LogMeIn, Inc.
Form 10-K
February 21, 2019

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission file number 001-34391

LOGMEIN, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	20-1515952 (I.R.S. Employer Identification No.)
320 Summer Street Boston, Massachusetts (Address of principal executive offices)	02210 (Zip Code)

(781) 638-9050

(Registrant's telephone number, including area code)

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

Title of Each Class	Name of Exchange on Which Registered
Common Stock, $.01 par value	NASDAQ Global Select Market

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

None.

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

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 No

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

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

Indicate by check mark 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.

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

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company

Emerging growth company

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold on the NASDAQ Global Select Market on June 30, 2018 was $4,671,763,901.

As of February 19, 2019, the registrant had 50,839,497 shares of Common Stock, $0.01 par value per share, outstanding.

Portions of the registrant's definitive proxy statement to be filed with the Securities and Exchange Commission for the 2019 annual stockholders' meeting are incorporated by reference into Items 10, 11, 12, 13 and 14 of Part III of this Annual Report on Form 10-K.

LOGMEIN, INC.

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Forward-Looking Statements

Matters discussed in this Annual Report on Form 10-K relating to future events or our future performance, including any discussion, express or implied, of our anticipated growth, operating results, future earnings per share, market opportunity, plans and objectives, are “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements are often identified by the words “may,” “will,” “expect,” “believe,” “anticipate,” “intend,” “could,” “estimate,” or “continue,” and expressions or variations. Such forward-looking statements are subject to risks, uncertainties and other factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section titled “Risk Factors,” set forth in Item 1A of this Annual Report on Form 10-K and elsewhere in this Report. The forward-looking statements in this Annual Report on Form 10-K represent our views as of the date of this Annual Report on Form 10-K. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this Annual Report on Form 10-K.

PART I

ITEM 1. BUSINESS
Overview

LogMeIn simplifies how people connect with each other and the world around them to drive meaningful interactions, deepen relationships, and create better outcomes for individuals and businesses. A market leader in unified communications and collaboration, identity and access management, and customer engagement and support solutions, LogMeIn has millions of customers spanning virtually every country across the globe. LogMeIn is headquartered in Boston, Massachusetts with additional locations in North America, South America, Europe, Asia and Australia.

We incorporated under the laws of Bermuda as 3am Labs Ltd in February 2003. In August 2004, we completed a domestication in the State of Delaware under the name 3am Labs, Inc. We changed our name to LogMeIn, Inc. in March 2006. Our principal executive offices are located at 320 Summer Street, Boston, Massachusetts 02210. Our website address is www.LogMeInInc.com. We have included our website address in this report solely as an inactive textual reference.

We introduced our first cloud-based connectivity offering in 2004, which allowed users to securely connect to remote computer resources, including files, applications and the remote device itself. Used primarily by mobile professionals to work remotely and by IT service providers to remotely manage computers and servers, this remote access solution was designed to give users the flexibility to work and interact with their computer resources from any other Internet-connected computer. We have since used this scalable technology to expand the types of devices and data that can be accessed remotely, while introducing a variety of cloud-based offerings or applications designed to address the needs of today’s unified communications and collaboration, identity and access management, customer engagement and support markets.

In January 2017, we completed our acquisition of the GoTo family of service offerings, or the GoTo Business, from a wholly–owned subsidiary of Citrix Systems, Inc., or Citrix, via a Reverse Morris Trust transaction, which we refer to herein as the Merger. In April 2018, we completed our acquisition of Jive Communications, Inc., or Jive, a provider of cloud-based phone systems and unified communications services.

We offer both free and fee-based, or premium, subscription software services. Sales of our premium services are generated through online search, word-of-mouth referrals, web-based advertising, off-line advertising, broadcast advertising, public relations, the conversion of free users and expiring free trials to paid subscriptions and direct marketing to new and existing customers.

We derive our revenue principally from subscription fees from our customers, who range from individual consumers to small and medium businesses, or SMBs, and to multi-national enterprises. Our revenue is driven primarily by the number and type of our premium services to which our paying customers subscribe. During the fiscal years ended December 31, 2016, 2017 and 2018, we generated revenues of $336 million, $990 million and $1.2 billion, respectively.

Our Market Opportunity

Our cloud-based connectivity services allow our users to work remotely, secure online or cloud-based services, support and manage remote computers and other Internet-enabled devices and collaborate with other users. We believe our services benefit users in the following ways:

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Increased productivity both in and outside of traditional office environments. Our cloud-based services have been designed to reduce friction, allowing users to collaborate effectively, simply host and/or attend web-based meetings, replace traditional on-premise PBX phone equipment, access and control remote computers, access and secure cloud or online applications and websites and run applications across different platforms and devices, thereby increasing our users' mobility, bolstering their security and allowing them to remain productive from virtually anywhere on virtually any Internet-enabled device.

- Reduced set-up, support and management costs. Our services enable IT staff to administer, monitor and support workers, their applications, their data and their Internet-enabled devices from a remote location. Businesses can easily set-up our cloud-based services with little or no modification to the remote location's network or security systems and without the need for upfront technology or software investment. Our cloud-based phone services allow customers to efficiently replace older and less secure hardware devices. Additionally, our customers are often able to lower their support and management costs by performing their management-related tasks remotely, thereby reducing or eliminating the costs of on-site support and management.
- Improved security and better adoption of password best practices. Enterprise and business versions of our identity and access management services provide IT staff, line-of-business managers and small business owners with the ability to better protect themselves against the most common online security threats. Our web and desktop password management services can be provisioned for all employees, providing both a productivity benefit to employees who manage numerous passwords for the web and cloud applications needed to do their jobs, while also ensuring that passwords used for these services are securely stored, appropriately complex, unique to each application and changed automatically at regular intervals. Users of our identity and access management services can also further augment these password best practices by enforcing secondary authentication requirements, such as multi-factor authentication, which requires authorization from both a desktop web browser and a mobile application before accessing sensitive applications and data.
- Increased end-user and customer satisfaction. Our customers rely on our services to improve the efficiency and effectiveness of end-user support and customer service. Satisfaction with support and other customer engagement services is primarily measured by customer satisfaction, sales conversions, call-handling times and whether or not an issue is resolved on the first call. Our services enable helpdesk technicians and customer service staff to quickly and easily engage with users, gain access to and take control over a remote user's Internet-enabled device and, once connected, diagnose and resolve problems while interacting with and possibly training the end user. Our customer engagement services leverage artificial intelligence and machine-learning technology to help customer service and helpdesk technicians engage with their customers across multiple platforms, boosting agent efficiency and effectiveness. Technicians can also answer questions and resolve common dilemmas via web chat, email, SMS and popular social channels, such as Twitter.
- Higher quality leads, related sales pipeline and conversion rates. Our unified communications and collaboration offerings, as well as other select service cloud offerings are used by inside sales teams, customer service teams and digital marketing teams to generate sales leads, remotely engage prospective buyers, and visually demonstrate products and services in an effort to create sales opportunities, advance sales cycles and boost overall online visit to purchase conversion rates.

Our Business Strengths

We believe that the following strengths differentiate us from our competitors and are key to our success:

- Large established user community. We have more than two million paying customers and millions of free users worldwide, with products used in virtually every country around the globe. These users drive awareness of our services through personal recommendations, social media and other online communication methods and provide us with a significant audience to which we can market and sell premium services.
- Efficient customer acquisition model. We believe our free products and our large installed user base help to generate word-of-mouth referrals, which in turn increases the efficiency of our paid marketing activities. Sales of our premium services are generated through word-of-mouth referrals, web-based advertising, online search, off-line advertising, broadcast advertising, the conversion of free users and expiring free trials to paid subscriptions and by marketing to our existing customer and user base. We believe this direct approach to acquiring new customers generates an attractive and predictable return on our sales and marketing expenditures.
- Online, cloud-based delivery. Delivering our services online via the cloud allows us to scale and serve additional customers with little incremental expense and to deploy new applications and upgrades quickly and efficiently to our existing customers.

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- High recurring revenue and high transaction volumes. We sell our premium services on a subscription basis, which provides greater levels of recurring revenues and predictability compared to traditional perpetual license-based business models. We believe that our high volume of new and renewed subscriptions at low transaction prices increases the predictability of our revenues compared to perpetual licensed-based software businesses.

Growth Strategy

Our objective is to extend our position as a leading provider of essential cloud-based connectivity services. To accomplish this, we intend to:

- Acquire new customers. We acquire new customers through word-of-mouth referrals from our existing user community and from paid, online advertising designed to attract visitors to our website. We also encourage our website visitors to try our free services or register for free trials of our premium services. We supplement our online efforts with email and other traditional marketing campaigns and by participating in trade events and web-based seminars. To increase our sales, we plan to continue to aggressively market our solutions and encourage trials of our services while continuing to scale our sales force.
- Increase sales to existing customers. We upsell and cross-sell our broad portfolio of services to our existing premium subscriber customer base. To further penetrate this base, we plan to continue to actively market our portfolio of services through e-commerce and traditional sales.
- Continue to expand our service portfolio. We intend to continue to invest in the development of new cloud-based connectivity services for businesses, IT service providers, consumers and mobile professionals.
- Pursue strategic acquisitions. Strategic acquisitions remain a key growth strategy for our business and we believe we have the scale needed to further expand the range of acquisition opportunities we are able to pursue. We plan to continue to pursue acquisitions that complement our existing business, represent a strong strategic fit and are consistent with our overall growth strategy. We also plan to target future acquisitions to expand or add functionality and capabilities to our existing portfolio of services, as well as add new services to our portfolio.
- Expand internationally. We have more than two million paying customers and millions of free users worldwide, with products used in virtually every country around the globe. We continue to believe there is a significant opportunity to increase our sales internationally. We intend to continue to invest in and expand our international sales and marketing activities to take advantage of this opportunity.
- Continue to build our user community. We grow our community of users by offering popular free services and through paid advertising that targets prospective customers who are seeking cloud connectivity services. This strategy improves the effectiveness of our online advertising by increasing our response rates when people seeking remote access, collaboration, customer engagement and identity and access management conduct online searches. In addition, our large and growing community of users drives awareness of our services and increases referrals of potential customers and users.

Our Services

Our cloud-based services can be categorized into three business lines based on customer needs and respective use cases:

Unified Communications and Collaboration. Our unified communications and collaboration services that create simpler, more intelligent ways for people to meet, connect, market, sell and train to deepen relationships and drive better outcomes. These individual services are as follows:

GoToConference allows users to configure a video and audio conferencing solution in their physical conference or huddle rooms by providing customers with an onboarding kit which includes all the necessary hardware and software, a license to the service which allows for "meet now" functionality or the ability to attend or start a GoToMeeting session or share local content and access to technical support.

GoToMeeting is our secure and cost-effective product for online meetings, sales demonstrations and collaborative gatherings. Largely targeted at small and medium businesses, GoToMeeting gives users the ability to easily host or participate in online meetings from the GoToMeeting website, mobile apps or executable customer software. GoToMeeting comes equipped with integrated conference dial-in numbers, Voice over Internet Protocol, or VoIP, and HDFaces high-definition video conferencing. It features an advanced, secure communication architecture that uses industry-standard Transport Layer Security, or TLS, encryption.

GoToTraining is an easy-to-use, secure online training product that enables individuals and enterprises to provide interactive training sessions to customers and employees in any location. GoToTraining users can easily create curriculums for their students from a Mac, PC or mobile device without the need for significant training or IT support; attendees can join from a Mac, PC, iOS or Android device. GoToTraining includes features such as full-service registration with real-time reports, materials, automated email templates, polling and survey capabilities as well as testing and high-definition webcam sharing for up to six participants and VoIP and toll-based phone options.

GoToWebinar is an easy-to-use, do-it-yourself webinar product, allowing organizations to increase market reach and effectively present online to geographically dispersed audiences. GoToWebinar users can easily host, attend or participate in a webinar session from a Mac, PC or mobile device without the need for significant training or IT support; attendees can join from a Mac, PC, iOS or Android device. GoToWebinar includes features such as full-service registration with real-time reports, customized branding, automated email templates, polling and survey capabilities, a webinar dashboard for monitoring attendance and participation, easy presenter controls for changing presenters and high-definition webcam sharing for up to six organizers and panelists and VoIP and toll-based phone options.

Grasshopper is a provider of telephony solutions for small businesses designed to allow organizations to establish professional voice presence (e.g., Interactive Voice Response, routing, voicemail, etc.) without costly hardware investments. Grasshopper provides users with toll free or local numbers and enables employees to use their personal devices to make and receive calls from their business line via a mobile application.

Jive is a cloud-based phone service designed to replace traditional on-premise, PBX phone equipment; offering a robust suite of communication features and easy management from a web browser or mobile application. Our Jive Voice cloud-based business phone system includes a suite of hosted VoIP features, including unlimited voicemail boxes, auto attendants and local and long-distance calling. Jive Contact Center delivers a broad set of contact center features and valuable real-time reports to enable better management of call queues and incoming customer calls.

join.me, join.me pro and join.me business are our lightweight free and premium online meeting and screen sharing services. Each of the join.me offerings give users the ability to quickly host ad hoc and scheduled online meetings with other people. These services can be initiated through a visit to the join.me website, through a small downloadable desktop application or through mobile applications. Additional features include file sharing, use of a dedicated VoIP conference line, video conferencing, mobile whiteboards, remote control and in-meeting chat, a scheduling tool, the ability to record and recap meetings, on-screen annotation tools and detailed session reporting.

OpenVoice is a reservation-less audio-conferencing service, providing robust account tools that allows user provisioning and audio meeting controls for users to manage small and large audio conferences without operator assistance. OpenVoice integrates seamlessly with GoToMeeting, GoToTraining, GoToWebinar and join.me, adding a toll-free number to online sessions.

Customer Engagement and Support. Our customer engagement and support services empower companies to deliver smarter, more personalized customer engagement and support:

Bold360 is our omni-channel engagement platform designed to help customer service staff, ranging from sales to pre-and-post sales support, to directly engage and provide assistance to visitors of their organization's website. Key features include real-time visitor monitoring, co-browsing, our Boldchat live chat service, detailed reporting on chat activity and its overall effectiveness, the ability to define rules that automatically trigger the initiation of a chat window, the ability to route and distribute chats to improve efficiency and the ability to monitor and manage customer conversations on Twitter, email and via SMS messages. Our BoldChat service offerings range from a basic free offering to a fully-featured enterprise offering, with multiple pricing tiers based on the number of users and desired features. Our Bold360 offering provides users with valuable built-in integrations and open APIs to allow our customers to streamline operations with all of their systems working together.

Bold360 ai is an automated customer service, help-desk and CRM platform that uses artificial intelligence, bots, machine learning and user interface to build and maintain a knowledge base, or KB, and make it available to support agents, employees and end-users across multiple platforms. Bold360 ai captures a company's knowledge in the form of replies to contextual or personalized inquiries, decision trees, and KB articles, and maintains the content and matches customer inquiries with KB answers. The intelligent KB also collects inquiries and learns answers as well as monitors answers to incoming tickets and publishes them to the KB so the information is available broadly to authorized agents – such content can be viewed, approved, added, edited or deleted manually. Bold360 ai also provides a customer service queue management tool that utilizes learning algorithms, intents repository, and structured rule settings as well as analytics that provide insight and optimization opportunities.

RescueAssist, GoToAssist Corporate and GoToAssist Seeit are easy-to-use cloud-based remote support solutions designed to help IT professionals and IT helpdesks remotely troubleshoot and fix computers, mobile devices and apps. RescueAssist, the next-generation of our GoToAssist remote support solution, provides an integrated toolset built specifically for IT managers, consultants and managed service providers. GoToAssist Corporate extends these capabilities to address the needs of professional IT helpdesks and customer support organizations to instantly and securely connect to customers and provide live remote assistance using two-way screen-sharing, integrated chat and mouse and keyboard control to resolve technical issues. GoToAssist Seeit enables individuals and support organizations to instantly and securely connect to a live stream of an individual's mobile device camera allowing the individual to physically show the technician any support issue that requires resolution.

LogMeIn Rescue is our professional grade remote support and customer care service, which is used by helpdesk professionals and large customer care organizations to provide remote support via the Internet, without the need of pre-installed software. Using LogMeIn Rescue, support and customer service professionals can communicate with end users through an Internet chat window while diagnosing and repairing PC, server, mobile device and kiosk problems. If given permission by the user, the support professional can access, view or even take control of the end user's device to take necessary support actions and to train the end user on the use of software and operating system applications. LogMeIn Rescue+Mobile is an add-on of LogMeIn Rescue's web-based remote support service that allows customer care technicians and IT professionals to remotely access and support iOS, Android and Blackberry smartphones and tablets. A complementary and optional offering with any LogMeIn Rescue license, Rescue Lens extends this remote support paradigm to virtually any product — not just computers and smartphones — by enabling end users to utilize the cameras on their personal smartphone or tablet to stream live video back to support professionals.

