid expenses and other current assets	3,115	3,215
Deferred solution and other costs, current portion	9,246	8,839
Deferred implementation costs, current portion	3,562	2,938
Total current assets	131,087	125,669
Property and equipment, net	34,544	27,480
Deferred solution and other costs, net of current portion	12,973	11,125
Deferred implementation costs, net of current portion	8,295	8,096
Intangible assets, net	12,034	15,208
Goodwill	12,876	12,876
Other long-term assets	1,006	526
Total assets	$212,815	$200,980
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$7,621	$4,231
Accrued liabilities	10,562	8,822
Accrued compensation	11,511	16,035
Deferred revenues, current portion	38,379	30,123
Total current liabilities	68,073	59,211
Deferred revenues, net of current portion	28,289	31,707
Deferred rent, net of current portion	9,393	9,466
Other long-term liabilities	438	361
Total liabilities	106,193	100,745
Commitments and contingencies (Note 11)		
Stockholders' equity:		
Preferred stock: $0.0001 par value; 5,000 shares authorized, no shares issued or outstanding as of December 31, 2017 and 2016	—	—
Common stock: $0.0001 par value; 150,000 shares authorized, 41,994 shares issued, and 41,967 shares outstanding as of December 31, 2017, and 40,441 shares issued, and 40,425 shares outstanding as of December 31, 2016	4	4
Treasury stock at cost; 27 and 16 shares at December 31, 2017 and 2016, respectively	(855)	(417)
Additional paid-in capital	259,726	226,485
Accumulated other comprehensive loss	(139)	(54)
Accumulated deficit	(152,114)	(125,783)
Total stockholders' equity	106,622	100,235
Total liabilities and stockholders' equity	$212,815	$200,980

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

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

	Year Ended December 31,		
	2017	2016	2015
Revenues	$193,978	$150,224	$108,867
Cost of revenues[1]	99,485	77,429	59,128
Gross profit	94,493	72,795	49,739
Operating expenses:			
Sales and marketing[1]	41,170	36,284	26,999
Research and development[1]	40,338	32,460	21,534
General and administrative[1]	37,179	31,959	22,977
Acquisition related costs	1,232	6,307	2,493
Amortization of acquired intangibles	1,481	1,470	576
Unoccupied lease charges	—	33	—
Total operating expenses	121,400	108,513	74,579
Loss from operations	(26,907)	(35,718)	(24,840)
Other income (expense):			
Interest and other income	553	358	280
Interest and other expense	(124)	(567)	(283)
Total other income (expense), net	429	(209)	(3)
Loss before income taxes	(26,478)	(35,927)	(24,843)
Benefit from (provision for) income taxes	314	(427)	(220)
Net loss	(26,164)	(36,354)	(25,063)
Other comprehensive gain (loss):			
Unrealized gain (loss) on available-for-sale investments	(85)	47	(87)
Comprehensive loss	$(26,249)	$(36,307)	$(25,150)
Net loss per common share, basic and diluted	$(0.63)	$(0.92)	$(0.67)
Weighted average common shares outstanding:			
Basic and diluted	41,218	39,649	37,275

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

	Year Ended December 31,		
	2017	2016	2015
Cost of revenues	$3,729	$2,043	$1,134
Sales and marketing	3,243	2,231	1,570
Research and development	4,464	2,934	1,186
General and administrative	9,503	5,432	3,472
Total stock-based compensation expenses	$20,939	$12,640	$7,362

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

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

	Common Stock Shares	Amount	Treasury Stock	Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
Balance at January 1, 2015	34,696	$ 3	$ (20)	$ 143,337	$ (14)	$ (64,366)	$ 78,940
Stock-based compensation	—	—	—	7,362	—	—	7,362
Follow-on offerings, net of issuance costs	2,611	1	—	52,565	—	—	52,566
Shares acquired to settle the exercise of stock options	(1)	—	(21)	—	—	—	(21)
Exercise of stock options	1,578	—	—	4,277	—	—	4,277
Shares issued for the vesting of restricted stock awards	7	—	—	—	—	—	—
Other comprehensive loss	—	—	—	—	(87)	—	(87)
Net loss	—	—	—	—	—	(25,063)	(25,063)
Balance at December 31, 2015	38,891	$ 4	$ (41)	$ 207,541	$ (101)	$ (89,429)	$ 117,974
Stock-based compensation	—	—	—	12,640	—	—	12,640
Follow-on offerings, net of issuance costs	—	—	—	3	—	—	3
Shares acquired to settle the exercise of stock options	(14)	—	(376)	—	—	—	(376)
Exercise of stock options	1,379	—	—	6,301	—	—	6,301
Shares issued for the vesting of restricted stock awards	169	—	—	—	—	—	—
Other comprehensive gain	—	—	—	—	47	—	47
Net loss	—	—	—	—	—	(36,354)	(36,354)
Balance at December 31, 2016	40,425	$ 4	$ (417)	$ 226,485	$ (54)	$ (125,783)	$ 100,235
Stock-based compensation	—	—	—	20,939	—	—	20,939
Shares acquired to settle the exercise of stock options	(11)	—	(438)	—	—	—	(438)
Exercise of stock options	1,205	—	—	12,135	—	—	12,135
Shares issued for the vesting of restricted stock awards	348	—	—	—	—	—	—
Adoption of new accounting standard (see Note 2)	—	—	—	167	—	(167)	—
Other comprehensive loss	—	—	—	—	(85)	—	(85)
Net loss	—	—	—	—	—	(26,164)	(26,164)
Balance at December 31, 2017	41,967	$ 4	$ (855)	$ 259,726	$ (139)	$ (152,114)	$ 106,622