Identity and Access Management. Our identity and access management services provide individuals, line-of-business teams, security professionals, as well as internal and external IT professionals with simple and secure remote access tools needed to manage and secure passwords, internet applications, remote computers and other Internet-enabled devices, as well as to automate common IT tasks.

LogMeIn Central is a web-based management console that helps IT professionals access, manage and monitor remote computers, deploy software updates and patches, automate IT tasks and run hundreds of versions of antivirus software. LogMeIn Central is offered as a premium service with multiple pricing tiers based on the number of computers supported and desired features.

GoToMyPC enables mobile workstyles by providing secure, remote access to a PC or Mac from virtually any Internet-connected computer, as well as from supported iOS or Android mobile devices, such as an iPad, iPhone, Kindle Fire and Samsung Galaxy. GoToMyPC sets up easily with a secure encrypted connection and enables individuals to remotely use any resources hosted on their desktop just as though they were sitting in front of it.

LogMeIn Pro is our premium remote access service that provides secure access to a remote computer's cloud and/or locally stored files or other Internet-connected devices such as point-of-sale systems or kiosks, from any other Internet-connected computer or iOS or Android-based smartphones or tablets. Once a LogMeIn Pro host is installed on a device, a user can quickly and easily access that device's desktop, files, applications and network resources remotely from their other Internet-enabled devices. LogMeIn Pro can be rapidly deployed and installed without the need for IT expertise. Users typically engage in a free trial prior to purchase.

LastPass is a market leading password management and single sign on, or SSO, solution that gives individuals, business teams and enterprises the ability to securely store, create and access the user identity and login credentials for thousands of online applications and websites. Available online, in a desktop application and via iOS and Android mobile apps, LastPass is offered in free, premium and enterprise versions and runs on today's most popular browsers, devices and operating systems.

Sales and Marketing

Our sales and marketing efforts are designed to attract prospective customers to our website, drive use of our free services or enroll them in free trials of our services and convert them to, and retain them as, paying customers. We expend sales and marketing resources through a combination of paid and unpaid sources. We also invest in public relations to broaden the general awareness of our services and to highlight the quality and reliability of our services for specific audiences. We are constantly seeking and employing new methods to reach more users and to convert them to paid subscribers. For the years ended December 31, 2016, 2017 and 2018, we spent $162.8 million, $347.0 million and $383.0 million, respectively, on sales and marketing.

New Account Sales. Our sales are often preceded by a trial of one of our services and over 90% of our sales transactions are settled via credit card. Our sales operations team manages the processes, systems and procedures that determine whether or not a trial should be managed by a telephone-based sales representative or handled via our e-commerce sales process. In addition, a small sales and business development team concentrates on sales to larger organizations and the formulation of strategic technology partnerships that are intended to generate additional sales.

International Sales. We currently have sales teams located in Ireland, the United Kingdom, Germany, Australia, India and Brazil focusing on international sales. In the years ended December 31, 2016, 2017 and 2018, we generated approximately 29%, 24% and 22%, respectively, of our revenue from customers outside of the United States. As of December 31, 2016, 2017 and 2018, approximately 29%, 15% and 23% of our long-lived assets were located outside of the United States.

Online Advertising. We advertise online through pay-per-click spending with search engines, banner advertising with online advertising networks and other websites and email newsletters likely to be frequented by our target consumers, SMBs and IT professionals.

Tradeshows and Events. We showcase our services at technology and industry-specific tradeshows and events. Our participation in these shows ranges from elaborate presentations in front of large groups to one-on-one discussions and demonstrations at manned booths.

Offline Advertising. Our offline print advertising is comprised of publications targeted at IT professionals and consumers. We also sponsor advertorials in regional publications, which target IT consumers. Additionally, from time-to-time we have advertised using more traditional methods, such as outdoor advertising, in regional markets.

Radio Advertising. Our radio advertising includes 30-second “spots” as well as radio program sponsorships, and is primarily conducted on satellite and Internet radio networks, with some select advertising on traditional FM and AM radio stations. Show, channel and program selection is based on our key target audiences, most notably IT professionals and knowledge workers.

Word-of-Mouth Referrals. We believe that we have developed a loyal customer and user base, and new customers frequently claim to have heard about us from a current LogMeIn user. Many of our users arrive at our website via word-of-mouth referrals from existing users of our services.

Direct Advertising Into Our User Community. We have a large existing user community comprised of both free users and paying customers. Users of most of our services come to our website each time they log in to their account and we use this opportunity to promote additional premium services to them.

Social Media Marketing. We participate in online communities and social media channels such as Twitter, Facebook, LinkedIn, Instagram and YouTube for the purpose of marketing, public relations and customer service.

Through these online collaboration sites, we actively engage our users, learn about their needs, and foster word-of-mouth by creating and responding to content about LogMeIn events, promotions, product news and user questions.

Web-Based Seminars. We offer free online seminars to current and prospective customers designed to educate them about the benefits of online collaboration, remote access, support and administration, particularly with LogMeIn, and guide them in the use of our services. We often highlight customer success stories and focus the seminar on common business problems and key market and IT trends.

Public Relations. We engage in targeted public relations programs, including issuing press releases announcing important company events and product releases, participating in interviews with reporters and analysts, both general and industry specific, and by attending panel and group discussions and speeches at industry events. We also register our services in awards competitions and encourage bloggers to comment on our products.

Our Infrastructure, Technology and Developments

LogMeIn Service Delivery Platform. We introduced our first cloud-based connectivity offering in 2004 which was built on our proprietary “Gravity” connectivity platform. This technology enabled users to securely connect to remote computer resources, thus affording them the flexibility to work and interact with their remote devices from virtually any other Internet-connected computer.

Today, we have leveraged our proprietary technology and years of connectivity experience to develop modern cloud-based hosting platforms which are capable of delivering a variety of service offerings designed to meet the needs of today’s unified communications and collaboration, identity and access management and customer engagement and support markets. Our services are hosted both in the cloud and in geographically diverse third party co-location facilities located in the United States, United Kingdom, Germany, India and Australia. Our cloud connectivity platforms are designed to reduce the bandwidth and other infrastructure requirements needed to establish secure connections over the Internet between remote computers and other Internet-enabled devices and manage the direct transmission of data between remotely connected devices, thereby making our services faster and less expensive to deliver than other competing services.

Research and Development. We have made and intend to continue making significant investments in research and development in order to continue to improve the efficiency of our service delivery platform, improve our existing services and bring new services to market. Our primary engineering organizations are in Hungary, Germany, India, Canada and the United States. As of December 31, 2018, approximately 33% of our employees worked in research and development.

Intellectual Property. We rely on a combination of copyright, trade secret, trademark, patent and other intellectual property rights in the United States and other jurisdictions, as well as confidentiality policies and contractual provisions to protect our proprietary technology, processes and other intellectual property. As of December 31, 2018, our patent portfolio consisted of over 170 issued patents with approximately 30 patent applications pending.

We enter into confidentiality and other written agreements with our employees, customers, consultants and partners, and through these and other written agreements, we attempt to control access to and distribution of our software, documentation and other proprietary technology and other information. Despite our efforts to protect our proprietary rights, third parties may, in an unauthorized manner, attempt to use, copy or otherwise obtain and market or distribute our intellectual property rights or technology or otherwise develop products or services with the same functionality as our services. In addition, U.S. patent filings are intended to provide the holder with a right to exclude others from making, using, selling or importing in the United States the inventions covered by the claims of granted patents. If granted, our patents may be contested, circumvented or invalidated. Moreover, the rights that may be granted in those pending patents may not provide us with proprietary protection or competitive advantages, and we may not be able to prevent third parties from infringing these patents. Therefore, the exact effect of our pending patents, if issued, and the other steps we have taken to protect our intellectual property cannot be predicted with certainty.

Although the protection afforded by copyright, trade secret and trademark law, written agreements and common law may provide some advantages, we believe that the following factors help us maintain a competitive advantage:

- our large user and customer base;
- the technological skills of our research and development personnel;
- frequent enhancements to our services; and
- continued expansion of our proprietary technology.

“LogMeIn” is a registered trademark in the United States, Canada, Australia, Japan and the European Union. We also hold a number of other trademarks and service marks identifying certain of our services and features of our services.

We also have a number of trademark applications pending.

Competition

The markets in which we compete are constantly evolving and we expect to face additional competition in the future. We believe that the key competitive factors in these markets include:

- service reliability and security;
- ease of initial setup and use;
- fitness for use and the design of features that best meet the needs of the target customer;
- the ability to support multiple device types and operating systems;
- cost of customer acquisition;
- product and brand awareness;
- the ability to reach large fragmented groups of users;
- cost of service delivery; and
- pricing flexibility.

We believe that our large user base, efficient customer acquisition model and low service delivery costs enable us to compete effectively against services offered by some of our largest competitors, which include Adobe Connect, Amazon, Cisco Systems' WebEx division, Google and Microsoft Skype. Our audio services also compete with solutions from 8x8, AT&T, BT, Intercall, PGi, RingCentral, Verizon and Vonage. Certain of our services also compete with current or potential services offered by companies like AgileBits, Apple, BlueJeans Networks, Dashlane, GFI, IBM, KeePass, LivePerson, OKTA, Oracle, Splashtop, TeamViewer and Zoom Video Communications.

Many of our actual and potential competitors enjoy greater name recognition, longer operating histories, more varied products and services and larger marketing budgets, as well as substantially greater financial, technical and other resources, than we do. In addition, we may also face future competition from new market entrants. However, we believe that our large user base, efficient customer acquisition model and relatively low costs of service delivery position us well to compete effectively now and in the future.

Available Information

Copies of the periodic reports that we file with the Securities and Exchange Commission, or SEC, such as our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any other filings may be obtained by the public, free of charge, by visiting the Investors section of our website at https://investor.logmeininc.com/sec.cfm, as soon as reasonably practicable after they have been filed with the SEC, or by contacting our Investor Relations department at our office address listed above. The SEC also maintains an Internet site that contains periodic reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at www.sec.gov. The contents of these websites are not incorporated into this filing. Further, our references to the URLs for these websites are intended to be inactive textual references only.

Employees

As of December 31, 2018, we had 3,515 full-time employees. None of our employees are represented by labor unions or covered by collective bargaining agreements. We consider our relationship with our employees to be good.

Segments

We have determined that we have one operating segment. For more information about our segments, see Note 2 to our Consolidated Financial Statements.

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ITEM 1A. RISK FACTORS

Our business is subject to numerous risks. We caution you that the following important factors, among others, could cause our actual results to differ materially from those expressed in forward-looking statements made by us or on our behalf in filings with the SEC, press releases, communications with investors and oral statements. Any or all of our forward-looking statements in this Annual Report on Form 10-K and in any other public statements we make may turn out to be wrong. They can be affected by inaccurate assumptions we might make or by known or unknown risks and uncertainties. Many factors mentioned in the discussion below will be important in determining future results. Consequently, no forward-looking statement can be guaranteed. Actual future results may differ materially from those anticipated in forward looking statements. We undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise. You are advised, however, to consult any further disclosure we make in our reports filed with the SEC.

RISKS RELATED TO OUR BUSINESS

Our operating results may fluctuate in the future. As a result, we may fail to meet or exceed the expectations of research analysts or investors, which could cause our stock price to decline.

Our operating results may fluctuate as a result of a variety of factors, many of which are outside of our control. If our operating results or guidance fall below the expectations of research analysts or investors, the price of our common stock could decline substantially. Fluctuations in our operating results or guidance may be due to a number of factors, including, but not limited to, those listed below:

- our ability to renew existing customers, increase sales to existing customers and attract new customers;
- the amount and timing of operating costs and capital expenditures related to the operation, maintenance and expansion of our business;
- service outages or security breaches;
- changes in our pricing policies or those of our competitors;
- our ability to successfully implement strategic business model changes;
- the timing and success of new services, features and upgrades by us or our competitors;
- changes in sales compensation plans or organizational structure;
- the timing of costs related to the development or acquisition of technologies, services or businesses;
- seasonal variations or other cyclicality in the demand for our services;
- general economic, industry and market conditions and those conditions specific to Internet usage and online businesses;
- litigation, including class action litigation, involving us and our services or the industry in which we operate, in general;
- the purchasing and budgeting cycles of our customers;
- the financial condition of our customers; and
- geopolitical events such as war, threat of war or terrorist acts.

We believe that our revenue and operating results may continue to vary in the future and that period-to-period comparisons of our operating results may not be meaningful.

If our services or computer systems are breached, our customers may be harmed, our reputation may be damaged and we may be exposed to significant liabilities.

Our services and computer systems store and transmit confidential data of our customers and their customers, which may include credit card information, account and device information, passwords and other critical data.

Any breach of the cybersecurity measures we have taken to safeguard this information may subject us to fines and penalties, time consuming and expensive litigation, trigger indemnification obligations and other contractual liabilities, damage our reputation and harm our customers and our business.

Cyberattacks from computer hackers and cyber criminals and other malicious Internet-based activity continue to increase generally, and our services and systems, including the systems of our outsourced service providers, have been and may in the future continue to be the target of various forms of cyberattacks such as DNS attacks, wireless network attacks, viruses and worms, malicious software, application centric attacks, peer-to-peer attacks, phishing attempts, backdoor trojans and distributed denial of service attacks. The techniques used by computer hackers and cyber criminals to obtain unauthorized access to data or to sabotage computer systems change frequently and generally are not detected until after an incident has occurred. While we make significant efforts to maintain the security and integrity of our services and computer systems, our cybersecurity measures and the cybersecurity measures taken by our third-party data center facilities may be unable to anticipate, detect or prevent all attempts to compromise our systems. If our cybersecurity measures are compromised as a result of third-party action, employee or customer error, malfeasance, stolen or fraudulently obtained log-in credentials or otherwise, our reputation could be damaged, our business may be harmed and we could incur significant liabilities.

Many states have enacted laws requiring companies to notify individuals of security breaches involving their personal data. These mandatory disclosures regarding a security breach may be costly to comply with and may lead to widespread negative publicity, which may cause our customers to lose confidence in the effectiveness of our cybersecurity measures. Additionally, some of our customer contracts require us to notify customers in the event of a security breach and/or indemnify customers from damages they may incur as a result of a breach of our services and computer systems. There can be no assurance that the limitations of liability provisions in our contracts for a security breach would be enforceable 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 insurance coverage will continue to be available on acceptable terms or will be available in sufficient amounts to cover one or more large claims related to a breach of our services or computer systems. The successful assertion of one or more large claims against us that exceed our available insurance coverage could have a material adverse effect on our business, financial condition and operating results.

Our business strategy includes acquiring or investing in other companies, which may ultimately fail to meet our expectations, divert our management’s attention, result in additional dilution to our stockholders and disrupt our business and operating results.

Our business strategy continues to contemplate us making strategic acquisitions of, or strategic investments in, complementary businesses, services, technologies and intellectual property rights. Acquisitions of high-technology companies are inherently risky and negotiating these transactions can be time-consuming and expensive and our ability to close these transactions may often be subject to conditions or approvals that are beyond our control. Consequently, these transactions, even if undertaken and announced, may not close. In connection with an acquisition, investment or strategic transaction we may do one or more of the following, which may harm our business and adversely affect our operating results:

- issue additional equity securities that would dilute our stockholders and decrease our earnings per share;
- use cash and other resources that we may need in the future to operate our business;
- incur debt on unfavorable terms or that we are unable to repay;
- incur large charges or substantial liabilities; and
- become subject to adverse tax consequences, substantial depreciation or deferred compensation charges.

Following an acquisition, the integration of an acquired company may cost more than we anticipate, and we may be subject to unforeseen liabilities arising from an acquired company’s past or present operations. These liabilities may be greater than the warranty and indemnity limitations we negotiate. Any unforeseen liability that is greater than these warranty and indemnity limitations could have a negative impact on our financial condition. Some of the additional risks associated with integrating acquired companies may include, but are not limited to:

- difficulties and delays integrating the employees, culture, technologies, products and systems of the acquired companies;
- an uncertain revenue and earnings stream from the acquired company, which could dilute our earnings;
- difficulties retaining the customers of any acquired business due to changes in management or otherwise;
- our ongoing business may be disrupted and our management's attention may be diverted by acquisition, transition or integration activities;
- the potential loss of key employees of the acquired company;
- undetected errors or unauthorized use of a third-party's code in products of the acquired companies;

- unforeseen or unanticipated legal liabilities which are not discovered by due diligence during the acquisition process, including stockholder litigation related to the acquisition, third party intellectual property claims or claims for potential violations of applicable law, rules and regulations, arising from prior or ongoing acts or omissions by the acquired businesses;
- entry into highly competitive markets in which we have no or limited direct prior experience and where competitors have stronger market positions; and
- assuming pre-existing contractual relationships of an acquired company that we would not have otherwise entered into, the termination or modification of which may be costly or disruptive to our business.

If we fail to successfully integrate and manage the companies and technologies we acquire, or if an acquisition does not further our business strategy as expected, our operating results will be adversely affected. Even if successfully integrated, there can be no assurance that any of our acquisitions or future acquisitions will be successful in helping us achieve our financial and strategic goals.

The integration of the GoTo Business presents significant challenges.

On January 31, 2017, we completed our acquisition of the GoTo family of service offerings, or the GoTo Business, from a wholly–owned subsidiary of Citrix Systems, Inc., or Citrix, via a Reverse Morris Trust transaction, which we refer to herein as the Merger.

In connection with the Merger, there is a significant degree of difficulty inherent in the process of integrating the GoTo Business with our company. These difficulties include:

- the integration of the GoTo Business with our current businesses while carrying on the ongoing operations of all businesses;
- managing a significantly larger company than before the consummation of the Merger;
- coordinating geographically separate organizations;
- integrating the business cultures of both companies, which may prove to be incompatible;
- creating uniform standards, controls, procedures, policies and information systems and controlling the costs associated with such matters;
- integrating certain information technology, purchasing, accounting, finance, sales, billing, human resources, payroll and regulatory compliance systems; and
- the potential difficulty in retaining key officers and personnel.

The process of integrating operations could cause an interruption of, or loss of momentum in, the activities in one or more of our businesses. Members of our senior management may be required to devote considerable amounts of time to this integration process, which will decrease the time they will have to manage the business of our company, serve the existing businesses, or develop new products or strategies. If our senior management is not able to effectively manage the integration process, or if any significant business activities are interrupted as a result of the integration process, our business could suffer.

Our successful or cost-effective integration of the GoTo Business cannot be assured. The failure to do so could have a material adverse effect on our business, financial condition or results of operations after the Merger.

Our new corporate strategy and restructuring may not be successful.

On February 11, 2019, our Board of Directors approved a global restructuring plan, including a reduction in force which will result in the termination of approximately 4% of our workforce and the consolidation of certain leased facilities. By restructuring, we intend to streamline our organization and reallocate our resources to better align with our current growth acceleration goals. We expect to substantially complete the restructuring by the end of fiscal year 2019. These restructuring activities may yield unintended consequences and costs, such as attrition beyond our intended reduction in force, the distraction of our employees and the risk that we may not achieve the anticipated benefits from the reduction in force, all of which may have a material adverse effect on our results of operations or financial condition.

Depending upon the facts and circumstances, we may be obligated to indemnify Citrix for certain taxes and certain tax-related losses.

In connection with the Merger, Citrix distributed shares of its GoTo subsidiary to Citrix stockholders on a pro rata basis, which we refer to as the Distribution. The U.S. federal income tax consequences of the Distribution and Merger to Citrix and Citrix stockholders depend upon whether the contribution of specified assets and liabilities of the GoTo Business, which we refer to herein as the Contribution and the Distribution, taken together, qualify as a reorganization under Sections 368(a) and 355 of the Internal Revenue Code of 1986, as amended, or the Code, and the Merger qualifies as a reorganization under Section 368(a) of the Code, in each case based on the applicable facts and circumstances that existed on the date of the Distribution and the Merger. If each of the Distribution and Merger so qualify, then (i) Citrix stockholders will generally not recognize any gain or loss for U.S. federal income tax purposes as a result of the Distribution or the Merger, except for any gain or loss attributable to the receipt of cash in lieu of fractional shares of our common stock, and (ii) except for taxable income or gain possibly arising as a result of certain internal reorganization transactions undertaken prior to or in anticipation of the Distribution, Citrix will not recognize any gain or loss. Citrix received a tax opinion in connection with the Contribution and Distribution, which we refer to as the Distribution Tax Opinion, that provides in part that the Contribution and Distribution, taken together, qualify as a reorganization under Sections 368(a)(1)(D) and 355 of the Code. LogMeIn and Citrix have received opinions from our respective outside legal counsel that provide in part that the Merger qualifies as a reorganization under Section 368(a) of the Code. These opinions are not binding on the Internal Revenue Service, or the IRS, or the courts, and the IRS or the courts may not agree with the conclusions reached in these opinions. There can be no assurance that the IRS will not successfully assert that either or both of the Distribution and the Merger are taxable transactions, and that a court will not sustain such assertion, which could result in tax being incurred by Citrix stockholders and Citrix.

Even if the Contribution and Distribution, taken together, otherwise qualify as a reorganization under Sections 368(a) and 355 of the Code, the Distribution will nonetheless be taxable to Citrix (but not to Citrix stockholders) pursuant to Section 355(e) of the Code if 50% or more of the stock of either Citrix or LogMeIn is acquired, directly or indirectly (taking into account our stock acquired by Citrix stockholders in the Merger), as part of a plan or series of related transactions that includes the Distribution. In that regard, because Citrix stockholders owned more than 50% of our stock immediately following the Merger, the Merger standing alone will not cause the Distribution to be taxable under Section 355(e) of the Code, and the Distribution Tax Opinion so provided. However, if the IRS were to determine that other acquisitions of Citrix stock or our stock are part of a plan or series of related transactions that includes the Distribution, such determination could result in the recognition of a gain by Citrix (but not by Citrix stockholders) for U.S. federal income tax purposes, and the amount of taxes on such gain would likely be substantial.

Under the Amended and Restated Tax Matters Agreement that we entered into with Citrix in connection with the Merger, which we refer to as the Tax Matters Agreement, which provides for, among other things, the allocation between Citrix, on the one hand, and LogMeIn, on the other hand, of certain tax assets and liabilities, LogMeIn may be obligated, in certain cases, to indemnify Citrix against taxes and certain tax-related losses on the Distribution that arise as a result of LogMeIn’s actions, or failure to act. Any such indemnification obligation would be substantial and would likely have a material adverse effect on us. In addition, even if we are not responsible for tax liabilities of Citrix under the Tax Matters Agreement, LogMeIn nonetheless could be liable under applicable law for such liabilities if Citrix were to pay such taxes.

Under the Tax Matters Agreement, we are restricted from taking certain actions that may adversely affect the intended U.S. federal income tax treatment of the Contribution, the Distribution, the Merger and certain related transactions consummated in connection with Citrix’s internal reorganization, and such restrictions may significantly impair our ability to implement strategic initiatives that otherwise would be beneficial.

The Tax Matters Agreement generally restricts us from taking certain actions after the Merger that may adversely affect the intended U.S. federal income tax treatment of the Merger and certain related transactions consummated in connection with Citrix's internal reorganization. Failure to adhere to these restrictions, including in certain circumstances that may be outside of our control, could result in tax being imposed on Citrix for which we could bear responsibility and for which we could be obligated to indemnify Citrix. In addition, even if we are not responsible for tax liabilities of Citrix under the Tax Matters Agreement, we nonetheless could be liable under applicable tax law for such liabilities if Citrix were to fail to pay such taxes. Because of these provisions in the Tax Matters Agreement, we are restricted from taking certain actions, particularly for the two years following the Merger, including (among other things) the ability to freely issue stock, to make acquisitions and to raise additional equity capital. These restrictions could have a material adverse effect on our liquidity and financial condition, and otherwise could impair our ability to implement strategic initiatives. Also, our indemnity obligation to Citrix might discourage, delay or prevent a change of control that our stockholders may consider favorable.

A significant portion of our historical revenues have come from the sale of remote access and remote support products and a decline in sales for these products could adversely affect our results of operations and financial condition.

A significant portion of our annual revenues have historically come from, and we anticipate will continue in the foreseeable future to come from, the sale of remote access and remote support services. Any decline or variability in sales of our remote access and remote support products could adversely affect our results of operations and financial condition. Declines and variability in sales of these products could potentially occur as a result of:

- the growing use of mobile devices such as smartphones and tablet computers to perform functions that have been traditionally performed on desktops and laptops, resulting in less demand for these types of remote access products;
- the introduction of new or alternative technologies, products or service offerings by competitors;
- our failure to innovate or introduce new product offerings, features and enhancements;
- potential market saturation or our inability to enter into new markets;
- increased price and product competition;
- dissatisfied customers; or
- general weak economic, industry or market conditions.

If sales of our remote access and remote support products decline as a result of these or other factors, our revenue would decrease and our results of operations and financial condition would be adversely affected.

Assertions by a third party that our services and solutions infringe its intellectual property, whether or not correct, could subject us to costly and time-consuming litigation or expensive licenses.

There is frequent litigation in the software and technology industries based on allegations of infringement or other violations of intellectual property rights. We have been, and may in the future be, subject to third party patent infringement or other intellectual property-related lawsuits as we face increasing competition and become increasingly visible. Regardless of the merit of these claims, they can be time-consuming, result in costly litigation and diversion of technical and management personnel or require us to develop a non-infringing technology or enter into license agreements. There can be no assurance that such licenses will be available on acceptable terms and conditions, if at all, and although we have previously licensed proprietary technology, we cannot be certain that the owners' rights in such technology will not be challenged, invalidated or circumvented. For these reasons and because of the potential for court awards that are difficult to predict, it is not unusual to find even arguably unmeritorious claims settled for significant amounts. In addition, many of our service agreements require us to indemnify our customers from certain third-party intellectual property infringement claims, which could increase our costs as a result of defending such claims and may require that we pay damages if there were an adverse ruling related to any such claims. These types of claims could harm our relationship with our customers, deter future customers from subscribing to our services or expose us to further litigation. These costs, monetary or otherwise, associated with defending against third party allegations of infringement could have negative effects on our business, financial condition and operating results.

If our services are used to commit fraud or other similar intentional or illegal acts, we may incur significant liabilities, our services may be perceived as not secure, and customers may curtail or stop using our services.

Certain services offered by us enable users to remotely access third-party computer systems. We do not control the use or content of information accessed by our customers through our services. If our services are used to commit fraud or other bad or illegal acts, including, but not limited to, posting, distributing or transmitting any computer files that contain a virus or other harmful component, interfering or disrupting third-party networks, infringing any third party's copyright, patent, trademark, trade secret or other proprietary rights or rights of publicity or privacy, transmitting any unlawful, harassing, libelous, abusive, threatening, vulgar or otherwise objectionable material, or accessing unauthorized third-party data, we may become subject to claims for defamation, negligence or intellectual property infringement and subject to other potential liabilities. As a result, defending such claims could be expensive and time-consuming, and we could incur significant liability to our customers and to individuals or businesses who were the targets of such acts. As a result, our business may suffer and our reputation may be damaged.

If we are unable to attract new customers to our services on a cost-effective basis, our revenue and results of operations will be adversely affected.

We must continue to attract a large number of customers on a cost-effective basis. We rely on a variety of marketing methods to attract new customers to our services, such as paying providers of online services and search engines for advertising space and priority placement of our website in response to Internet searches. Our ability to attract new customers also depends on the competitiveness of the pricing of our services. If our current marketing initiatives are not successful or become unavailable, if the cost of such initiatives were to significantly increase, or if our competitors offer similar services at lower prices, we may not be able to attract new customers on a cost-effective basis and, as a result, our revenue and results of operations would be adversely affected.

If we are unable to retain our existing customers, our revenue and results of operations would be adversely affected.

The services offered by us are often sold pursuant to agreements that are one year in duration. Customers have no obligation to renew their subscriptions after their subscription period expires, and these subscriptions may not be renewed on the same or on more profitable terms. As a result, our ability to grow depends in part on subscription renewals. We may not be able to accurately predict future trends in customer renewals, and our customers' renewal rates may decline or fluctuate because of several factors, including their satisfaction or dissatisfaction with our services, the prices of our services, the prices of services offered by our competitors or reductions in our customers' spending levels. If our customers do not renew their subscriptions for our services, renew on less favorable terms, or do not purchase additional functionality or subscriptions, our revenue may grow more slowly than expected or decline, and our profitability and gross margins may be harmed.

If we fail to convert free users to paying customers, our revenue and financial results will be harmed.

A significant portion of our user base utilizes our services free of charge through our free services or free trials of our premium services. We seek to convert these free and trial users to paying customers of our premium services. If our rate of conversion suffers for any reason, our revenue may decline and our business may suffer.

If our efforts to build a strong brand identity are not successful, we may not be able to attract or retain subscribers and our operating results may be adversely affected.

We believe that building and maintaining a strong brand identity plays an important role in attracting and retaining subscribers to our services, who may have other options from which to obtain their cloud-based connectivity services. In order to build a strong brand, we believe that we must continue to offer innovative service offerings that our subscribers value and enjoy using, and also market and promote those service offerings through effective marketing campaigns, promotions and communications with our user base. From time to time, subscribers may express dissatisfaction with our services or react negatively to our strategic business decisions, such as changes that we make in pricing, features or service offerings, including the discontinuance of our free services. To the extent that user dissatisfaction with our services or strategic business decisions is widespread or not adequately addressed, our overall brand identity may suffer and, as a result, our ability to attract and retain subscribers may be adversely affected, which could adversely affect our operating results.

The markets in which we participate are competitive, with low barriers to entry, and if we do not compete effectively, our operating results may be harmed.

The markets for cloud-based connectivity solutions are competitive and rapidly changing, with relatively low barriers to entry. With the introduction of new technologies and market entrants, we expect competition to intensify in the future. In addition, pricing pressures and increased competition generally could result in reduced sales, reduced margins or the failure of our services to achieve or maintain widespread market acceptance. Often, we compete against existing services that our potential customers have already made significant expenditures to acquire and implement.

Certain of our competitors offer, or may in the future offer, lower priced, or free, products or services that compete with our services. This competition may result in reduced prices and a substantial loss of customers for our services or a reduction in our revenue.

Many of our services directly compete with large, established competitors such as WebEx (a division of Cisco Systems), and certain of our services also compete with current or potential services offered by companies like Adobe, AgileBits, Amazon, Apple, BlueJeans Networks, Dashlane, GFI, Google, IBM, KeePass, LivePerson, Microsoft, OKTA, Oracle, Splashtop, TeamViewer and Zoom Video Communications. Our audio and unified communications and collaboration services also compete with solutions from 8x8, AT&T, BT, InterCall, PGi, RingCentral, Verizon and Vonage. Many of our actual and potential competitors enjoy competitive advantages over us, such as greater name recognition, longer operating histories, more varied services and larger marketing budgets, as well as substantially greater financial, technical and other resources. In addition, many of our competitors have established marketing relationships, access to larger customer bases and have major distribution agreements with consultants, system integrators and resellers.

If we are unable to compete effectively for any of these reasons, our operating results will be harmed.

We may not be able to capitalize on potential emerging market opportunities and new services that we introduce may not generate the revenue and earnings we anticipated, which may adversely affect our business.

Our business strategy involves identifying emerging market opportunities which we can capitalize on by successfully developing and introducing new services designed to address those market opportunities. We have made and expect to continue to make significant investments in research and development in an effort to capitalize on potential emerging market opportunities that we have identified. Emerging markets and opportunities often take time to fully develop, and they attract a significant number of competitors. If the emerging markets we have targeted ultimately fail to materialize as we or others have anticipated or if potential customers choose to adopt solutions offered by our competitors rather than our own solutions, we may not be able to generate the revenue and earnings we anticipated, and our business and results of operations would be adversely affected.

Industry consolidation may result in increased competition.

Some of our competitors have made or may make acquisitions or may enter into partnerships or other strategic relationships to offer a more comprehensive service than they individually had offered. In addition, new entrants not currently considered to be competitors may enter the market through acquisitions, partnerships or strategic relationships. We expect these trends to continue as companies attempt to strengthen or maintain their market positions. Many of the companies driving this trend have significantly greater financial, technical and other resources than we do and may be better positioned to acquire and offer complementary services and technologies.

The companies resulting from such combinations may create more compelling service offerings and may offer greater pricing flexibility than we can or may engage in business practices that make it more difficult for us to compete effectively, including on the basis of price, sales and marketing programs, technology or service functionality. These pressures could result in a substantial loss of customers or a reduction in our revenues.

We may not be able to respond to rapid technological changes in time to address the needs of our customers, which could have a material adverse effect on our sales and profitability.