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

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

	Year Ended December 31,		
	2017	2016	2015
Cash flows from operating activities:			
Net loss	$(26,164)	$(36,354)	$(25,063)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Amortization of deferred implementation, solution and other costs	7,455	6,775	5,007
Depreciation and amortization	14,946	12,199	6,847
Amortization of debt issuance costs	28	96	96
Amortization of premiums on investments	319	425	319
Stock-based compensation expenses	20,939	12,640	7,362
Deferred income taxes	(350)	281	85
Allowance for sales credits	(3)	17	38
Loss on disposal of long-lived assets	33	184	—
Impairment of intangible assets	—	20	—
Unoccupied lease charges	—	33	—
Changes in operating assets and liabilities:			
Accounts receivable, net	(961)	(3,247)	(3,322)
Prepaid expenses and other current assets	240	(237)	(150)
Deferred solution and other costs	(5,353)	(7,100)	(4,659)
Deferred implementation costs	(5,179)	(6,076)	(4,118)
Other long-term assets	(236)	47	(1)
Accounts payable	3,367	426	1,343
Accrued liabilities	(4,369)	10,641	4,056
Deferred revenue	4,837	9,593	14,021
Deferred rent and other long-term liabilities	(77)	3,031	3,538
Net cash provided by operating activities	9,472	3,394	5,399
Cash flows from investing activities:			
Purchases of investments	(27,749)	(40,160)	(43,928)
Maturities of investments	27,907	41,105	20,908
Purchases of property and equipment	(12,315)	(14,349)	(7,128)
Business combinations and asset acquisitions, net of cash acquired	(3,816)	(95)	(27,469)
Purchase of intangible assets	—	(323)	—
Capitalized software development costs	(970)	(2,692)	(313)
Increase in restricted cash	(1,000)	—	(486)
Net cash used in investing activities	(17,943)	(16,514)	(58,416)
Cash flows from financing activities:			
Payments on financing obligations	—	(4,890)	(4,241)
Payments on capital lease obligations	—	(161)	(418)
Proceeds from the issuance of common stock, net of issuance costs	—	(8)	52,575
Proceeds from exercise of stock options to purchase common stock	11,559	6,003	4,171
Net cash provided by financing activities	11,559	944	52,087
Net increase (decrease) in cash and cash equivalents	3,088	(12,176)	(930)
Cash and cash equivalents, beginning of period	54,873	67,049	67,979
Cash and cash equivalents, end of period	$57,961	$54,873	$67,049
Supplemental disclosures of cash flow information:			

Cash paid for taxes	$128	$120	$60
Cash paid for interest	$68	$217	$212
Supplemental disclosure of non-cash investing and financing activities:			
Acquisition consideration payable to seller - working capital adjustment	$—	$—	$95
Acquisition consideration payable to seller - hold back	$150	$—	$2,500
Shares acquired to settle the exercise of stock options	$(438)	$(376)	$(21)
Data center assets acquired under deferred payment arrangements or financing arrangements	$4,102	$—	$4,087

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

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Q2 HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(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 banking solutions. The Company enables regional and community financial institutions, or RCFIs, to deliver a robust suite of integrated digital banking services to more effectively engage with their consumer and commercial account holders who expect to bank 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 RCFI 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 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. The consolidated financial statements include the accounts of the Q2 Holdings, Inc. and its direct and indirect wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Reclassifications

Certain amounts appearing in the prior year's Consolidated Statements of Cash Flows have been reclassified to conform to the current year's presentation.

Use of Estimates

The preparation of the accompanying 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 consolidated financial statements, and the reported amounts of revenues and expenses. Significant items subject to such estimates include revenue recognition, 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, 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

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

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 years ended December 31, 2017, 2016 and 2015. No individual customer accounted for 10% of accounts receivable, net, as of December 31, 2017, and a single customer accounted for 15% of accounts receivable, net, as of December 31, 2016.

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 these services and also when the Company earns revenues based on the number of registered users and the number of bill-pay and certain other transactions that registered users perform on the Company's solutions in excess of the levels included in the Company's minimum subscription fee. Generally, billing for revenues related to the number of registered users and the number of transactions processed by the Company's registered users occurs one month in arrears. Included in the accounts receivable balances as of December 31, 2017 and 2016 were unbilled receivables of $2.1 million and $1.2 million, respectively.

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 December 31, 2017 and 2016, 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 following table shows the Company's allowance for sales credits as follows:

	Beginning Balance	Additions	Deductions	Ending Balance
Year Ended December 31, 2015	$ 173	$ 513	$ (474)	$ 212
Year Ended December 31, 2016	212	488	(472)	228
Year Ended December 31, 2017	$ 228	$ 683	$ (685)	$ 226

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 remaining term of the customer agreement. 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.

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 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 remaining term of the customer agreement. The Company analyzes solution and other costs that may be capitalized to assess their recoverability and only capitalizes costs that it anticipates to be 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.

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 early adopted Accounting Standards Update, or ASU, No. 2017-01, "Business Combinations (Topic 805): Clarifying the Definition of a Business" as of January 1, 2017. Under ASU 2017-01, the Company first 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's 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 of Centrix Solutions, Inc., or Centrix, in July 2015, Smarty Pig, LLC, doing business as Social Money, or Social Money, in November 2015, and an asset purchase in January 2017, 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.

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.

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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. Deferred revenues that are expected to be recognized as revenues during the succeeding twelve-month period are recorded in current liabilities as deferred revenues, current portion, and the remaining portion is recorded in long-term liabilities as deferred revenues, net of current portion.

Revenues

All 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 substantial majority of its revenues from subscription fees for the use of its solutions hosted in the Company's data centers as well as revenues for implementation and customer support services related to the Company's solutions. A small portion of the Company's customers host the Company's solutions in their own data centers under term license and maintenance agreements, and the Company recognizes the corresponding revenues ratably over the term of those customer agreements.

Revenues are recognized net of sales credits and allowances. The Company begins to recognize revenues for a customer when all of the following criteria are satisfied:

- there is persuasive evidence of an arrangement;
- the service has been or is being provided to the customer;
- the collection of the fees is reasonably assured; and
- the amount of fees to be paid by the customer is fixed or determinable.

Determining whether and when these criteria have been met can require significant judgment and estimates. In general, revenue recognition commences when the Company's solutions are implemented and made available to the customers.

The Company's software solutions are available for use in hosted application arrangements under subscription fee agreements. Subscription fees from these applications, including related customer support, are recognized ratably over the customer agreement term beginning on the date the 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 Company's revenue recognition criteria have been met.

The Company considers subscription fees to be fixed or determinable unless the fees are subject to refund or adjustment or are not payable within the Company's standard payment terms. In determining whether collection of subscription fees is reasonably assured, the Company considers financial and other information about customers, such as a customer's current credit-worthiness and payment history over time. Historically, bad debt expenses have been insignificant.

The Company enters into arrangements with multiple-deliverables that generally include multiple subscription and implementation services. Additional agreements with existing customers that are not in close proximity to the original arrangements are treated as separate contracts for accounting purposes.

For multiple-deliverable arrangements, arrangement consideration is allocated to deliverables based on their relative selling price. In order to treat deliverables in a multiple-deliverable arrangement as separate units of accounting, the deliverables must have standalone value upon delivery. The Company's subscription services have standalone value as such services are often sold separately. In determining whether implementation services have standalone value apart from the subscription services, the Company considers various factors including the availability of the services from other vendors. To date, the Company has concluded that the implementation services included in multiple-deliverable arrangements do not have standalone value. As a result, when implementation services are sold in a multiple-deliverable arrangement, the Company defers any arrangement fees for implementation services and recognizes such amounts ratably over the period of performance for the initial agreement term.