The cloud-based connectivity services markets in which we compete are characterized by rapid technological change, the frequent introduction of new services and evolving industry standards. Our ability to remain competitive will depend in large part on our ability to continue to enhance our existing services and develop new service offerings that keep pace with these markets' rapid technological developments. Additionally, to achieve market acceptance for our services, we must effectively anticipate and offer services that meet changing customer demands in a timely manner.

Customers may require features and capabilities that our current services do not have. If we fail to develop services that satisfy customer requirements in a timely and cost-effective manner, our ability to renew services with existing customers and our ability to create or increase demand for our services will be harmed, and our revenue and results of operations would be adversely affected.

We use a limited number of data centers to deliver our services. Any disruption of service at these facilities could harm our business.

The majority of our services are hosted from third-party data center facilities located throughout the world. We do not control the operation of these facilities. The owners of our data center facilities have no obligation to renew their agreements with us on commercially reasonable terms, or at all. If we are unable to renew these agreements on commercially reasonable terms, we may be required to transfer to new data center facilities, and we may incur significant costs and possible service interruption in connection with doing so.

Any changes in third-party service levels at our data centers or any errors, defects, disruptions or other performance problems with our services could harm our reputation and may damage our customers' businesses. Interruptions in our services might reduce our revenue, cause us to issue credits to customers, subject us to potential liability, cause customers to terminate their subscriptions or harm our renewal rates.

Our data centers are vulnerable to damage or interruption from human error, intentional bad acts, pandemics, earthquakes, hurricanes, floods, fires, war, terrorist attacks, power losses, hardware failures, systems failures, telecommunications failures and similar events. At least one of our data center facilities is located in an area known for seismic activity, increasing our susceptibility to the risk that an earthquake could significantly harm the operations of these facilities. The occurrence of a natural disaster, an act of terrorism, vandalism or other misconduct, a decision to close the facilities without adequate notice or other unanticipated problems could result in lengthy interruptions in our services.

Failure to comply with credit card processing standards may cause us to lose the ability to offer our customers a credit card payment option, which would increase our costs of processing customer orders and make our services less attractive to customers, the majority of which purchase our services with a credit card.

Major credit card issuers have adopted credit card processing standards and have incorporated these standards into their contracts with us. If we fail to maintain compliance with applicable credit card processing and documentation standards adopted by the major credit card issuers, these issuers could terminate their agreements with us, and we could lose our ability to offer our customers a credit card payment option. Most of our individual and small- and medium-sized business, or SMB, customers purchase our services online with a credit card, and our business depends substantially upon the ability to offer the credit card payment option. Any loss of our ability to offer our customers a credit card payment option would make our services less attractive and hurt our business. Our administrative costs related to customer payment processing would also increase significantly if we were not able to accept credit card payments for our services.

Evolving regulations and legal obligations related to data privacy, data protection and information security and our actual or perceived failure to comply with such obligations, could have an adverse effect on our business.

Our handling of the data we collect from our customers, as further described in our privacy policy, and our processing of personally identifiable information and data of our customers' customers through the services we provide, is subject to a variety of laws and regulations, which have been adopted by various federal, state and foreign governments to regulate the collection, distribution, use and storage of personal information of individuals. Several foreign countries in which we conduct business, including the European Economic Area, or EEA, and Canada, currently have in place, or have recently proposed, laws or regulations concerning privacy, data protection and information security, which are more restrictive than those imposed in the United States. Some of these laws are in their early stages and we cannot yet determine the impact these revised laws and regulations, if implemented, may have on our business. However, any failure or perceived failure by us to comply with these privacy laws, regulations, policies or obligations or any security incident that results in the unauthorized release or transfer of personally identifiable information or other customer data in our possession, could result in government enforcement actions, litigation, fines and penalties and/or adverse publicity, all of which could have an adverse effect on our reputation and business.

For example, the EEA-wide General Data Protection Regulation, or GDPR, became applicable on May 25, 2018, replacing the data protection laws of each EEA member state. The GDPR implemented more stringent operational requirements for processors and controllers of personal data, including, for example, expanded disclosures about how personal information is to be used, limitations on retention of information, increased requirements to erase an individual's information upon request, mandatory data breach notification requirements and higher standards for data controllers to demonstrate that they have obtained valid consent for certain data processing activities. It also significantly increases penalties for non-compliance, including where we act as a service provider (e.g. data processor). If our privacy or data security measures fail to comply with applicable current or future laws and regulations, we may be subject to litigation, regulatory investigations, enforcement notices requiring us to change the way we use personal data or our marketing practices, fines, for example, of up to 20 million Euros or up to 4% of the total worldwide annual turnover of the preceding financial year (whichever is higher) under the GDPR, or other liabilities, as well as negative publicity and a potential loss of business.

We are also subject to evolving EEA laws on data export, as we may transfer personal data from the EEA to other jurisdictions. We currently rely upon the EU-U.S. Privacy Shield Framework and Swiss Privacy Shield as a means for legitimizing the transfer of personally identifiable information from the EEA to the United States. However, there is currently litigation against this framework as well as litigation challenging other EU mechanisms for adequate data transfers (e.g. the standard contractual clauses), and it is uncertain whether the Privacy Shield framework and/or the standard contractual clauses will be similarly invalidated by the European courts. We rely on a mixture of mechanisms to transfer data to from the EEA to the U.S., and we could be impacted by changes in law as a result of the current challenges to these mechanisms in the European courts which may lead to governmental enforcement actions, litigation, fines and penalties or adverse publicity which could have an adverse effect on our reputation and business.

Data protection regulation remains an area of increased focus in all jurisdictions and data protection regulations continue to evolve. There is no assurance that we will be able to meet new requirements that may be imposed on the transfer of personally identifiable information from the EU to the United States without incurring substantial expense or at all. European and/or multi-national customers may be reluctant to purchase or continue to use our services due to concerns regarding their data protection obligations. In addition, we may be subject to claims, legal proceedings or other actions by individuals or governmental authorities if they have reason to believe that our data privacy or security measures fail to comply with current or future laws and regulations.

Certain of our services are subject to regulation in the United States and various foreign countries, and future legislative, regulatory or judicial actions could adversely affect our business and expose us to liability.

In the United States, certain of our services are subject to various requirements and regulations of the Federal Communications Commission, or FCC, and state public utility commissions, including, but not limited to, regulations related to privacy, disabilities access, telephone number porting, rural call completion, contributions to federal and state Universal Service Funds, or USFs, regulatory fee payments, emergency call services, obligations under the Communications Assistance for Law Enforcement Act, or CALEA, and other requirements. FCC or state actions, including decisions extending additional regulations and/or classifying other LogMeIn services as regulated services, could result in our incurring additional regulatory obligations that could require us to change the way we conduct our business, increase our operating expenses, or otherwise harm our results of operations. If we fail to comply with applicable rules and regulations, including any future rules and regulations that may be adopted, we could be subject to enforcement actions, fines, loss of licenses, and other restrictions on our ability to operate or offer certain of our services. Any enforcement actions, which may be public, could also hurt our reputation, impair our ability to sell certain services to customers and could have a material adverse effect on our business, financial condition or operating results.

Additionally, as we continue to expand our operations internationally, these services may also be subject to similar country-specific laws and regulations. We may be required to incur additional expenses to meet applicable international regulatory requirements, to obtain special licensing or registrations, or we may be altogether prohibited from providing certain services in certain foreign countries.

We are required to comply with certain financial and operating covenants under our credit facility; any failure to comply with those covenants could cause amounts borrowed to become immediately due and payable or prevent us from borrowing under the facility.

We have a credit agreement with a syndicate of banks pursuant to which we have a $400 million secured revolving credit facility which is available to us through February 1, 2022, at which time any amounts outstanding will be due and payable in full. On April 2, 2018, we borrowed $200 million under the credit facility to partially fund our acquisition of Jive Communications, Inc., which amount remained outstanding as of December 31, 2018. We may wish to borrow amounts under the facility in the future for general corporate purposes, including, but not limited to, the potential acquisition of complementary products or businesses, and share repurchases, as well as for working capital.

Under our credit agreement, we are, or will be, required to comply with certain financial and operating covenants which will limit our ability to operate our business as we otherwise might operate it. Our failure to comply with any of these covenants or to meet any payment obligations under the credit facility could result in an event of default which, if not cured or waived, would result in any amounts outstanding, including any accrued interest and unpaid fees, becoming immediately due and payable. We might not have sufficient working capital or liquidity to satisfy any repayment obligations in the event of an acceleration of those obligations. In addition, if we are not in compliance with the financial and operating covenants at the time we wish to borrow additional funds, we will be unable to borrow such funds.

The loss of key employees or an inability to attract and retain additional personnel may impair our ability to grow our business.

We are highly dependent upon the continued service and performance of our executive management team as well as other key technical and sales employees. These key employees are not party to an employment agreement with us, and they may terminate their employment at any time with no advance notice. The replacement of these key employees likely would involve significant time and costs, and the loss of these key employees may significantly delay or prevent the achievement of our business objectives.

We face intense competition for qualified individuals from numerous technology, software and manufacturing companies. For example, our competitors may be able to attract and retain a more qualified engineering team by offering more competitive compensation packages. If we are unable to attract new engineers and retain our current engineers, we may not be able to develop and maintain our services at the same levels as our competitors and we may, therefore, lose potential customers and sales penetration in certain markets. In addition, in February 2019, we announced a reduction in work force which will result in the termination of approximately 4% of our workforce and the consolidation of certain leased facilities. This restructuring could make it more difficult to attract, retain and hire new talent. Our failure to attract and retain suitably qualified individuals could have an adverse effect on our ability to implement our business plan and, as a result, our ability to compete would decrease, our operating results would suffer and our revenues would decrease.

Our long-term success depends, in part, on our ability to expand the sales of our services to customers located outside of the United States, and thus our business is susceptible to risks associated with international sales and operations.

We currently maintain offices and have sales personnel outside of the United States and are expanding our international operations. Our international expansion efforts may not be successful. In addition, conducting international operations subjects us to new risks than we have generally faced in the United States. These risks include:

- localization of our services, including translation into foreign languages and adaptation for local practices and regulatory requirements;
- lack of familiarity with and unexpected changes in foreign regulatory requirements;
- longer accounts receivable payment cycles and difficulties in collecting accounts receivable;
- difficulties in managing and staffing international operations;
- fluctuations in currency exchange rates;
- potentially adverse tax consequences, including the complexities of foreign value-added or other tax systems;
- dependence on certain third parties, including channel partners with whom we do not have extensive experience;
- the burdens of complying with a wide variety of foreign laws and legal standards;
- increased financial accounting and reporting burdens and complexities;

- political, social and economic instability abroad, terrorist attacks and security concerns in general; and
- reduced or varied protection for intellectual property rights in some countries.

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Operating in international markets also requires significant management attention and financial resources. The investment and additional resources required to establish operations and manage growth in other countries may not produce desired levels of revenue or profitability.

Failure to effectively and efficiently service SMBs would adversely affect our ability to increase our revenue.

We market and sell a significant amount of our services to SMBs. SMBs are challenging to reach, acquire and retain in a cost-effective manner. To grow our revenue, we must add new customers, sell additional services to existing customers and encourage existing customers to renew their subscriptions. Selling to and retaining SMBs is more difficult than selling to and retaining large enterprise customers because SMB customers generally:

- have higher failure rates;
- are price sensitive;
- are difficult to reach with targeted sales campaigns;
- have high churn rates in part because of the scale of their businesses and the ease of switching services; and
- generate less revenue per customer and per transaction.

In addition, SMBs frequently have limited budgets and may choose to spend funds on items other than our services. Moreover, SMBs are more likely to be significantly affected by economic downturns than larger, more established companies, and if these organizations experience economic hardship, they may be unwilling or unable to expend resources on IT.

If we are unable to market and sell our services to SMBs with competitive pricing and in a cost-effective manner, our ability to grow our revenue and maintain profitability will be harmed.

If we fail to meet the minimum service level commitments offered to some of our customers, we could be obligated to issue credits for future services or pay penalties to customers, which could significantly harm our revenue.

Some of our current customer agreements provide minimum service level commitments addressing uptime, functionality or performance. If we are unable to meet the stated service level commitments for these customers or our services suffer extended periods of unavailability, we are or may be contractually obligated to provide these customers with credits for future services or pay other penalties. Our revenue could be significantly impacted if we are unable to meet our service level commitments and are required to provide a significant amount of our services at no cost or pay other penalties. We do not currently have any reserves on our balance sheet for these commitments.

Our sales cycles for enterprise customers can be long, unpredictable and require considerable time and expense, which may cause our operating results to fluctuate.

The timing of our revenue from sales to enterprise customers is difficult to predict. These efforts require us to educate our customers about the use and benefit of our services, including the technical capabilities and potential cost savings to an organization. Enterprise customers typically undertake a significant evaluation process that has in the past, resulted in lengthy sales cycles, typically several months. We spend substantial time, effort and money on our enterprise sales efforts without any assurance that these efforts will produce any sales. In addition, service subscriptions are frequently subject to budget constraints and unplanned administrative, processing and other delays. If sales expected from a specific customer for a particular quarter are not realized in that quarter or at all, our results could fall short of public expectations and our business, operating results and financial condition could be adversely affected.

Adverse economic conditions or reduced IT spending may adversely impact our revenues and profitability.

Our business depends on the overall demand for IT and on the economic health of our current and prospective customers. The use of our service is often discretionary and may involve a commitment of capital and other resources. Weak economic conditions in the United States, European Union and other key international economies may affect the rate of IT spending and could adversely impact our customers' ability or willingness to purchase our services, delay prospective customers' purchasing decisions, reduce the value or duration of their subscription contracts, or affect renewal rates, all of which could have an adverse effect on our business, operating results and financial condition.

Our success depends in large part on our ability to protect and enforce our intellectual property rights.

We rely on a combination of patent, copyright, service mark, trademark and trade secret laws, as well as confidentiality procedures and contractual restrictions, to establish and protect our intellectual property rights, all of which provide only limited protection. In addition, we have patented certain technologies used to provide our services and have additional patents pending. We cannot assure you that any patents will issue from our currently pending patent applications in a manner that gives us the protection sought, if at all, or that any future patents issued will not be challenged, invalidated or circumvented. Any patents that may issue in the future from pending or future patent applications may not provide sufficiently broad protection or they may not prove to be enforceable in actions against alleged infringers. Also, we cannot assure you that any future service mark or trademark registrations will be issued for pending or future applications or that any registered service marks or trademarks will be enforceable or provide adequate protection of our proprietary rights.

We endeavor to enter into agreements with our employees and contractors and agreements with parties with whom we do business to limit access to and disclosure of our proprietary information. The steps we have taken, however, may not prevent unauthorized use or the reverse engineering of our technology. Moreover, others may independently develop technologies that are competitive to ours or infringe our intellectual property. Enforcement of our intellectual property rights also depends on our successful legal actions against these infringers, but these actions may not be successful, even when our rights have been infringed.

Furthermore, effective patent, trademark, service mark, copyright and trade secret protection may not be available in every country in which our services are available. In addition, the legal standards relating to the validity, enforceability and scope of protection of intellectual property rights in Internet-related industries are uncertain and still evolving.

Our use of “open source” software could negatively affect our ability to sell our services and subject us to possible litigation.

A portion of the technologies we license incorporate so-called “open source” software, and we may incorporate additional open source software in the future. Open source software is generally licensed by its authors or other third parties under open source licenses. If we fail to comply with these licenses, we may be subject to certain conditions, including requirements that we offer our services that incorporate the open source software for no cost, that we make available source code for modifications or derivative works we create based upon, incorporating or using the open source software and/or that we license such modifications or derivative works under the terms of the particular open source license. If an author or other third party that distributes such open source software were to allege that we had not complied with the conditions of one or more of these licenses, we could be required to incur significant legal expenses defending against such allegations and could be subject to significant damages, enjoined from the sale of our services that contained the open source software and required to comply with the foregoing conditions, which could disrupt the distribution and sale of some of our services.

We rely on third-party software, including server software and licenses from third parties to use patented intellectual property that is required for the development of our services, which may be difficult to obtain or which could cause errors or failures of our services.

We rely on software licensed from third parties to offer our services, includingpatented third-party technology. In addition, we may need to obtain future licenses from third parties to use intellectual property associated with the development of our services, which might not be available to us on acceptable terms, or at all. Any loss of the right to use any software required for the development and maintenance of our services could result in delays in the provision of our services until equivalent technology is either developed by us, or, if available, is identified, obtained and integrated, which could harm our business. Any errors or defects in third-party software could result in errors or a failure of our services which could harm our business.

Material defects or errors in the software that we use to deliver our services could harm our reputation, result in significant costs to us and impair our ability to sell our services.