When multiple-deliverables included in an arrangement are separated into different units of accounting, the arrangement consideration is allocated to the identified separate units based on a relative selling price hierarchy. The selling price for a deliverable is based on its vendor-specific objective evidence of selling price, or VSOE, if available, third-party evidence of selling price, or TPE, if VSOE is not available or best estimate of selling price, or BESP, if neither VSOE nor TPE is available. The Company has not established VSOE for its subscription services due to lack of pricing consistency, the introduction of new services and other factors. The Company has determined that TPE is not a practical alternative due to differences in its service offerings compared to other parties and the availability of relevant third-party pricing information. Accordingly, the Company uses BESP to determine the relative selling price. The amount of revenue allocated to delivered items is limited by contingent revenues.

The Company determines BESP by considering its overall pricing objectives and market conditions. Significant pricing practices taken into consideration include the Company's discounting practices, the size and volume of transactions, customer characteristics, price lists, go-to-market strategy, historical standalone sales and agreement prices. As the Company's go-to-market strategies evolve, it may modify its pricing practices in the future, which could result in changes in relative selling prices, and include both VSOE and BESP.

Subscription Fee Revenues

The Company's solutions are available as hosted solutions under subscription fee agreements without licensing perpetual rights to the software. Subscription fees from a hosted solution are recognized monthly over the customer agreement term beginning on the date the Company's solution is made available to the customer. Additional fees for monthly usage above the levels included in the standard subscription fee, which include fees for transactions processed during the period, are recognized as revenue in the month when the usage amounts are determined and reported. Any revenues related to upfront implementation services are recognized ratably over the same customer agreement term. 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.

Professional Services Revenues

When professional services are not combined with subscription services or term licenses as a single unit of accounting, these professional services revenues are recognized as the services are performed.

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 $1.5 million, $1.5 million and $1.3 million during the years ended December 31, 2017, 2016 and 2015, respectively. The out-of-pocket expenses are reported in cost of revenues.

Term Licenses and Maintenance Revenues

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, which entitles the customer to technical support, upgrades and updates to the software made available on a when-and-if-available basis, are accounted for under Accounting Standards Codification, or ASC, 985-605, "Software Revenue Recognition." The Company does not have VSOE of fair value for the maintenance and professional services so the entire arrangement consideration is recognized monthly over the term of the software license when all of the other revenue recognition criteria have been met. Revenues from term licenses and maintenance agreements were not significant in the periods presented.

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, 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 remaining term of the customer agreement. Other costs not directly recoverable from future revenues are expensed in the period incurred. The Company capitalized implementation costs in the amount of $5.2 million, $6.1 million and $4.1 million during the years ended December 31, 2017, 2016 and 2015, respectively.

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 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 recognized $0.5 million of amortization of capitalized software development costs for the year ended December 31, 2017 as all of the related individual products reached general release during 2017. The Company capitalized software development costs in the amount of $1.0 million, $2.7 million and $0.3 million during the years ended December 31, 2017, 2016, and 2015, respectively.

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 $0.7 million, $0.3 million and $0.3 million for the years ended December 31, 2017, 2016 and 2015, 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 and unrealized gains and losses on available-for-sale investments.

Stock-Based Compensation

Stock options and restricted stock units awarded to employees, directors and consultants are measured at fair value at each grant date. The Company recognizes compensation expense ratably over the requisite service period of the option or restricted stock unit award. As of January 1, 2017, the Company no longer uses a forfeiture rate to recognize compensation expense as a result of the adoption of ASU No. 2016-09, "Improvements to Employee Share-Based Payment Accounting." 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.

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

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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 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.

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 full 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. No tax related impact was recorded in the financial statements as a result of the adoption of ASU No. 2016-09.

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. Through December 31, 2017, the Company has not identified any material uncertain tax positions for which liabilities would be required to be recorded.

Basic and Diluted Net Loss per Common Share

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

	Year ended December 31,		
	2017	2016	2015
Numerators:			
Net loss	$(26,164)	$(36,354)	$(25,063)
Denominator:			
Weighted-average common shares outstanding, basic and diluted	41,218	39,649	37,275
Net loss per common share, basic and diluted	$(0.63)	$(0.92)	$(0.67)

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

Due to net losses for each of the years ended December 31, 2017, 2016 and 2015, 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:

	Year ended December 31,		
	2017	2016	2015
Stock options and restricted stock units	5,372	5,643	5,760

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board, or FASB, issued ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)," or ASU 2014-09, which amends the existing accounting standards for revenue recognition. ASU 2014-09 is based on principles that govern the recognition of revenue at an amount an entity expects to be entitled to when products are transferred to customers. In August 2015, the FASB issued ASU No. 2015-14, "Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date," or ASU 2015-14, that deferred the effective date by one year to December 15, 2017 for interim and annual reporting periods beginning after that date. In 2016, the FASB issued the following amendments to ASC 606: ASU No. 2016-08, "Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net)," which clarifies the implementation guidance on principal versus agent considerations; ASU No. 2016-10, "Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing," which clarifies guidance on identification of performance obligations and licensing implementation; ASU No. 2016-12, "Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients," which provides clarifying guidance on assessing collectibility, presentation of sales taxes, noncash consideration, contract modifications and completed contracts; and ASU No. 2016-20, "Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers," which clarifies narrow aspects of ASC 606 or corrects unintended application of the guidance. ASC 606 will be effective for the Company beginning in its first quarter of 2018 using the modified retrospective method.

The Company continues to evaluate all potential impacts of the new standard, as well as the changes that are required to systems, processes and internal controls to meet the new standard's reporting and disclosure requirements. The Company currently believes the most significant impact relates to its accounting for arrangements that include contractual provisions providing for periodic price increases in subscription fee arrangements. Under current GAAP, the Company accounts for periodic price increases in the period in which they occur, and under the new standard, the Company will recognize revenue from periodic price increases on a ratable basis over the term of the contract. Additionally under current GAAP, for contracts in which customers host and manage the Company's solutions on-premises or in third-party data centers under term license and maintenance agreements, the Company recognizes the entire arrangement consideration monthly over the term of the software license as the Company does not have VSOE of fair value for the license and maintenance. Under the new standard, the Company will be able to recognize software license revenue once the customer obtains control of the license, which will generally occur at the start of each license term. Under current GAAP, the Company also defers only direct and incremental commission costs to obtain a contract and amortizes those costs over the term of the related contract. Under the new standard, the Company will be required to defer additional incremental costs related to the customer contract and amortize those costs over the expected period of customer benefit. Also a portion of the commission payment will now be expensed as incurred. The Company is substantially complete with its evaluation of the effect that the adoption will have on its consolidated financial statements. In connection with the adoption of Topic 606, the Company expects to record a cumulative-effect adjustment to accumulated deficit of approximately $14 million to $16 million on December 31,

2017. The adjustment reflects the acceleration of revenues and deferral of expenses.

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. The standard is effective for public entities for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and early application is permitted. The Company anticipates that the adoption of Topic 842 will impact its consolidated balance sheets as most of its operating lease commitments will be subject to the new standard and recognized as right-of-use assets and corresponding operating lease liabilities upon the adoption of ASU 2016-02, which will increase the total assets and total liabilities that it reports relative to such amounts prior to adoption.

In March 2016, the FASB issued ASU No. 2016-09, "Improvements to Employee Share-Based Payment Accounting," or ASU 2016-09, which amends ASC Topic 718, "Compensation – Stock Compensation." ASU 2016-09 simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The standard became effective for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. The Company adopted this standard as of January 1, 2017 and has elected not to use a forfeiture rate. The adoption resulted in a cumulative-effect adjustment to accumulated deficit of $0.2 million, which was included in the condensed consolidated financial statements for the quarter ended March 31, 2017.

In August 2016, the FASB issued ASU No. 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments," to clarify and provide specific guidance on eight cash flow classification issues that are not addressed by current GAAP and thereby reduce the current diversity in practice. The standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years and early adoption is permitted. The Company does not expect the adoption of this standard to have a material impact on its consolidated financial statements.

In November 2016, the FASB issued ASU No. 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash," which provides guidance on the classification of restricted cash in the statement of cash flows. The standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years and early adoption is permitted. The Company does not expect the adoption of this standard to have a material impact on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-01, "Business Combinations (Topic 805): Clarifying the Definition of a Business" to clarify the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years and early adoption is permitted. The Company early adopted this standard as of January 1, 2017, and its adoption did not have a material impact on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-03, "Accounting Changes and Error Corrections (Topic 250) and Investments - Equity Method and Joint Ventures (Topic 323)" to clarify the scope of Subtopic 610-20, "Other Income-Gains and Losses from the Derecognition of Nonfinancial Assets," and to add guidance for partial sales of nonfinancial assets. This ASU amends the disclosure requirements for ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)," ASU No. 2016-02, "Leases (Topic 842)" and ASU No. 2016-13, "Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments." This ASU states that if a registrant does not know or cannot reasonably estimate the impact that the adoption of the above ASUs is expected to have on the financial statements, then in addition to making a statement to that effect, the registrant should consider additional qualitative financial statement disclosures to assist the reader in assessing the significance of the impact that the standard will have on the financial statements of the registrant when adopted. This ASU was effective upon issuance. The Company adopted this ASU and added qualitative financial statement disclosures as necessary.

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 consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, "Compensation - Stock Compensation (Topic 718)" to provide clarity and reduce both diversity in practice and cost and complexity when applying the guidance in Topic 718, Compensation-Stock Compensation, to a change to the terms or conditions of a share-based payment award. The standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years and early adoption is permitted. The Company does not expect the adoption of this standard to have a material impact on its consolidated financial statements.

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3. Business Combinations and Asset Acquisitions

Asset Acquisition

In January 2017, the Company acquired the outstanding shares of a privately-owned company. In accordance with ASU 2017-01, the Company determined the set of assets acquired was not a business as substantially all of the fair value of the gross assets acquired was concentrated in a single identifiable asset, and the transaction was accounted for as an asset purchase. The Company acquired the assets for $1.5 million in cash from existing balances which includes a hold-back of $0.2 million payable twelve months after the closing date. Consideration was allocated on a relative fair value basis and resulted in $1.5 million in intangible assets including acquired technology and assembled workforce. Intangible assets do not have a tax basis, and therefore, are amortized on a straight-line basis over their estimated useful lives of three years. The acquired intangible assets are not amortizable for income tax purposes, which will result in an increase to deferred tax liabilities and a decrease of valuation allowance of $0.3 million.

Social Money

On November 30, 2015, the Company's wholly-owned subsidiary, Q2 Software, Inc. acquired all of the outstanding ownership interests of Social Money, a privately-owned financial services software company that offers a modern, cloud-based platform that assists financial institutions in its direct digital strategies. The purchase price paid was in excess of the fair value of the net assets acquired and, as a result, the Company recorded goodwill.

Social Money was acquired for approximately $10.7 million in cash from existing balances, including a customary post-closing working capital adjustment of $0.1 million, and a hold back of $2.5 million payable 18 months after closing date. At closing, the Company held back $2.5 million of the initial consideration, or hold-back 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 a period of 18 months following the acquisition date. To the extent not utilized, the hold-back amount shall be paid to the former unit holders of Social Money at the end of the 18-month period unless there are any unresolved claims remaining at that time.

During 2017, the Company paid out $0.2 million in retention bonuses to certain of the Social Money employees based upon their continued employment with the Company. In addition, the Company released the entire $2.5 million hold-back to the former owners of Social Money upon the expiration of the hold-back period. The Company recognized $0.1 million and $0.2 million under these agreements in compensation expense which is included in acquisition related costs in the consolidated statement of comprehensive loss for the years ended December 31, 2017 and 2016, respectively.

The Company recorded the purchase of Social Money using the acquisition method of accounting and accordingly, recognized assets acquired and liabilities assumed at their fair values as of the date of acquisition. The results of Social Money's operations are included in the Company's consolidated results of operations beginning with the date of acquisition. Proforma results of operations related to this acquisition have not been presented since Social Money's operating results up to the date of acquisition were not material to the Company's consolidated financial statements.

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

The following table summarizes the allocation of the purchase price based on the estimated fair value of the assets acquired and the liabilities assumed:

Assets acquired:	
Cash	$204
Restricted cash	1,238
Accounts receivable	123
Other prepaid assets	86
Property and equipment, net	87
Intangible assets	6,424
Goodwill	4,090
Total assets acquired	12,252
Liabilities assumed:	
Accounts payable	62
Accrued liabilities and accrued compensation	257
Customer deposit liability	1,238
Total liabilities assumed	1,557
Fair value of assets acquired and liabilities assumed	$10,695

The goodwill recognized is attributable primarily to synergies expected from the integration of the acquired product offering into the Company's integrated solutions including an increasing customer base, the expanded service capabilities that are expected to become available from planned investments in the acquired products, and the value of the assembled work force in accordance with generally accepted accounting principles.

The fair value of the intangible assets was based on the income approach, discounted cash flow method and relief from royalty method, as appropriate. Intangible assets are amortized on a straight-line basis over their estimated useful lives. For the non-compete agreements, the estimated useful life is based upon the term of each individual agreement with certain key employees of Social Money. The acquisition is expected to be treated as a taxable asset acquisition for tax purposes, resulting in amortizable tax basis in acquired intangibles, including $4.1 million of tax basis goodwill.