The software applications underlying our services are inherently complex and may contain material defects or errors, particularly when first introduced or when new versions or enhancements are released. We have from time to time found defects in our services, and new errors in our existing services may be detected in the future. Any defects that cause interruptions to the availability of our services could result in:

- a reduction in sales or delay in market acceptance of our services;
- sales credits or refunds to customers;

- loss of existing customers and difficulty in attracting new customers;
- diversion of development resources;
- reputational harm; and
- increased insurance costs.

After the release of our services, defects or errors may also be identified from time to time by our internal team and by our customers. The costs incurred in correcting any material defects or errors in our services may be substantial and could harm our operating results.

Government regulation of the Internet, telecommunications and other communications technologies could harm our business and operating results.

As Internet commerce and telecommunications continue to evolve, increasing regulation by federal, state or foreign governments and agencies becomes more likely. Any increase in regulation could affect our customers' ability to use and share data, potentially reducing demand for our products and services. In addition, taxation of products and services provided over the Internet or other charges imposed by government agencies or by private organizations for accessing the Internet or utilizing telecommunications services may also be imposed. Any regulation imposing greater fees for Internet use or restricting the exchange of information over the Internet could diminish the viability of our services, which could harm our business and operating results.

Our software products contain encryption technologies, certain types of which are subject to U.S. and foreign export control regulations and, in some foreign countries, restrictions on importation and/or use. We have submitted encryption products for technical review under U.S. export regulations and have received the necessary approvals. Any failure on our part to comply with encryption or other applicable export control requirements could result in financial penalties or other sanctions under the U.S. export regulations, which could harm our business and operating results. Foreign regulatory restrictions could impair our access to technologies that we seek for improving our products and services and may also limit or reduce the demand for our products and services outside of the United States.

Given our levels of share-based compensation, our effective tax rate may vary significantly depending on our stock price.

The tax effects of the accounting for share-based awards may significantly impact our effective tax rate from period to period. In periods in which our stock price is higher than the grant price of the share-based awards vested or expired in that period, we will recognize excess tax benefits that will decrease our effective tax rate. For example, in 2017 and 2018, excess tax benefits recognized from share-based awards resulted in a benefit from income taxes of $16.0 million and $7.3 million, respectively. In future periods in which our stock price is lower than the grant price of the share-based awards vested or expired in that period, our effective tax rate may increase. The amount and value of share-based awards vested or expired relative to our earnings in a period will also affect the magnitude of the impact of share-based awards on our effective tax rate. These tax effects are dependent on our stock price, which we do not control, and a decline in our stock price could significantly increase our effective tax rate and adversely affect our financial results.

Uncertainties in the interpretation and application of the Tax Cuts and Jobs Act of 2017 could materially affect our tax obligations and effective tax rate.

The Tax Cuts and Jobs Act of 2017, which we refer to herein as the "U.S. Tax Act," was enacted on December 22, 2017 and has affected U.S. tax law by changing U.S. federal income taxation of U.S. corporations. We have reflected the expected impact of the Tax Act in our Consolidated Financial Statements using certain assumptions and estimates. However, the U.S. Tax Act is complex and additional interpretative guidance may be issued that could affect the assumptions and estimates we made. In addition, at this stage, it is unclear how a number of U.S. states will incorporate the changes made by the U.S. Tax Act into their tax codes. Changes in the assumptions and estimates we have made relating to the U.S. Tax Act, as well as actions we may take, could result in a write down of deferred tax assets or otherwise materially affect our tax obligations or effective tax rate, which could negatively affect our financial condition and results of operations.

The results of the United Kingdom's referendum on withdrawal from the European Union may have a negative effect on global economic conditions, financial markets and our business.

In June 2016, a majority of voters in the United Kingdom elected to withdraw from the European Union in a national referendum. The United Kingdom is in process of negotiating the terms of its exit, currently scheduled for March 29, 2019. However, initial withdrawal proposals have been rejected by the U.K. Parliament creating significant uncertainty about the terms and timing under which the United Kingdom will leave the European Union, including with respect to the laws and regulations that will apply as the United Kingdom determines which European Union laws to replace or replicate in the event of a withdrawal. These developments, or the perception that any of them could occur, have had and may continue to have a material adverse effect on global economic conditions and the stability of global financial markets, and may significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets. Any of these factors could depress economic activity and restrict our access to capital, which could have a material adverse effect on our business, financial condition and results of operations and reduce the price of our common stock.

Our operating results may be harmed if we are required to collect sales or other related taxes for our subscription services or pay regulatory fees in jurisdictions where we have not historically done so.

Primarily due to the nature of our services in certain states and countries, we do not believe we are required to collect sales or other related taxes from our customers in certain states or countries. However, one or more other states or countries may seek to impose sales, regulatory fees or other tax collection obligations on us, including for past sales by us or our resellers and other partners. A successful assertion that we should be collecting sales or other related taxes on our services or paying regulatory fees could result in substantial tax liabilities for past sales, discourage customers from purchasing our services or otherwise harm our business and operating results.

Our reported financial results may be adversely affected by changes in accounting principles generally accepted in the United States.

Generally accepted accounting principles in the United States, or GAAP, are subject to interpretation by the Financial Accounting Standards Board, or FASB, the SEC and various bodies formed to promulgate and interpret appropriate accounting principles. A change in accounting principles or interpretations could have a significant effect on our reported financial results for subsequent periods and prior periods, if retrospectively adopted. Additionally, the adoption of new standards may potentially require enhancements or changes in our systems and may require significant time and cost on behalf of our financial management. The prescribed periods of adoption of new standards and other pending changes in accounting principles generally accepted in the United States, are further discussed in "Management's Discussion and Analysis of Financial Condition and Results of Operations — Recently Issued Accounting Pronouncements."

Risks Related to Ownership of Our Common Stock

Our failure to raise additional capital or generate the cash flows necessary to expand our operations and invest in our services could reduce our ability to compete successfully.

We may need to raise additional funds, and we may not be able to obtain additional debt or equity financing on favorable terms, if at all. If we raise additional equity financing, our stockholders may experience significant dilution of their ownership interests, and the per share value of our common stock could decline. If we engage in debt financing, we may be required to accept terms that restrict our ability to pay dividends or make distributions, incur additional indebtedness and force us to maintain specified liquidity or other ratios. If we need additional capital and cannot raise it on acceptable terms, we may not be able to, among other things:

- develop or enhance services;
- continue to expand our development, sales and marketing organizations;
- acquire complementary technologies, products or businesses;
- expand our operations, in the United States or internationally;
- hire, train and retain employees; or
- respond to competitive pressures or unanticipated working capital requirements.

Our stock price may be volatile, and the market price of our common stock may drop in the future.

During the period from our initial public offering in July 2009 through February 17, 2019, our common stock has traded as high as $134.80 and as low as $15.15. An active, liquid and orderly market for our common stock may not be sustained, which could depress the trading price of our common stock. Some of the factors that may cause the market price of our common stock to fluctuate include:

- the success or failure of acquisitions as well as our ability to realize the anticipated growth opportunities and other financial and operating benefits therefrom;
- fluctuations in our quarterly financial results or the quarterly financial results of companies perceived to be similar to us;
- fluctuations in our recorded revenue, even during periods of significant sales order activity;
- changes in estimates of our financial results or recommendations by securities analysts;
- failure of any of our services to achieve or maintain market acceptance;
- changes in market valuations of companies perceived to be similar to us;
- announcements regarding changes to our current or planned products or services;
- success of competitive companies, products or services;
- changes in our capital structure, such as future issuances of securities or the incurrence of debt;
- announcements by us or our competitors of significant new services, contracts, acquisitions or strategic alliances;
- regulatory developments in the United States, foreign countries or both;
- litigation, including stockholder litigation and/or class action litigation, involving our company, our services or our general industry, as well as announcements regarding developments in on-going litigation matters;
- additions or departures of key personnel;
- general perception of the future of the cloud-based connectivity markets or our services;
- investors' general perception of us; and
- changes in general economic, industry and market conditions.

In addition, if the market for technology stocks or the stock market in general experiences a loss of investor confidence, the trading price of our common stock could decline for reasons unrelated to our business, financial condition or results of operations. If any of the foregoing occurs, it could cause our stock price to fall and may expose us to class action lawsuits that, even if unsuccessful, could be costly to defend and a distraction to management.

There can be no assurance that we will continue to pay dividends or repurchase stock.

On February 23, 2017, our Board of Directors approved a three-year capital return plan. Pursuant to this plan, we intend to return up to $700 million to our stockholders through a combination of share repurchases and dividends. As part of this capital return plan, we intend to pay a quarterly cash dividend, subject to quarterly declarations by our Board of Directors. Any future declarations, amount and timing of any dividends and/or the amount and timing of any stock repurchases are subject to capital availability and determinations by our Board of Directors that cash dividends and/or stock repurchases are in the best interest of our stockholders. Our ability to repurchase our shares and/or pay dividends to our stockholders is also subject to our maintaining compliance with our credit facility covenants. Our ability to pay dividends and/or repurchase stock will depend upon, among other factors, our cash balances and potential future capital requirements for strategic transactions, including acquisitions, debt service requirements, results of operations, financial condition and other factors beyond our control that our Board of Directors may deem relevant. A reduction in or elimination of our dividend payments, our dividend program and/or stock repurchases could have a negative effect on our stock price.

If securities or industry analysts who cover us, our business or our market publish a negative report or change their recommendations regarding our stock adversely, our stock price and trading volume could decline.

The trading market for our common stock is influenced by the research and reports that industry or securities analysts publish about us, our business, our market or our competitors. If any of the analysts who cover us, or may cover us in the future, publish a negative report or change their recommendation regarding our stock adversely, or provide more favorable relative recommendations about our competitors, our stock price would likely decline.

Certain stockholders could attempt to influence changes within the Company which could adversely affect our operations, financial condition and the value of our common stock.

Our stockholders may from time-to-time seek to acquire a controlling stake in our company, engage in proxy solicitations, advance stockholder proposals or otherwise attempt to effect changes. Campaigns by stockholders to effect changes at publicly-traded companies are sometimes led by investors seeking to increase short-term stockholder value through actions such as financial restructuring, increased debt, special dividends, stock repurchases or sales of assets or the entire company. Responding to proxy contests and other actions by activist stockholders can be costly and time-consuming, and could disrupt our operations and divert the attention of our Board of Directors and senior management from the pursuit of our business strategies. These actions could adversely affect our operations, financial condition and the value of our common stock.

Anti-takeover provisions contained in our certificate of incorporation and bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

Our certificate of incorporation, bylaws and Delaware law contain provisions that could have the effect of rendering more difficult or discouraging an acquisition deemed undesirable by our Board of Directors. Our corporate governance documents include provisions:

- establishing that our Board of Directors is divided into three classes, with each class serving three-year staggered terms;
- authorizing blank check preferred stock, which could be issued with voting, liquidation, dividend and other rights superior to our common stock;
- limiting the liability of, and providing indemnification to, our directors and officers;
- limiting the ability of our stockholders to call and bring business before special meetings and to take action by written consent in lieu of a meeting;
- requiring advance notice of stockholder proposals for business to be conducted at meetings of our stockholders and for nominations of candidates for election to our Board of Directors;
- controlling the procedures for the conduct and scheduling of our Board of Directors and stockholder meetings;
- providing our Board of Directors with the express power to postpone previously scheduled annual meetings and to cancel previously scheduled special meetings;
- restricting the forum for certain litigation brought against us to Delaware;
- providing our Board of Directors with the exclusive right to determine the number of directors on our Board of Directors and the filling of any vacancies or newly created seats on our Board of Directors; and
- providing that directors may be removed by stockholders only for cause.

These provisions, alone or together, could delay hostile takeovers and changes in control of our company or changes in our management.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation Law, which generally prevents certain interested stockholders, including a person who beneficially owns 15% or more of our outstanding common stock, from engaging in certain business combinations with us within three years after the person becomes an interested stockholder unless certain approvals are obtained. Any provision of our certificate of incorporation or bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS
None.

ITEM 2. PROPERTIES
As of December 31, 2018, our principal facilities consist of owned and leased office space to house our development, sales and marketing, customer support, and administrative personnel.

	Approximate Square Footage	
	Owned	Leased
	(In thousands)	
Americas	160	521
EMEA (Europe, Middle East)	—	231
Asia-Pacific	—	79
	160	831

Our principle facilities include leased office space of 220,000 square feet in Boston, Massachusetts, our corporate headquarters, 104,000 square feet in Lindon, Utah, 58,000 square feet in Dublin, Ireland, and 49,000 square feet in Goleta, California, as well as an owned facility with 160,000 square feet in Goleta, California. We also utilize third-party co-location facilities from which we operate our data centers, which are located in the United States, the United Kingdom, Germany, India and Australia. We believe our facilities are sufficient to support our needs and that additional space will be available in the future on commercially reasonable terms as needed.

ITEM 3. LEGAL PROCEEDINGS
On August 20, 2018, a securities class action lawsuit (the “Securities Class Action”) was initiated by purported stockholders of LogMeIn in the U.S. District Court for the Central District of California against us and certain of our officers, entitled Wasson v. LogMeIn, Inc. et al. (Case No. 2:18-cv-07285). On November 6, 2018 the case was transferred to the District of Massachusetts (Case No. 1:18-cv-12330). The lawsuit asserts claims under Sections 10(b) and 20(a) of the Securities and Exchange Act of 1934 based on alleged misstatements or omissions concerning renewal rates for our subscription contracts. We believe the lawsuit lacks merit and intend to defend it vigorously

On January 30, 2019, a derivative action was filed in the District of Massachusetts against LogMeIn’s Board of Directors, entitled Schlagel v. Wagner et al. (Case No. 1:19-cv-10204) alleging breach of fiduciary duty, waste of corporate assets, and violation of Sections 10(b) and 14(a) of the Securities and Exchange Act of 1934 related to the same allegations of the Securities Class Action. The complaint seeks unspecified damages, fees and costs. We intend to defend the lawsuit vigorously.

We are from time to time subject to various legal proceedings and claims, either asserted or unasserted, which arise in the ordinary course of business. While the outcome of these claims cannot be predicted with certainty, management does not believe that the outcome of any of these legal matters will have a material adverse effect on our results of operations or financial condition.

ITEM 4. MINE SAFETY DISCLOSURES
None.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Certain Information Regarding the Trading of Our Common Stock

Our common stock began trading under the symbol "LOGM" on the NASDAQ Global Select Market on July 1, 2009. Prior to that date, there was no established public trading market for our common stock.

Holders of Our Common Stock

As of February 19, 2019, there were 446 holders of record of shares of our common stock. This number does not include stockholders for whom shares are held in "nominee" or "street" name. While we are unable to estimate the actual number of beneficial holders of our common stock, we believe the number of beneficial holders is substantially higher than the number of holders of record of shares of our common stock.

Recent Sales of Unregistered Securities; Use of Proceeds from Registered Securities

(a) Recent Sales of Unregistered Securities

We did not sell any unregistered securities during the year ended December 31, 2018.

Securities Authorized for Issuance Under Equity Compensation Plans

Information regarding our equity compensation plans and the securities authorized for issuance thereunder is set forth herein under Part III, Item 12 below.

Purchases of Equity Securities

Period	Total Number of Shares Purchased	Average Price per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs[1]	Maximum Number (or Approximate Dollar Value) of Shares that may yet be Purchased Under the Plans or

				Programs[1]
October 1, 2018 — October 31, 2018	247,951	$ 82.87	247,951	$331,162,614
November 1, 2018 — November 30, 2018	216,156	$ 86.73	216,156	$297,113,368 [2]
December 1, 2018 — December 31, 2018	202,664	$ 83.73	202,664	$280,144,539
Total	666,771	$ 84.38	666,771	

(1) On February 23, 2017, our Board of Directors approved a three-year capital return plan, pursuant to which we intend to return up to $700 million to stockholders through a combination of share repurchases and dividends. Share repurchases under this plan are made from time-to-time in the open market, in privately negotiated transactions or otherwise, in accordance with applicable securities laws and regulations. During the year ended December 31, 2018, we repurchased 2,531,877 shares of our common stock.

(2) This amount has been reduced by an additional $15.3 million which was used to pay a cash dividend of $0.30 per share on November 30, 2018 to stockholders of record as of November 14, 2018.

Stock Performance Graph

The following graph compares the cumulative total return to stockholders on our common stock for the period from December 31, 2013 through December 31, 2018 against the cumulative total return of the NASDAQ Composite Index and the NASDAQ Computer and Data Processing Index. The comparison assumes $100.00 was invested in our common stock, the NASDAQ Composite Index and the NASDAQ Computer and Data Processing Index and assumes reinvestment of dividends, if any. The stock performance on the graph below is not necessarily indicative of future price performance.