Centrix

On July 31, 2015, the Company's wholly-owned subsidiary, Q2 Software, Inc. acquired all of the outstanding shares of Centrix, a privately-owned company that provides financial institutions with products that detect fraud, manage risk and simplify compliance. The purchase price paid was in excess of the fair value of the net assets acquired and, as a result, the Company recorded goodwill.

Centrix was acquired for approximately $21.0 million in cash from existing balances, including a customary post-closing working capital adjustment of $1.0 million which was paid in the fourth quarter of 2015. At closing, the Company deposited into an escrow account $2.0 million of the initial consideration, or 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 a period of 24 months following the acquisition date. The escrow amount was paid to the former shareholders of Centrix in the third quarter of 2017, less $0.3 million which was withheld as it related to miscellaneous liabilities that existed pre-acquisition.

The former shareholders of Centrix also have the right to receive in the aggregate up to $9.0 million based upon the achievement of certain milestone-based objectives and the continued employment of certain shareholders. Payouts under these agreements are contingent upon the future employment of these Centrix employees with the Company and were therefore not included as consideration in recording the business combination but will be recorded as compensation expense as earned. During the year ended December 31, 2017, the Company paid out $7.2 million to the former Centrix shareholders based upon the achievement of certain milestone-based objectives and continued employment. The Company has recognized approximately $1.1 million and $5.9 million under these agreements in compensation expense included in acquisition related costs in the consolidated statement of comprehensive loss for the years ended December 31, 2017 and 2016, respectively. The Company continues to accrue for payouts contingent upon future employment of acquired employees, and the unpaid amounts due to the former shareholders or continuing employees, as applicable, are recorded in accrued compensation in the consolidated balance sheets.

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

The Company recorded the purchase of Centrix using the acquisition method of accounting and accordingly, recognized assets acquired and liabilities assumed at their fair values as of the date of acquisition. The results of Centrix's operations are included in the Company's consolidated results of operations beginning with the date of acquisition. Proforma results of operations related to this acquisition have not been presented since Centrix's operating results up to the date of acquisition were not material to the Company's consolidated financial statements.

The following table summarizes the allocation of the purchase price based on the estimated fair value of the assets acquired and the liabilities assumed:

Assets acquired:	
Cash	$1,417
Accounts receivable	579
Other prepaid assets	42
Deferred solution and other costs	106
Property and equipment, net	156
Intangible assets	11,690
Goodwill	8,786
Total assets acquired	22,776
Liabilities assumed:	
Accounts payable	46
Accrued liabilities and accrued compensation	267
Deferred revenue	1,483
Total liabilities assumed	1,796
Fair value of assets acquired and liabilities assumed	$20,980

The goodwill recognized is attributable primarily to synergies expected from the integration of the acquired product offering into the Company's integrated solutions, the expanded service capabilities that are expected to become available from planned investments in the acquired products, and the value of the assembled work force in accordance with generally accepted accounting principles.

The fair value of the intangible assets was based on the income approach, discounted cash flow method and relief from royalty method. For the non-compete agreements, the estimated useful life is based upon the term of each individual agreement with certain former shareholders of Centrix. The acquisition is expected to be treated as a taxable asset acquisition for tax purposes, resulting in amortizable tax basis in acquired intangibles, including $13.4 million of tax basis goodwill.

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:

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

- 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 December 31, 2017:

		Fair Value Measurements Using:		
Cash Equivalents:	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Money market funds	$9,279	$9,279	$ —	$ —

Investments:	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
U.S. government agency bonds	$16,194	$—	$ 16,194	$ —
Corporate bonds and commercial paper	15,815	—	15,815	—
Certificates of deposit	9,676	—	9,676	—
	$41,685	$—	$ 41,685	$ —

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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, 2016:

		Fair Value Measurements Using:		
Cash Equivalents:	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Money market funds	$8,306	$8,306	$ —	$ —
Investments:	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
U.S. government agency bonds	$12,998	$—	$ 12,998	$ —
Corporate bonds and commercial paper	14,647	—	14,647	—
Certificates of deposit	14,604	—	14,604	—
	$42,249	$—	$ 42,249	$ —

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 2 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 1 inputs) or pricing determined using inputs other than quoted prices that are observable either directly or indirectly (Level 2 inputs).

5. Cash, Cash Equivalents and Investments

The Company's cash, cash equivalents and investments as of December 31, 2017 and 2016 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 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 consolidated statements of comprehensive loss.

As of December 31, 2017 and 2016, the Company's cash was $48.7 million and $46.6 million, respectively.

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A summary of the cash equivalents and investments as of December 31, 2017 is as follows:

Cash Equivalents:	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market funds	$ 9,279	$ —	$ —	$ 9,279

Investments:	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. government agency bonds	$ 16,277	$ —	$ (83)	$ 16,194
Corporate bonds and commercial paper	15,871	—	(56)	15,815
Certificates of deposit	9,676	—	—	9,676
	$ 41,824	$ —	$ (139)	$ 41,685

A summary of the cash equivalents and investments as of December 31, 2016 is as follows:

Cash Equivalents:	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market funds	$ 8,306	$ —	$ —	$ 8,306

Investments:	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. government agency bonds	$ 13,028	$ —	$ (30)	$ 12,998
Corporate bonds and commercial paper	14,671	—	(24)	14,647
Certificates of deposit	14,604	—	—	14,604
	$ 42,303	$ —	$ (54)	$ 42,249

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 consolidated balance sheets.

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:

	December 31,	
	2017	2016
Due within one year or less	$27,324	$26,577
Due after one year through five years	14,361	15,672
	$41,685	$42,249

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

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

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 December 31, 2017.

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, 2017:

	Adjusted Cost	Gross Unrealized Loss	Fair Value
U.S. government agency bonds	$16,277	$ (83)	$16,194
Corporate bonds and commercial paper	15,871	(56)	15,815
	$32,148	$ (139)	$32,009

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, 2016:

	Adjusted Cost	Gross Unrealized Loss	Fair Value
U.S. government agency bonds	$13,028	$ (30)	$12,998
Corporate bonds and commercial paper	13,668	(24)	13,644
	$26,696	$ (54)	$26,642

6. Deferred Solution and Other Costs

Deferred solution and other costs, current portion and net of current portion, consisted of the following:

	December 31,	
	2017	2016
Deferred solution costs	$6,505	$6,295
Deferred commissions	2,741	2,544
Deferred solution and other costs, current portion	$9,246	$8,839
Deferred solution costs	$5,291	$4,741
Deferred commissions	7,682	6,384
Deferred solution and other costs, net of current portion	$12,973	$11,125

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7. Property and Equipment
Property and equipment consisted of the following:

	December 31, 2017	December 31, 2016
Computer hardware and equipment	$30,734	$20,335
Purchased software and licenses	8,788	6,089
Furniture and fixtures	5,387	4,673
Leasehold improvements	13,470	11,597
	58,379	42,694
Accumulated depreciation	(23,835)	(15,214)
Property and equipment, net	$34,544	$27,480

Depreciation expense was $9.2 million, $7.3 million and $5.5 million for the years ended December 31, 2017, 2016 and 2015, respectively. Depreciation expense included amortization of assets held under capital leases in the years ended December 31, 2016 and 2015.
8. Goodwill and Intangible Assets
The carrying amount of goodwill was $12.9 million at December 31, 2017 and 2016. Goodwill represents the excess purchase price over the fair value of assets acquired. 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, 2017. No impairment of goodwill was identified during 2017.
Intangible assets at December 31, 2017 and 2016 were as follows:

	As of December 31, 2017			As of December 31, 2016		
	Gross Amount	Accumulated Amortization	Net Carrying Amount	Gross Amount	Accumulated Amortization	Net Carrying Amount
Customer relationships	$3,130	$ (1,294)	$ 1,836	$3,130	$ (749)	$ 2,381
Non-compete agreements	884	(451)	433	884	(266)	618
Trademarks	2,140	(1,724)	416	2,140	(1,010)	1,130
Acquired technology	13,293	(7,464)	5,829	11,920	(3,846)	8,074
Assembled workforce	121	(38)	83	—	—	—
Capitalized software development costs	3,975	(538)	3,437	3,005	—	3,005
	$23,543	$ (11,509)	$ 12,034	$21,079	$ (5,871)	$ 15,208

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

The estimated useful lives and weighted average amortization periods for intangible assets at December 31, 2017 are as follows (in years):

	Estimated Useful Life	Weighted Average Amortization Period
Customer relationships	4 - 6	3.7
Non-compete agreements	2 - 5	2.7
Trademarks	2 - 3	0.8
Acquired technology	3 - 5	2.1
Assembled workforce	3	2.1
Capitalized software development costs	5	4.5
Total		3.0

The Company recorded intangible assets from the business combinations in 2015 and an asset acquisition in 2017, 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 six years. Amortization expense included in cost of revenues in the consolidated statement of comprehensive loss was $3.6 million and $3.2 million for each of the years ended December 31, 2017 and 2016, respectively, and amortization expense included in operating expenses in the consolidated statement of comprehensive loss was $1.5 million for each of the years ended December 31, 2017 and 2016.

Capitalized software development costs were $4.0 million and $3.0 million as of December 31, 2017 and 2016, respectively. During the year ended 2017, all of the products related to capitalized software development costs reached general release, and the Company has commenced amortization of these costs. Amortization expense included in cost of revenues in the consolidated statement of comprehensive loss for capitalized software development costs was $0.5 million for the year ended December 31, 2017. 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.

The estimated future amortization expense related to intangible assets as of December 31, 2017 was as follows:

	Amortization
Year Ended December 31,	
2018	$ 5,446
2019	3,183
2020	2,076
2021	1,072
2022 and thereafter	257
Total amortization	$ 12,034

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9. Accrued Liabilities
Accrued liabilities consisted of the following:

	December 31,	
	2017	2016
Accrued data center equipment and software purchases	$4,410	$232
Accrued transaction processing fees	1,687	1,790
Accrued professional services	1,419	1,518
Acquisition hold back	150	2,500
Deferred rent	1,197	1,066
Other	1,699	1,716
	$10,562	$8,822

10. Debt
In April 2013, the Company entered into a secured credit facility agreement, or Credit Facility, with Wells Fargo Bank, National Association, or Wells Fargo, which the Company and Wells Fargo subsequently amended several times, most recently on March 31, 2016, to modify the Credit Facility to allow for the acquisition of Social Money. The Credit Facility, as amended, provided for a line of credit of up to $25.0 million, with an accordion feature, or Accordion Feature, allowing the Company to increase its maximum borrowings by up to an additional $25.0 million, subject to certain conditions and limitations, including that borrowings at any time would be limited to 75% of the Company's trailing twelve-month recurring revenues. Access to the total borrowings available under the Credit Facility was restricted based on covenants related to the Company's minimum liquidity and adjusted EBITDA. Amounts borrowed under the Credit Facility accrued interest, at the Company's election at either: (i) the per annum rate equal to the LIBOR rate plus an applicable margin; or (ii) the then current base rate plus the greater of the U.S. Federal Funds rate plus one percentage point, the one-month LIBOR plus one percentage point, or the lending financial institution's prime rate. The Company paid a monthly fee based on the total unused borrowings balance, an annual administrative fee and the initial closing fee, which was paid in three equal annual installments over the first three years of the Credit Facility. The Accordion Feature expired in October 2016, at which time maximum borrowings under the Facility were reduced to $25.0 million.

On April 11, 2017, the Credit Facility expired pursuant to its original terms. Upon the expiration of the Credit Facility, the Company paid off the outstanding balance, which was less than $0.1 million, and the secured letter of credit which had been issued against the facility for the security deposit for its corporate headquarters is now secured by a $1.0 million restricted deposit with Wells Fargo.
11. 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: Lincoln, Nebraska; Des Moines, Iowa; Atlanta, Georgia; Asheville, North Carolina; and, south Austin, Texas. The Company believes its current facilities will be adequate for its needs for the foreseeable future. Rent expense under operating leases was $4.4 million, $3.7 million and $1.8 million for the years ended December 31, 2017, 2016 and 2015, respectively.

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Future minimum payments required under operating leases that have initial or remaining non-cancelable lease terms in excess of one year at December 31, 2017 were as follows:

	Operating Leases
Year Ended December 31,	
2018	$ 5,675
2019	5,692
2020	5,694
2021	4,781
2022	4,296
Thereafter	20,442
Total minimum lease payments	$ 46,580

Contractual Commitments

The Company has non-cancelable contractual commitments related to 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 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,	
2018	$ 13,227
2019	11,060
2020	7,413
2021	7,355
2022	7,355
Thereafter	5,517
Total commitments	$ 51,927

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.

12. Stockholders' Equity

Follow-On Offerings

On March 4, 2015, the Company and certain selling stockholders completed a follow-on offering of 5,122 shares of common stock at $19.75 per share, and sold an additional 768 shares of common stock at $19.75 per share when the underwriters exercised their over-allotment option to purchase additional shares. The total shares sold in the follow-on offering and shares sold when the underwriters exercised their over-allotment option included 4,133 shares sold by selling stockholders and 1,757 shares sold by the Company. After deducting the payment of underwriters' discounts and commissions and offering costs, the net proceeds to the Company from the sale of shares in the offering and the sale of shares when the underwriters exercised their over-allotment option was approximately $32.3 million.