This performance graph shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

ITEM 6. SELECTED FINANCIAL DATA

You should read the following selected financial data together with our Consolidated Financial Statements and the related notes appearing at the end of this Annual Report on Form 10-K and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this Annual Report on Form 10-K. Our historical results for any prior period are not necessarily indicative of results to be expected in any future period. On January 31, 2017, our Merger with the GoTo Business added over 1,600 employees as of that date and revenue has increased to over $1 billion on an annualized basis. On April 3, 2018, our acquisition of Jive added approximately 700 employees and its fiscal 2017 revenue was approximately $80 million. Accordingly, the revenue and cost comparisons have all increased in 2018 compared to the years presented below.

	Years Ended December 31,				
	2014	2015	2016	2017	2018
	(In thousands, except per share data)				
Consolidated Statement of Operations Data:					
Revenue	$221,956	$271,600	$336,068	$989,786	$1,203,992
Cost of revenue[(1)]	28,732	35,458	45,501	203,203	281,481
Gross profit	193,224	236,142	290,567	786,583	922,511
Operating expenses:					
Research and development[(1)]	33,516	42,597	57,193	156,731	169,409
Sales and marketing[(1)]	119,508	138,946	162,811	346,961	382,997
General and administrative[(1)]	30,526	33,034	60,693	160,366	145,453
Gain on disposition of assets	—	—	—	—	(33,910)
Legal settlements	—	3,600	—	—	—
Amortization of acquired intangibles	987	1,916	5,457	134,342	172,539
Total operating expenses	184,537	220,093	286,154	798,400	836,488
Income (loss) from operations	8,687	16,049	4,413	(11,817)	86,023
Interest income	604	654	698	1,389	1,671
Interest expense	(2)	(574)	(1,403)	(1,408)	(6,342)
Other income (expense), net	105	1,389	(500)	(141)	(556)
Income (loss) before income taxes	9,394	17,518	3,208	(11,977)	80,796
(Provision for) benefit from income taxes	(1,439)	(2,960)	(570)	111,500	(6,425)
Net income (loss)	$7,955	$14,558	$2,638	$99,523	$74,371
Net income (loss) per share:					
Basic	$0.33	$0.59	$0.10	$1.97	$1.44
Diluted	$0.31	$0.56	$0.10	$1.93	$1.42
Weighted average shares outstanding:					
Basic	24,385	24,826	25,305	50,433	51,814
Diluted	25,386	25,780	26,164	51,463	52,496
Cash dividends declared and paid per share	$—	$—	$1.00	$1.25	$1.20

(1) Includes stock-based compensation expense and intangible amortization expense as indicated in the following table:

	Years Ended December 31,				
	2014	2015	2016	2017	2018
	(In thousands)				
Cost of revenue:					
Stock-based compensation	$1,107	$1,560	$2,289	$5,222	$4,997
Intangible amortization	3,959	4,151	6,382	57,216	95,428
Research and development:					
Stock-based compensation	3,653	5,188	6,201	22,103	18,869
Sales and marketing:					
Stock-based compensation	9,033	11,090	16,181	16,155	15,995
General and administrative:					
Stock-based compensation	10,976	8,661	13,679	23,812	25,873

	As of December 31,				
	2014	2015	2016	2017	2018
	(In thousands)				
Consolidated Balance Sheet Data:					
Cash and cash equivalents and short-term marketable securities	$201,169	$208,427	$196,466	$252,402	$148,652
Total assets	317,849	455,699	443,293	3,858,108	3,935,953
Deferred revenue, including long-term portion	105,250	136,989	162,253	347,305	379,298
Long-term debt	—	60,000	30,000	—	200,000
Total liabilities	144,005	247,888	247,177	694,367	961,265
Total equity	173,844	207,811	196,116	3,163,741	2,974,688

ITEM 7. MANAGEMENT' S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our Consolidated Financial Statements and the related notes and other financial information included elsewhere in this Annual Report on Form 10-K. Some of the information contained in this discussion and analysis or set forth elsewhere in this Annual Report on Form 10-K, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. You should review the "Risk Factors" section of this Annual Report on Form 10-K for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

LogMeIn simplifies how people connect with each other and the world around them to drive meaningful interactions, deepen relationships, and create better outcomes for individuals and businesses. A market leader in unified communications and collaboration, identity and access management, and customer engagement and support solutions, LogMeIn has millions of customers spanning virtually every country across the globe. LogMeIn is headquartered in Boston, Massachusetts with additional locations in North America, South America, Europe, Asia and Australia.

We offer both free and fee-based, or premium, subscription software services. Sales of our premium services are generated through online search, word-of-mouth referrals, web-based advertising, off-line advertising, broadcast advertising, public relations, the conversion of free users and expiring free trials to paid subscriptions and direct marketing to new and existing customers. We derive our revenue principally from subscription fees from our customers, who range from individual consumers to small and medium businesses, or SMBs, to multi-national enterprises. Our revenue is driven primarily by the number and type of our premium services to which our paying customers subscribe.

In January 2017, we completed our Merger with a wholly-owned subsidiary of Citrix, pursuant to which we combined with Citrix's GoTo family of service offerings known as the GoTo Business. Following the completion of the Merger, our revenue grew to over $1 billion on an annualized basis in fiscal 2017 and we added over 1,600 employees. In April 2018, we completed our acquisition of Jive Communications, Inc., or Jive, a provider of cloud-based phone systems and unified communications services. At the time of closing, Jive had approximately 700 employees and its fiscal year 2017 revenue was approximately $80 million.

Operating Results

For the year ended December 31, 2018, we recognized revenues of $1.2 billion and generated cash flows from operating activities of $404.0 million, and we ended the year with $148.7 million of cash and cash equivalents and $200.0 million of outstanding borrowings under our credit facility. During the year ended December 31, 2018, we repurchased $248.9 million of our common stock pursuant to our share repurchase program, and paid cash dividends of $62.2 million to our stockholders. We recorded net income of $74.4 million in the year ended December 31, 2018, including amortization of acquired intangible assets of $245.2 million, acquisition-related transaction, transition and integration-related fees and expenses of $22.9 million, primarily related to the Merger and our acquisition of Jive and a gain on disposition of assets of $33.9 million related to the sale of our Xively business. On January 1, 2018, we adopted ASU 2014-09, Revenue from Contracts with Customers, referred to herein as ASC 606. The adoption of ASC 606 did not have any impact on our revenue recognition, however, we are required to capitalize and amortize incremental costs of obtaining a contract such as sales commissions and related fringe costs over the period of benefit. The impact of ASC 606 on the year ending 2018 was $37.7 million less sales and marketing expense than would have been recognized under prior accounting guidance.

Capital Returns

On February 23, 2017, our Board of Directors approved a three-year capital return plan to return up to $700 million to stockholders through a combination of share repurchases and dividends. Pursuant to this plan, during 2018, we repurchased shares and paid cash dividends totaling $311.1 million as follows:

- Repurchased 2,531,877 shares of our common stock at an average price of $98.32 per share for a total cost of $248.9 million.

- Paid four cash dividends of $0.30 per share of our common stock, one in each of the four quarters of 2018, totaling $62.2 million.

While we currently intend to pay quarterly cash dividends during the remainder of 2019, our Board of Directors declare our dividends on a quarterly basis based upon our financial performance, business outlook and other considerations. On February 14, 2019, our Board of Directors announced a $0.325 per share cash dividend to be paid on March 12, 2019 to stockholders of record as of February 25, 2019.

We repurchase our shares from time-to-time in the open market, which may include the use of 10b5-1 trading plans, or in privately negotiated transactions, in accordance with applicable securities and stock exchange rules. The timing and number of shares to be repurchased pursuant to this capital return plan will depend upon prevailing market conditions and other factors. Additionally, our credit facility contains certain financial and operating covenants that may restrict our ability to pay dividends in the future.

Acquisition of Jive Communications, Inc.

On April 3, 2018, we completed our acquisition of Jive Communications, Inc., or Jive, a provider of cloud-based phone systems and unified communications services, for $342.1 million in cash, net of cash acquired. Additionally, we expect to pay up to $15 million in cash contingent payments to certain employees of Jive upon their achievement of specified retention milestones over the two-year period following the closing, of which we have paid $0.7 million as of December 31, 2018. We funded the acquisition through a combination of cash on-hand and $200.0 million of borrowings under our credit facility. The operating results of Jive have been included in our results since the date of the acquisition.

Divestiture of Xively

On February 9, 2018, we, along with certain of our subsidiaries, entered into an agreement to sell our Xively business. On March 20, 2018, we completed the sale for consideration of $49.9 million, comprised of $42.4 million of cash received in the first quarter of 2018 and $7.5 million of receivables held back as an escrow by the buyer as an exclusive security in the event of our breach of any of the representations and warranties in the definitive agreement. The $7.5 million receivable, due in September 2019, was recorded at a net present value of $7.3 million, and is included in prepaids and other current assets on the December 31, 2018 consolidated balance sheet.

The Xively disposition resulted in a gain of $33.9 million recorded in 2018, comprised of the present value of the $49.6 million received as consideration less net assets disposed of $13.3 million and transaction costs of $2.4 million. The net assets disposed are primarily comprised of $14.0 million of goodwill allocated to the Xively business. In fiscal year 2017, we recorded approximately $3 million of revenue and $13 million of operating expense directly related to the Xively business. The sale of the Xively business does not constitute a significant strategic shift that will have a material impact on our ongoing operations and financial results.

Restructuring Plan

On February 11, 2019, the Company’s Board of Directors approved a global restructuring plan, including a reduction in force which will result in the termination of approximately 4% of the Company’s workforce and the consolidation of certain leased facilities. By restructuring, the Company intends to streamline its organization and reallocate resources to better align with the Company’s current growth acceleration goals. The Company expects to incur pre-tax restructuring charges of approximately $17 million and to substantially complete the restructuring by the end of fiscal year 2019. The pre-tax restructuring charges are comprised of approximately $10 million in one-time employee termination benefits and $7 million for facilities-related and other costs.

Certain Trends and Uncertainties

The following represents a summary of certain trends and uncertainties, which could have a significant impact on our financial condition and results of operations. This summary is not intended to be a complete list of potential trends and uncertainties that could impact our business in the long or short term. The summary, however, should be considered along with the factors identified in the section titled "Risk Factors" of this Annual Report on Form 10-K and elsewhere in this report.

- There is frequent litigation in the software and technology industries based on allegations of infringement or other violations of intellectual property rights. We have been, and may in the future be, subject to third party patent infringement or other intellectual property-related lawsuits as we face increasing competition and become increasingly visible. Any adverse determination related to intellectual property claims or litigation could adversely affect our business, financial condition and operating results.

- The risk of a data security breach or service disruption caused by computer hackers and cyber criminals has increased as the frequency, intensity and sophistication of attempted attacks and intrusions from around the world have increased. Our services and systems have been, and may in the future be, the target of various forms of cyberattacks. While we make significant efforts to maintain the security and integrity of our services and computer systems, our cybersecurity measures and the cybersecurity measures taken by our third-party data center facilities may be unable to anticipate, detect or prevent all attempts to compromise our systems. Any security breach, whether successful or not, could harm our reputation, subject us to lawsuits and other potential liabilities and ultimately could result in the loss of customers.
- Failure to successfully integrate acquisitions could adversely impact the market price of our common stock as well as our business and operating results. This risk is identified further in "Risk Factors - Risks Related to our Business" of this Annual Report on Form 10-K and elsewhere in this report.
- We believe that competition will continue to increase. Increased competition could result from existing competitors or new competitors that enter the market because of the potential opportunity. We will continue to closely monitor competitive activity and respond accordingly. Increased competition could have an adverse effect on our financial condition and results of operations.
- We believe that as we continue to grow revenue at expected rates, our cost of revenue and operating expenses, including sales and marketing, research and development and general and administrative expenses will increase in absolute dollar amounts. For a description of the general trends we anticipate in various expense categories, see “Cost of Revenue and Operating Expenses” below.

Sources of Revenue

We derive our revenue primarily from subscription fees for our premium services from enterprise customers, SMBs, IT service providers, mobile carriers, customer service centers, OEMs and consumers and to a lesser extent, from usage fees from our audio services. Our customers who subscribe to our services generally pay in advance and typically pay with a credit card for their subscription. We initially record a subscription fee as deferred revenue and then recognize it ratably, on a daily basis, over the life of the subscription period. Typically, a subscription automatically renews at the end of a subscription period unless the customer specifically terminates it prior to the end of the period.

We calculate our gross renewal rate on an annualized dollar basis across all product lines as of the end of each period. For the quarter ended December 31, 2018, our gross annualized renewal rate was approximately 80%. During the second half of 2018, we implemented a number of changes designed to improve the renewal rates in our unified communications and collaboration business and while we have been encouraged by the initial results from these changes, we will continue to monitor our renewal rates across all of our products. Additionally, as we continue to integrate the GoTo Business and the recently acquired Jive business, we will monitor and assess our renewal rate calculation and methodology to ensure that it is appropriate.

Revenue by product grouping is as follows (in thousands):

	Years Ended December 31,		
	2016	2017	2018
Revenues:			
Unified communications and collaboration	$40,616	$527,412	$672,339
Identity and access management	196,952	289,181	353,887
Customer engagement and support	98,500	173,193	177,766
Total revenue	$336,068	$989,786	$1,203,992

Employees

We have increased our number of full-time employees to 3,515 as of December 31, 2018 compared to 2,760 as of December 31, 2017, primarily as a result of our acquisition of Jive.

Cost of Revenue and Operating Expenses

We allocate certain overhead expenses, such as rent and utilities, to expense categories primarily based on headcount allocation. As a result, an overhead allocation associated with these costs is reflected in the cost of revenue and each operating expense category.

Cost of Revenue. Cost of revenue consists primarily of costs associated with our data center operations and customer support centers. Included in these costs are wages and benefits for personnel, telecommunications, hosting fees, hardware and software maintenance costs, outsourced customer support staffing costs, telecommunications product costs, and depreciation associated with our data centers. Additionally, amortization expense associated with the acquired software, technology and internally developed software to be sold as a service is included in cost of revenue. The expenses related to hosting our services and supporting our free and premium customers are dependent on the number of customers who subscribe to our services and the complexity and redundancy of our services and hosting infrastructure.

Research and Development. Research and development expenses consist primarily of wages and benefits for development personnel, retention-based bonus expense related to our acquisitions, facility expense, cloud computing services, consulting fees associated with outsourced development projects, travel-related costs for development personnel and depreciation of assets used in development. Our research and development efforts are focused on both improving ease of use and functionality of our existing services, as well as developing new offerings. More than half of our research and development employees are located internationally in our development centers in Hungary, Germany, Canada, Israel and India. Therefore, a large portion of research and development expense is subject to fluctuations in foreign exchange rates. We capitalized costs of $1.6 million, $29.8 million, and $31.4 million for the years ended December 31, 2016, 2017 and 2018, respectively, related to internally developed software to be sold as a service, which were incurred during the application development stage. The majority of research and development costs have been expensed as incurred. We expect that research and development expenses will remain relatively constant as a percentage of revenue.

Sales and Marketing. Sales and marketing expenses consist primarily of online search and advertising costs, wages, commissions and benefits for sales and marketing personnel, offline marketing costs such as media advertising and trade shows, consulting fees, credit card processing fees, facility expense and hardware and software maintenance costs. Online search and advertising costs consist primarily of pay-per-click payments to search engines and other online advertising media such as banner ads. Offline marketing costs include radio and print advertisements, as well as the costs to create and produce these advertisements, and tradeshows, including the costs of space at tradeshows and costs to design and construct tradeshow booths. Advertising costs are expensed as incurred. In order to continue to grow our business and awareness of our services, we expect that we will continue to invest in our sales and marketing efforts. We expect an increase in sales and marketing investments in 2019 which will increase sales and marketing expenses as a percentage of revenue compared to 2018.

General and Administrative. General and administrative expenses consist primarily of wages and benefits for management, human resources, internal IT support, legal, finance and accounting personnel, professional fees, insurance and other corporate expenses, including acquisition-related expenses. We expect that general and administrative expenses related to personnel, recruiting, internal information systems, audit, accounting and insurance costs will remain relatively constant as a percentage of revenue as we continue to support the growth of our business. Further, we expect to continue to incur acquisition-related costs, and general and administrative expenses could increase if we incur litigation-related expenses associated with our defense against legal claims.

Critical Accounting Policies

Our financial statements are prepared in accordance with accounting principles generally accepted in the United States of America, or GAAP. The preparation of our financial statements and related disclosures requires us to make estimates, assumptions and judgments that affect the reported amount of assets, liabilities, revenue, costs and expenses, and related disclosures. We base our estimates and assumptions on historical experience and other factors that we believe to be reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions and conditions. Our most critical accounting policies are summarized below. See Note 2 to the Consolidated Financial Statements included elsewhere in this Annual Report on Form 10-K for additional information about these critical accounting policies, as well as a description of our other significant accounting policies.

Revenue Recognition — On January 1, 2018, we adopted Accounting Standard Update 2014-09, Revenue from Contracts with Customers, as amended, or ASC 606. ASC 606 replaces existing revenue recognition rules with a comprehensive revenue measurement and recognition standard and expanded disclosure requirements. See Note 2 of our Consolidated Financial Statements for additional information regarding ASC 606.

We derive our revenue primarily from subscription fees for our premium services, and, to a lesser extent, usage fees from our audio services. Revenue is reported net of applicable sales and use tax, value-added tax and other transaction taxes imposed on the related transaction including mandatory government charges that are billed to our customers. Revenue is recognized when control of these services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those services.

We determine revenue recognition through the following five steps:

- Identification of the contract, or contracts, with a customer
- Identification of the performance obligations in the contract
- Determination of the transaction price
- Allocation of the transaction price to the performance obligations in the contract
- Recognition of revenue when, or as, performance obligations are satisfied

We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

Revenue from our premium subscription services represents a single promise to provide continuous access (i.e., a stand-ready obligation) to our software solutions and their processing capabilities in the form of a service through one of our data centers. Our software cannot be run on another entity's hardware and customers do not have the right to take possession of the software and use it on their own or another entity's hardware. As each day of providing access to the software is substantially the same and the customer simultaneously receives and consumes the benefits as access is provided, we determined that our premium subscription services arrangements include a single performance obligation comprised of a series of distinct services. Revenue from our premium subscription services is recognized over time on a ratable basis over the contract term beginning on the date that our service is made available to the customer. Subscription periods range from monthly to multi-year, are typically billed in advance and are non-cancelable.

Revenue from our audio services represent a single promise to stand-ready to provide access to our audio platform. As each day of providing audio services is substantially the same and the customer simultaneously receives and consumes the benefits as access is provided, we have determined that our audio services arrangements include a single performance obligation comprised of a series of distinct services. Our audio services may include fixed consideration, variable consideration or a combination of the two. Variable consideration in these arrangements is typically a function of the corresponding rate per minute. We allocate the variable amount to each distinct service period within the series and recognize revenue as each distinct service period is performed (i.e., recognized as incurred).

Income Taxes — We are subject to federal, state, and foreign income taxes for jurisdictions in which we operate, and we use estimates in determining our provision for these income taxes. Deferred tax assets, related valuation allowances, current tax liabilities and deferred tax liabilities are determined separately by tax jurisdiction. In making these determinations, we estimate deferred tax assets, current tax liabilities and deferred tax liabilities, and we assess temporary differences resulting from differing treatment of items for tax and accounting purposes. 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 recognized. This assessment requires judgment as to the likelihood and amounts of future taxable income by tax jurisdiction. As of December 31, 2017 and 2018, we maintained a full valuation allowance against the deferred tax assets of our Hungarian subsidiary, and we have maintained a partial valuation allowance against certain Massachusetts and California net operating loss carryforwards as we concluded it was not more likely than not that these deferred tax assets are realizable prior to expiration.

We evaluate our uncertain tax positions based on a determination of whether and how much of a tax benefit we have taken in our tax filings is more likely than not to be realized. Potential interest and penalties associated with any uncertain tax positions are recorded as a component of income tax expense. As of December 31, 2017 and 2018, other long-term liabilities on the consolidated balance sheets included $5.1 million and $4.8 million, respectively, for uncertain tax positions. Although we believe that our 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.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017, or the U.S. Tax Act, was signed into law, making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a U.S. federal corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial system, and a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017. As a result of the U.S. Tax Act, we calculated our best estimation of its impact, and recognized a one-time mandatory transition tax of $14.8 million on cumulative foreign subsidiary earnings in the fourth quarter of 2017. In the year ending December 31, 2018, we finalized the estimate and recorded a $2.6 million tax benefit to decrease the one-time mandatory transition tax amount to $12.2 million.

On December 22, 2017, Staff Accounting Bulletin No. 118, or SAB 118, was issued to address the application of generally accepted accounting principles in the United States, or GAAP, in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the U.S. Tax Act. During the fourth quarter of 2018, we completed our analysis of the various provisions of the U.S. Tax Act and all adjustments to provisional amounts have been recorded to income tax expense.

Goodwill and Acquired Intangible Assets — We record goodwill as the excess of the acquisition price over the fair value of the tangible and identifiable intangible net assets acquired. We do not amortize goodwill, but instead perform an impairment test of goodwill annually or whenever events and circumstances indicate that the carrying amount of goodwill may exceed its fair value. We operate as a single operating segment with one reporting unit and consequently evaluate goodwill for impairment based on an evaluation of the fair value of the company as a whole. As of November 30, 2018, our measurement date, the fair value of the company as a whole was substantially in excess of its carrying value. We routinely monitor our intangible assets for indicators of impairment. If an indicator exists, we compare the undiscounted expected future cash flows from the intangible asset to its carrying value. If the carrying value exceeds the undiscounted expected cash flows, we record an impairment based on the difference between the carrying value and determined fair value. Projected future cash flows are an estimate made by management which, based on their nature, include risks and uncertainties primarily related to acceptance of products in the marketplace. To the extent that estimates of cash flows do not come to fruition, future impairments of intangible assets may be required. No material impairments have been recorded through December 31, 2018.

We record intangible assets at their respective estimated fair values at the date of acquisition. Intangible assets are amortized based upon the pattern in which their economic benefit will be realized, or if this pattern cannot be reliably determined, using the straight-line method over their estimated useful lives, which range up to eleven years.

Loss Contingencies — We have been involved in various legal claims and legal proceedings and may be subject to additional legal claims and proceedings in the future that arise in the ordinary course of business. We consider the likelihood of a loss or the incurrence of a liability, as well as our ability to reasonably estimate the amount of loss, in determining loss contingencies. An estimated loss contingency is accrued when we believe that it is both probable that a liability has been incurred and the amount of loss can be reasonably estimated. Significant judgment is required to determine both probability and the estimated amount. We regularly evaluate current information available and consider the impact of negotiations, settlements, rulings, advice of legal counsel and updated information to determine whether such accruals should be adjusted, whether new accruals are required and whether to update our disclosures accordingly. Litigation is inherently unpredictable and is subject to significant uncertainties, some of which are beyond our control. Should any of these estimates and assumptions change or prove to have been incorrect, it could have a material adverse effect on our results of operations, financial position and cash flows. See Note 12 to the Consolidated Financial Statements for a further discussion of litigation and contingencies as well as “Legal Proceedings” in Part I, Item 3.

Results of Consolidated Operations

The following table sets forth selected condensed consolidated statements of operations data for each of the periods indicated as a percentage of total revenue (dollar amounts in thousands):

	Years Ended December 31,							
	2016		2017			2018		
	Amount	Percent of Revenue	Amount	Percent of Revenue	Percent Change	Amount	Percent of Revenue	Percent Change
Revenue	$336,068	100%	$989,786	100%	195%	$1,203,992	100%	22%
Cost of revenue	45,501	14%	203,203	21%	347%	281,481	23%	39%
Gross profit	290,567	86%	786,583	79%	171%	922,511	77%	17%
Operating expenses								
Research and development	57,193	17%	156,731	16%	174%	169,409	14%	8%
Sales and marketing	162,811	48%	346,961	35%	113%	382,997	32%	10%
General and administrative	60,693	18%	160,366	16%	164%	145,453	12%	(9)%
Gain on disposition of assets	—	0%	—	0%	0%	(33,910)	(3)%	(100)%
Amortization of acquired intangibles	5,457	2%	134,342	14%	2,362%	172,539	14%	28%
Total operating expenses	286,154	85%	798,400	81%	179%	836,488	69%	5%
Income (loss) from operations	$4,413	1%	$(11,817)	(1)%	(368)%	$86,023	7%	828%

	As of December 31,				
	2016	2017	Percent Change	2018	Percent Change
Employees:					
Cost of revenue	146	444	204%	707	59%
Research and development	441	1,031	134%	1,152	12%
Sales and marketing	400	927	132%	1,170	26%
General and administrative	137	358	161%	486	36%
Total headcount at end of period	1,124	2,760	146%	3,515	27%

On January 31, 2017, our Merger with the GoTo Business added over 1,600 employees and revenue increased to over $1 billion on an annualized basis. On April 3, 2018, our acquisition of Jive added approximately 700 employees and revenue of approximately $78 million since the acquisition date. Accordingly, the revenue and cost comparisons have all increased in 2018 compared to 2016 and 2017.

Years Ended December 31, 2017 and 2018

Revenue. Revenue increased $214.2 million, or 22%, from $989.8 million for the year ended December 31, 2017 to $1.2 billion for the year ended December 31, 2018. This increase included the GoTo Business revenue for twelve months in the 2018 period versus eleven months in the 2017 period; revenue derived from the Jive business since the acquisition date on April 3, 2018 of approximately $78 million; and the effect of acquisition accounting on the fair value of acquired deferred revenue for the GoTo Business of $34.3 million and $3.0 million in the years ended December 31, 2017 and 2018, respectively, and $0.7 million for Jive for the year ended December 31, 2018. We continue to integrate Jive into our unified communications and collaboration business and we have begun selling new bundled product offerings. Given the convergence of our unified communications and collaboration products, we will not report Jive's standalone results in 2019.

Cost of Revenue. Cost of revenue increased $78.3 million, or 39%, from $203.2 million for the year ended December 31, 2017 to $281.5 million for the year ended December 31, 2018 and as a percentage of revenue was 21% and 23%, respectively. The increase in cost of revenue as a percentage of revenue includes an increase in amortization of acquired intangible assets from $48.7 million to $72.7 million for the years ended December 31, 2017 and 2018, respectively. This increase is primarily attributable to the acquired intangibles of the GoTo Business, as well as the inclusion of Jive since the April 2018 acquisition date which has also contributed to the increase as a percentage of revenue. We amortize our acquired intangible assets based upon the pattern in which their economic benefit will be realized. Cost of revenue for the years ended December 31, 2017 and 2018, included personnel-related costs, including salary, bonus, recruiting, relocation, travel, training, benefits and taxes of $52.3 million and $68.2 million, respectively; facility-related costs of $6.7 million and $7.7 million, respectively; depreciation, maintenance, and amortization of internally developed software of $34.8 million and $51.5 million, respectively; professional services expense of $12.8 million and $10.6 million, respectively; and data center, telecommunications and cloud computing service costs of $45.2 million and $54.7 million, respectively. Cost of revenue for the years ended December 31, 2017 and 2018 included $1.8 million and $2.2 million of royalty expense, respectively. Further, telecommunication product costs totaled $12.5 million for the year ended December 31, 2018. Included in personnel-related costs in both the years ended December 31, 2017 and 2018 is $5.2 million and $5.0 million, respectively, of stock-based compensation expense and $1.3 million and $0.9 million, respectively, of acquisition-related retention-based bonuses.

Research and Development Expenses. Research and development expenses increased $12.7 million, or 8%, from $156.7 million for the year ended December 31, 2017 to $169.4 million for the year ended December 31, 2018, and as a percentage of revenue was 16% and 14%, respectively. Research and development expenses for the years ended December 31, 2017 and 2018, included personnel-related costs, including salary, bonus, recruiting, relocation, travel, training, benefits and taxes of $118.5 million and $127.5 million, respectively; facility-related costs of $12.0 million and $11.9 million, respectively; cloud computing services of $5.7 million and $8.7 million, respectively; depreciation and maintenance expense of $14.3 million and $15.6 million, respectively; and professional services expense of $4.9 million and $5.1 million, respectively. We capitalized $29.8 million and $31.4 million of personnel-related costs noted above during the years ended December 31, 2017 and 2018, respectively, for internally developed software to be sold as a service incurred during the application development stage. Also included in personnel-related costs in the years ended December 31, 2017 and 2018 is $22.1 million and $18.9 million, respectively, of stock-based compensation expense and $7.3 million and $6.1 million, respectively, of acquisition-related retention-based bonuses.

Sales and Marketing Expenses. Sales and marketing expenses increased $36.0 million, or 10%, from $347.0 million for the year ended December 31, 2017 to $383.0 million for the year ended December 31, 2018, and as a percentage of revenue was 35% and 32%, respectively. We adopted ASC 606 on January 1, 2018 using the modified retrospective transition method which included the capitalization and amortization of incremental costs of obtaining contracts (commissions and related fringe benefits). For the year ended December 31, 2018, commissions expense was $37.7 million lower than it would have been under pre-ASC 606 accounting guidance. Sales and marketing expenses for the years ended December 31, 2017 and 2018, included personnel-related costs, including salary, commission, bonus, recruiting, relocation, travel, training, benefits and taxes of $170.6 million and $176.6 million, respectively; marketing costs of $119.5 million and $138.4 million, respectively; credit card transaction fees of $20.8 million and $22.9 million, respectively; facility-related costs of $15.5 million and $14.7 million, respectively; depreciation and maintenance expense of $14.4 million and $21.4 million, respectively; and professional services expense of $3.1 million and $8.7 million, respectively. Included in personnel-related costs in the years ended December 31, 2017 and 2018 is $16.2 million and $16.0 million, respectively, of stock-based compensation expense and $3.1 million and $2.3 million, respectively, of acquisition-related retention-based bonuses.

General and Administrative Expenses. General and administrative expenses decreased $14.9 million, or 9%, from $160.4 million for the year ended December 31, 2017 to $145.5 million for the year ended December 31, 2018 and as a percentage of revenue was 16% and 12%, respectively. For the years ended December 31, 2017 and 2018, general and administrative expenses included acquisition-related costs of $48.2 million and $13.5 million, respectively, primarily related to transaction, transition and integration-related costs for the Merger in 2017 and the acquisition of Jive in 2018. General and administrative expenses for the years ended December 31, 2017 and 2018, included personnel-related costs, including salary, bonus, recruiting, relocation, travel, training, benefits and taxes, of $73.4 million and $92.7 million, respectively; professional services of $20.9 million and $19.5 million, respectively; facility-related costs of $7.6 million and $8.7 million, respectively; and depreciation and maintenance expense of $6.5 million and $6.9 million, respectively. Included in personnel-related costs in the years ended December 31, 2017 and 2018 is $23.8 million and $25.9 million, respectively, of stock-based compensation expense.

Gain on Disposition of Assets. We recorded a gain on the disposition of assets of $33.9 million in the year ended December 31, 2018 related to the gain on the sale of our Xively business.

Amortization of Acquired Intangibles. Amortization of acquired intangibles was $134.3 million and $172.5 million for the years ended December 31, 2017 and 2018, respectively. The increase was primarily related to the intangible assets acquired as a result of the Merger on January 31, 2017 and the acquisition of Jive on April 3, 2018. We amortize our acquired intangible assets based upon the pattern in which their economic benefit will be realized.

Interest Income. Interest income was $1.4 million and $1.7 million for the years ended December 31, 2017 and 2018, respectively, and was primarily attributable to interest income earned on marketable securities and invested cash and cash equivalents.

Interest Expense. Interest expense was $1.4 million and $6.3 million for the years ended December 31, 2017 and 2018, respectively, and was primarily associated with interest expense attributable to $200.0 million of borrowings under our credit facility used to partially fund Jive as well as the amortization of financing fees.

Other Income (Expense), Net. Other income (expense), net was expense of $0.1 million and $0.6 million for the years ended December 31, 2017 and 2018, respectively, comprised primarily of realized and unrealized foreign currency gains and losses resulting from multi-currency settlements and re-measurements occurring during the period.

Income Taxes. We recorded a benefit from federal, state and foreign income taxes of $111.5 million on a loss before income taxes of $12.0 million and a provision of $6.4 million on profit before income taxes of $80.8 million for the years ended December 31, 2017 and 2018, respectively. In 2017, our effective tax rate was different than the U.S. federal statutory rate of 35% primarily due to the impact of the enactment of the U.S. Tax Act and the recording of excess tax benefits related to stock-based awards in 2017. In 2018, our effective tax rate was different than the U.S federal statutory rate of 21% primarily due to a realignment of some of our intellectual property amongst three of our entities (two wholly-owned foreign entities and the United States) and the recording of excess tax benefits related to stock-based awards in 2018 and due to profits earned in certain foreign jurisdictions, primarily our Irish subsidiaries, which were subject to significantly lower tax rates than the U.S. federal statutory rate in both 2017 and 2018. In 2017 and 2018, we recorded a net benefit of $16.0 million and $7.3 million, respectively, related to excess tax benefits.