On September 30, 2015, the Company and certain selling stockholders completed a follow-on offering of 3,799 shares of common stock at $25.50 per share, and on October 15, 2015, selling stockholders sold an additional 570 shares of common stock at $25.50 per share when the underwriters exercised their over-allotment option to purchase additional shares. The total shares sold in the follow-on offering and shares sold when the underwriters exercised their over-allotment option included 3,516 shares sold by selling stockholders and 853 shares sold by the Company. After deducting the payment of underwriters' discounts and commissions and offering costs, the net proceeds to the Company from the sale of shares in the offering was approximately $20.3 million.

13. 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, 2016, a total of 5,413 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, 2017, 1,819 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 year ended December 31, 2017, 66 shares have been transferred to the 2014 Plan from the 2007 Plan, and as of December 31, 2017, a total of 7,298 shares were allocated for issuance under the 2014 Plan. As of December 31, 2017, options to purchase a total of 2,695 shares of common stock have been granted under the 2014 Plan, 2,425 shares have been reserved under the 2014 Plan for the vesting of restricted stock units, 439 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 2,617 shares of common stock remain available for future issuance under the 2014 Plan. Shares of common stock that are issued and were available for issuance under the 2014 Plan consist of authorized, but unissued or reacquired shares of common stock or any combination thereof.

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 December 31, 2017, no shares remain available for future issuance under the 2007 Plan. Shares of common stock that are issued and were available for issuance under the 2007 Plan consist of authorized, but unissued or reacquired shares of common stock or any combination thereof.

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Stock Options

The following summarizes the assumptions used for estimating the fair value of stock options granted during the periods indicated:

	Year Ended December 31,		
	2017	2016	2015
Risk-free interest rate	1.7 - 2.1%	1.0 - 1.8%	1.5 - 1.6%
Expected life (in years)	4.8	3.8 - 4.8	4.3 - 4.8
Expected volatility	41.5 - 43.1%	43.9 - 46.5%	45.7 - 46.9%
Dividend yield	—	—	—
Weighted-average grant date fair value per share	$14.17	$9.32	$9.38

Stock option activity was as follows:

	Number of Options	Weighted Average Exercise Price
Balance as of January 1, 2015	6,111	$ 5.90
Granted	582	23.12
Exercised	(1,578)	2.71
Forfeited	(71)	8.95
Balance as of December 31, 2015	5,044	8.84
Granted	892	23.49
Exercised	(1,379)	4.57
Forfeited	(123)	16.08
Balance as of December 31, 2016	4,434	12.91
Granted	643	36.44
Exercised	(1,205)	10.07
Forfeited	(180)	19.15
Balance as of December 31, 2017	3,692	$ 17.63

The summary of stock options outstanding as of December 31, 2017 is as follows:

	Options Outstanding			Options Exercisable		
Range of Exercise Prices	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)
$0.29 - $5.05	385	$ 2.24	3.1	385	$ 2.24	3.1
$5.93 - $13.00	1,265	8.39	2.9	1,221	8.39	2.9
$15.07 - $24.33	932	18.57	4.4	527	18.40	4.3
$24.89 - $39.85	1,044	32.14	5.8	160	27.75	5.2

$41.90	66	41.90	6.8	—	—	0.0
	3,692	$ 17.63	4.2	2,293	$ 11.01	3.4

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Restricted Stock Units
The Company's restricted stock units typically vest over a four-year period and upon vesting, the vested shares are issued to the recipient of the restricted stock units.
Restricted stock unit activity was as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested as of January 1, 2015	28	$ 19.44
Granted	707	26.39
Vested	(7)	19.44
Forfeited	(12)	26.14
Nonvested as of December 31, 2015	716	26.19
Granted	751	25.55
Vested	(171)	26.00
Forfeited	(86)	25.54
Nonvested as of December 31, 2016	1,210	25.87
Granted	939	38.58
Vested	(349)	26.35
Forfeited	(120)	28.94
Nonvested as of December 31, 2017	1,680	$ 32.65

The aggregate intrinsic value of stock options exercised during each of the years ended December 31, 2017, 2016 and 2015 was $33.9 million, $29.4 million and $32.7 million, respectively. The total fair value of stock options vested during each of the years ended December 31, 2017, 2016 and 2015 was $8.1 million, $8.7 million and $3.4 million, respectively.
As of December 31, 2017, the aggregate intrinsic value of options outstanding was $71.3 million, the total unrecognized stock-based compensation expense related to stock options was $13.6 million, which the Company expects to recognize over the next 2.7 years, and total unrecognized stock-based compensation expense related to restricted stock units was $47.1 million, which the Company expects to recognize over the next 3.0 years.

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14. Provision for Income Taxes
The components of the Company's (benefit from) provision for income taxes from continuing operations consisted of the following:

	Year Ended December 31,		
	2017	2016	2015
Current taxes:			
Federal	$(100)	$—	$—
Foreign	62	33	—
State	74	112	135
Total current taxes	$36	$145	$135
Deferred taxes:			
Federal	$32	$262	$—
State	(382)	20	85
Total deferred taxes	(350)	282	85
(Benefit from) provision for income taxes	$(314)	$427	$220

The Company had federal net operating loss carryforwards of approximately $168.1 million and $129.5 million at December 31, 2017 and 2016, respectively, which will expire at various dates beginning in 2026, if not utilized. The Company also held state tax credits of $0.5 million and $0.2 million for the years ended December 31, 2017 and 2016, respectively, federal alternative minimum tax credits of $0.1 million for each of the years ended December 31, 2017 and 2016, and federal R&D tax credits of $1.2 million and zero for the years ended December 31, 2017 and 2016, respectively. The state tax credits will expire in 2026 if not utilized, the federal R&D tax credits will expire at various dates beginning in 2027, if not utilized, and the federal alternative minimum tax credits have an indefinite carryforward period.
Utilization of the net operating losses and credit carryforwards may be subject to a substantial annual limitation due to the "change in ownership" provisions of the Internal Revenue Code of 1986. The annual limitation may result in the expiration of net operating losses and credit carryforwards before utilization.

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Deferred income taxes reflect the net 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. Significant components of the Company's deferred taxes consisted of the following:

	December 31,	
	2017	2016
Deferred tax assets:		
NOL and credit carryforwards	$40,716	$29,034
Deferred revenue	8,216	9,910
Accrued expenses and other	6,802	9,829
Stock-based compensation	4,615	4,598
Total deferred tax assets	60,349	53,371
Deferred tax liabilities:		
Deferred expenses	(6,198)	(8,337)
Depreciation and amortization	(1,426)	(2,887)
Total deferred tax liabilities	(7,624)	(11,224)
Deferred tax assets less tax liabilities	52,725	42,147
Less: valuation allowance	(52,629)	(42,401)
Net deferred tax asset (liability)	$96	$(254)

The Company has established a valuation allowance due to uncertainties regarding the realization of deferred tax assets based on the Company's lack of earnings history. During 2017, the valuation allowance increased by approximately $20.4 million due to continuing operations.

The Company's benefit from (provision for) income taxes attributable to continuing operations differs from the expected tax benefit amount computed by applying the statutory federal income tax rate of 34% to income before taxes for the years ended December 31, 2017, 2016 and 2015 primarily as a result of the following:

	Year Ended December 31,		
	2017	2016	2015
Income tax at U.S. statutory rate	34.0 %	34.0 %	34.0 %
Effect of:			
Increase in deferred tax valuation allowance	(77.1)	(36.3)	(34.5)
Stock compensation	32.7	—	—
R&D Credit	4.7	—	—
State taxes, net of federal benefit	6.2	1.7	1.6
Tax impact of federal law change	1.2	—	—
Other permanent items	(0.5)	(0.6)	(2.0)
Income tax benefit (provision) effective rate	1.2 %	(1.2)%	(0.9)%

The Company files income tax returns in the U.S. federal jurisdiction and several state jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal, state or local income tax examinations by tax authorities for years before 2014. Operating losses generated in years prior to 2014 remain open to adjustment until the statute of limitations closes for the tax year in which the net operating losses are utilized. The tax years 2014 through 2017 remain open to examination by all the major taxing jurisdictions to which the Company is subject, though the Company is not currently under examination by any major taxing jurisdiction.

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The Company did not have any uncertain tax positions as of December 31, 2017, 2016 and 2015. The Company's policy is to accrue interest and penalties related to uncertain tax positions as a component of income tax expense. For the years ended December 31, 2017, 2016 and 2015, the Company did not recognize any interest or penalties.
The Tax Cuts and Jobs Act, or the Tax Act, was enacted on December 22, 2017. The Tax Act reduces the U.S. federal corporate tax rate from 35% to 21%, requiring companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred and creates new taxes on certain foreign sourced earnings. At December 31, 2017, the Company does not have any foreign subsidiaries and the international aspects of the Tax Act are not applicable.
In connection with the initial analysis of the impact of the Tax Act, the Company remeasured certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which is generally 21%. The remeasurement of the Company's deferred tax balance was primarily offset by application of its valuation allowance. The Company is still analyzing certain aspects of the Tax Act and refining its calculations, which could potentially affect the measurement of these balances or potentially give rise to new deferred tax amounts. Where the Company has been able to make reasonable estimates of the effects for which its analysis is not yet complete, the Company has recorded provisional amounts related to the remeasurement of the deferred tax balance as a tax benefit of $0.2 million. Where the Company has not yet been able to make reasonable estimates of the impact of certain elements, the Company has not recorded any amounts related to those elements and has continued accounting for them in accordance with ASC 740 on the basis of the tax laws in effect immediately prior to the enactment of the Tax Act.

15. Employee Benefit Plan

In January 2009, the Company adopted a 401(k) profit-sharing plan, or 401(k) Plan, covering substantially all employees. Employees can contribute between 1% and 90% of their total earnings. The 401(k) Plan also provides for employer contributions to be made at the Company's discretion. As of December 31, 2017, the Company had not made any discretionary contributions.
Centrix had a 401(k) plan, or the Centrix 401(k) Plan, covering substantially all employees. Under the Centrix 401(k) Plan, employees could elect to contribute up to $18,000 of their eligible compensation to the Centrix 401(k) Plan, subject to certain limitations. The 401(k) Plan also provides for employer contributions to be made at the Company's discretion. For the years ended December 31, 2015 Centrix made contributions of approximately $0.1 million to the Centrix 401(k) Plan. Centrix employees who participated in the Centrix 401(k) Plan remained enrolled subsequent to the acquisition and through January 2016, when the Centrix 401(k) Plan was merged into the 401(k) Plan.

16. Segments and Geographic Information

All revenue-generating activities are directly related to the sale, implementation and support of the Company's solutions in a single operating segment. The Company's chief operating decision maker, the Chief Executive Officer, reviews financial information presented on a consolidated basis for purposes of allocating resources and evaluating financial performance. All of the Company's principal operations, assets and decision-making functions are located in the United States.

17. Related Parties

For the years ended December 31, 2017, 2016 and 2015, the Company recorded revenues from a related-party customer of $0.4 million, $0.5 million and $0.4 million, respectively.

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18. Selected Quarterly Financial Data (unaudited)
Selected summarized quarterly financial information for the years ended 2017 and 2016 is as follows:

	Three Months Ended							
	March 31, 2016	June 30, 2016	September 30, 2016	December 31, 2016	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017
Revenues	$33,759	$36,005	$ 38,305	$ 42,155	$44,534	$47,625	$ 50,116	$ 51,703
Cost of revenues	17,814	18,870	19,599	21,146	22,772	24,328	25,813	26,572
Gross profit	15,945	17,135	18,706	21,009	21,762	23,297	24,303	25,131
Operating expenses:								
Sales and marketing	8,207	9,611	8,980	9,486	9,878	11,096	9,904	10,292
Research and development	7,903	7,830	8,219	8,508	9,651	9,922	10,092	10,673
General and administrative	7,421	7,437	8,624	8,477	8,452	9,268	9,596	9,863
Acquisition related costs	1,482	1,476	1,835	1,514	348	351	270	263
Amortization of acquired intangibles	368	368	368	366	371	373	369	368
Unoccupied lease charges	—	33	—	—	—	—	—	—
Total operating expenses	25,381	26,755	28,026	28,351	28,700	31,010	30,231	31,459
Loss from operations	(9,436)	(9,620)	(9,320)	(7,342)	(6,938)	(7,713)	(5,928)	(6,328)
Total other income (expense), net	14	(85)	(64)	(74)	34	109	149	137
Loss before income taxes	(9,422)	(9,705)	(9,384)	(7,416)	(6,904)	(7,604)	(5,779)	(6,191)
(Benefit from) provision for income taxes	(230)	(3)	(97)	(97)	(136)	(217)	(3)	670
Net loss	$(9,652)	$(9,708)	$ (9,481)	$ (7,513)	$(7,040)	$(7,821)	$ (5,782)	$ (5,521)