Net Income. We recognized net income of $99.5 million and $74.4 million for the years ended December 31, 2017 and 2018, respectively.

Years Ended December 31, 2016 and 2017

Revenue. Revenue increased $653.7 million, or 195%, from $336.1 million for the year ended December 31, 2016 to $989.8 million for the year ended December 31, 2017. This increase was primarily attributable to $617.3 million of revenue from the GoTo Business since the Merger closed on January 31, 2017.

Cost of Revenue. Cost of revenue increased $157.7 million, or 347%, from $45.5 million for the year ended December 31, 2016 to $203.2 million for the year ended December 31, 2017 and as a percentage of revenue was 14% and 21%, respectively. Cost of revenue for the years ended December 31, 2016 and 2017, included personnel-related costs, including salary, bonus, recruiting, relocation, travel, training, benefits and taxes of $14.9 million and $52.3 million, respectively; facility-related costs of $2.2 million and $6.7 million, respectively; depreciation, maintenance, and amortization of internally developed software expense of $11.1 million and $34.8 million, respectively; costs from professional services expense of $1.9 million and $12.8 million, respectively; data center and telecommunications costs of $10.3 million and $45.2 million, respectively; and amortization of acquired intangible assets of $4.6 million and $48.7 million, respectively. Cost of revenue for the year ended December 31, 2017 also included royalty expense of $1.8 million. As of the Merger date, cost of revenue expense included an additional 326 employees. The increase in cost of revenue as a percentage of revenue is primarily attributable to the increase in amortization of intangible assets. Included in personnel-related costs in the years ended December 31, 2016 and 2017, is $2.3 million and $5.2 million, respectively, of stock-based compensation expense and $0.7 million and $1.3 million, respectively, of acquisition-related retention-based bonuses.

Research and Development Expenses. Research and development expenses increased $99.5 million, or 174%, from $57.2 million for the year ended December 31, 2016 to $156.7 million for the year ended December 31, 2017 and as a percentage of revenue was 17% and 16%, respectively. Research and development expenses for the years ended December 31, 2016 and 2017, included personnel-related costs, including salary, bonus, recruiting, relocation, travel, training, benefits and taxes, of $46.1 million and $118.5 million, respectively; facility-related costs of $4.8 million and $12.0 million, respectively; cloud computing services of $0.8 million and $5.7 million, respectively; depreciation and maintenance expense of $3.6 million and $14.3 million, respectively; and professional services expense of $2.2 million and $4.9 million, respectively. We capitalized $1.6 million and $29.8 million during the years ended December 31, 2016 and 2017, respectively, of costs related to internally developed software to be sold as a service incurred during the application development stage. As of the Merger date, research and development expense included an additional 647 employees. Included in personnel-related costs for the years ended December 31, 2016 and 2017 is $6.2 million and $22.1 million, respectively, of stock-based compensation expense and $5.9 million and $7.3 million, respectively, of acquisition-related retention-based bonuses.

Sales and Marketing Expenses. Sales and marketing expenses increased $184.2 million, or 113%, from $162.8 million for the year ended December 31, 2016 to $347.0 million for the year ended December 31, 2017 and as a percentage of revenue was 48% and 35%, respectively. Sales and marketing expenses for the years ended December 31, 2016 and 2017, included personnel-related costs, including salary, commissions, bonus, recruiting, relocation, travel, training, benefits and taxes, of $85.6 million and $170.6 million, respectively; marketing costs of $48.2 million and $119.5 million, respectively; credit card transaction fees of $8.8 million and $20.8 million, respectively; facility-related costs of $8.8 million and $15.5 million, respectively; depreciation and maintenance expense of $8.1 million and $14.4 million, respectively; and professional services expense of $2.9 million and $3.1 million, respectively. As of the Merger date, sales and marketing expense included an additional 621 employees resulting from the Merger. Included in personnel-related costs in the years ended December 31, 2016 and 2017 is $16.2 million in both years of stock-based compensation expense and $1.5 million and $3.1 million, respectively, of acquisition-related retention-based bonuses.

General and Administrative Expenses. General and administrative expenses increased $99.7 million, or 164%, from $60.7 million for the year ended December 31, 2016 to $160.4 million for the year ended December 31, 2017 and as a percentage of revenue was 18% and 16%, respectively. For the year ended December 31, 2017, general and administrative expenses included acquisition-related costs of $48.2 million primarily related to the Merger, consisting of $29.4 million in transaction, transition and integration-related costs, $12.8 million in integration-related severance costs and $5.0 million of retention-based bonuses. For the year ended December 31, 2016, general and administrative expenses included acquisition-related costs of $25.1 million primarily related to the Merger, as well as $8.2 million in retention-based bonuses related to our 2014 and 2015 acquisitions. General and administrative expenses for the years ended December 31, 2016 and 2017, included personnel-related costs, including salary, bonus, recruiting, relocation, travel, training, benefits and taxes, of $31.4 million and $73.4 million, respectively; professional services expense of $7.1 million and $20.9 million, respectively; facility-related costs of $2.1 million and $7.6 million, respectively; and depreciation and maintenance expense of $2.0 million and $6.5 million, respectively. As of the Merger date, general and administrative expense included an additional 138 employees. Included in personnel-related costs in the years ended December 31, 2016 and 2017 is $13.7 million and $23.8 million, respectively, of stock-based compensation expense.

Amortization of Acquired Intangibles. Amortization of acquired intangibles was $5.5 million and $134.3 million for the years ended December 31, 2016 and 2017, respectively. The increase was primarily related to the intangible assets acquired as a result of the Merger on January 31, 2017.

Interest Income. Interest income was $0.7 million and $1.4 million for the years ended December 31, 2016 and 2017, respectively, and was primarily attributable to interest income earned on marketable securities and money market funds.

Interest Expense. Interest expense was $1.4 million for both the years ended December 31, 2016 and 2017, and was primarily associated with interest expense attributable to our credit facility and the amortization of financing fees.

Other Income (Expense), Net. Other income (expense), net was expense of $0.5 million and $0.1 million for the years ended December 31, 2016 and 2017, respectively, comprised primarily of realized and unrealized foreign currency gains and losses resulting from multi-currency settlements and re-measurements occurring during the period.

Income Taxes. We recorded a provision for federal, state and foreign income taxes of $0.6 million on profit before income taxes of $3.2 million and a benefit of $111.5 million on a loss before income taxes of $12.0 million for the years ended December 31, 2016 and 2017, respectively. Our effective tax rate is different than the U.S. federal statutory rate of 35% primarily due to the impact of the enactment of the U.S. Tax Act and the recording of excess tax benefits related to stock-based awards in 2017 and due to profits earned in certain foreign jurisdictions, primarily our Irish subsidiaries, which were subject to significantly lower tax rates than the U.S. federal statutory rate in both 2016 and 2017. As a result of the U.S. Tax Act, we recognized a one-time mandatory transition tax of $14.8 million on cumulative foreign subsidiary earnings, remeasured our U.S. deferred tax assets and liabilities, which resulted in a benefit from income taxes of $105.1 million, and reassessed the net realizability of our deferred tax assets and liabilities, which resulted in a tax provision of $4.7 million. Further, on January 1, 2017, we adopted ASU 2016-09, Compensation – Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting (“ASU 2016-09”). Previously, excess tax benefits were recognized in additional paid-in capital on the consolidated balance sheet to the extent they reduced income taxes payable. Beginning in 2017, any excess tax benefits or shortfalls were recorded in the income tax provision upon vest or exercise. In 2017, we recorded a net benefit of $16.0 million related to excess tax benefits.

Net Income. We recognized net income of $2.6 million and $99.5 million for the years ended December 31, 2016 and 2017, respectively.

Liquidity and Capital Resources

The following table sets forth the major sources and uses of cash for each of the periods set forth below:

	Years Ended December 31,		
	2016	2017	2018
	(In thousands)		
Net cash provided by operations	$92,315	$316,197	$404,039
Net cash provided by (used in) investing activities	7,490	(31,910)	(364,862)
Net cash provided by (used in) financing activities	(79,448)	(181,493)	(136,132)
Effect of exchange rate changes	(2,633)	8,080	(6,762)
Net increase in cash, cash equivalents and restricted cash	$17,724	$110,874	$(103,717)

At December 31, 2018, our principal source of liquidity was cash and cash equivalents totaling $148.7 million, of which $72.9 million was in the United States and $75.8 million was held by our international subsidiaries.

Cash Flows From Operating Activities

Net cash provided by operating activities was $92.3 million, $316.2 million and $404.0 million for the years ended December 31, 2016, 2017 and 2018, respectively.

Net cash inflows from operating activities during the year ended December 31, 2016 were mainly attributable to a $27.0 million increase in deferred revenue associated with upfront payments received from our customers, a $6.1 million increase in accounts payable, an $8.4 million increase in accrued expenses, and a $6.0 million decrease in prepaid expenses and other current assets, primarily due to $5.7 million in tax refunds received in the fourth quarter of 2016. These cash inflows were partially offset by a $10.2 million increase in accounts receivable. Accrued expenses and accounts payable included $6.2 million in acquisition-related professional fees, including transaction, transition, and integration-related fees and expenses. Additionally, included in net cash inflows from operating activities were add-backs of non-cash charges, including $38.4 million for stock-based compensation expense, $21.5 million for depreciation and amortization and $0.5 million for the change in fair value of the contingent consideration liability related to the acquisition of Marvasol, Inc. d/b/a “LastPass,” or LastPass, in October 2015, partially offset by $6.5 million related to excess tax benefits realized from stock-based awards and a $3.3 million benefit from deferred income taxes resulting from differing treatment of items for tax and accounting purposes.

Net cash inflows from operating activities during the year ended December 31, 2017 were mainly attributable to a $93.0 million increase in deferred revenue associated with upfront payments received from our customers, a $17.1 million increase in other long-term liabilities, and a $15.4 million increase in accrued liabilities. The increase in other long-term liabilities related to income tax provisions for the U.S. Tax Act of $12.5 million and uncertain tax positions of $3.6 million. These cash inflows were partially offset by a $22.8 million increase in prepaid expenses and other current assets, a $16.6 million increase in accounts receivable, and a $5.0 million decrease in accounts payable. The increase in prepaid expenses and other current assets was primarily due to an increase in prepaid taxes, partially offset by amortization of prepaid expenses. Accrued liabilities and accounts payable included $6.8 million in acquisition-related professional fees related to the Merger, including transaction, transition, and integration-related fees and expenses, and $1.8 million in retention-based bonus accruals related to our acquisitions of AuthAir, Inc., or AuthAir, and Nanorep Technologies Ltd., or Nanorep. Additionally, included in net cash inflows from operating activities were add-backs of non-cash charges, including $221.3 million for depreciation and amortization, $67.3 million for stock-based compensation expense and a $156.8 million benefit from deferred income taxes primarily attributable to the remeasurement of deferred tax assets and liabilities related to the U.S. Tax Act enacted in December 2017 and the amortization of intangible assets which cannot be deducted for tax purposes.

Net cash inflows from operating activities during the year ended December 31, 2018 were mainly attributable to a $35.4 million increase in deferred revenue associated with upfront payments received from our customers, a $26.8 million increase in accrued liabilities, $7.8 million from accounts receivable due to strong collections, an $11.1 million increase in accounts payable and a $4.0 million increase in other long-term liabilities. These cash inflows were partially offset by a $13.7 million increase in prepaid and other current assets primarily due to an increase in short-term deferred commissions partially offset by a decrease in prepaid taxes and a $16.6 million increase in other assets primarily due to an increase in long-term deferred commissions. The increase in deferred commissions is a result of the adoption of ASC 606 in 2018. The increase in accrued liabilities is primarily due to an increase in employee related accruals of $11.8 million and an increase in marketing program accruals of $7.0 million. Additionally, included in net cash inflows from operating activities were add-backs and reductions of non-cash charges, including $301.1 million for depreciation and amortization, $65.7 million for stock-based compensation expense, partially offset by a $57.5 million benefit from deferred income taxes primarily attributable to the amortization of intangible assets which cannot be deducted for tax purposes and $36.3 million for the gain on disposition of assets related to the divestiture of the Xively business excluding transaction costs.

Cash Flows From Investing Activities

Net cash provided by investing activities was $7.5 million for the year ended December 31, 2016 and net cash used in investing activities was $31.9 million and $364.9 million for the years ended December 31, 2017 and 2018, respectively.

Net cash provided by investing activities ended December 31, 2016 was primarily attributable to $29.1 million in net proceeds from maturities of marketable securities. These cash inflows were partially offset by purchases of $14.0 million in property and equipment related to the expansion and upgrade of our data center capacity, our internal IT infrastructure and our offices, $6.1 million related to the acquisition of AuthAir, and $1.6 million in intangible asset additions for capitalized costs related to internally developed software to be sold as a service which were incurred during the application development stage.

Net cash used in investing activities for the year ended December 31, 2017 was primarily attributable to purchases of $36.6 million in property and equipment related to our internal IT infrastructure, data centers and our offices, $29.7 million in intangible asset additions for capitalized costs related to internally developed software to be sold as a service which were incurred during the application development stage, and $22.3 million of net cash paid for acquisitions, including $43.2 million related to the Nanorep acquisition and $3.3 million related to the Merger with the

GoTo Business, partially offset by $24.2 million of cash acquired from the Merger. These cash outflows were partially offset by $55.6 million in net proceeds from maturities and sales of marketable securities and $1.2 million for restricted cash acquired through acquisitions.

Net cash used in investing activities for the year ended December 31, 2018 was primarily attributable to the acquisition of Jive on April 3, 2018 for $342.1 million, net of cash acquired, $34.2 million in intangible asset additions for capitalized costs related to internally developed software to be sold as a service which were incurred during the application development stage, and purchases of $31.0 million in property and equipment related to our internal IT infrastructure, data centers, and our offices. These cash outflows were partially offset by $42.4 million of proceeds received from the divestiture of the Xively business.

Cash Flows From Financing Activities

Net cash used in financing activities was $79.4 million, $181.5 million and $136.1 million for the years ended December 31, 2016, 2017 and 2018 respectively.

Net cash used in financing activities for the year ended December 31, 2016 related to the purchase of $25.4 million of treasury stock pursuant to our share repurchase program, the repayment of $30.0 million related to our credit facility, the payment of $14.4 million for payroll withholding taxes related to vesting of restricted stock units and cash dividend payments to our stockholders of $25.5 million. These payments were partially offset by $11.8 million in proceeds received from the issuance of common stock upon exercise of stock options.

Net cash used in financing activities for the year ended December 31, 2017 related to $69.2 million of treasury stock purchases pursuant to our share repurchase program, dividend payments to our stockholders of $52.3 million including a special cash dividend of $12.8 million related to the Merger with the GoTo Business, the payment of $34.5 million for payroll withholding taxes related to vesting of restricted stock units, the repayment of $30.0 million of borrowings under our credit facility and the payment of $2.0 million in deferred financing costs associated with the credit facility. These payments were partially offset by $6.5 million in proceeds received from the issuance of common stock upon exercise of stock options.

Net cash used in financing activities for the year ended December 31, 2018 was attributable to the purchase of $247.1 million of treasury stock pursuant to our share repurchase program, dividend payments to our stockholders of $62.2 million, and the payment of $30.6 million for payroll withholding taxes related to vesting of restricted stock units. These payments were partially offset by $200.0 million of borrowings under our credit facility which was drawn on April 2, 2018 in order to partially fund our acquisition of Jive, as well as $3.8 million in proceeds received from the issuance of common stock upon exercise of stock options.

We have available a multi-currency credit facility with a syndicate of banks, financial institutions and other lending entities that provides for a secured revolving line of credit of up to $400 million, which may be increased by an additional $200 million subject to further commitment from the lenders. The credit facility matures on February 1, 2022 and includes certain financial covenants with which we must comply. We expect to use the credit facility for general corporate purposes, including the potential acquisition of complementary products or businesses, share repurchases, as well as for working capital (see Note 15 to our Consolidated Financial Statements for additional details). As of December 31, 2018, we had $200.0 million of outstanding borrowings under the credit facility.

Future Expectations

At December 31, 2018, cash and cash equivalents totaled $148.7 million, of which $72.9 million was held in the United States and $75.8 million was held by our international subsidiaries. We believe that our current cash and cash equivalents, together with cash generated from operations and our credit facility, will be sufficient to meet our ongoing operations working capital and capital expenditure requirements.

We have been purchasing shares of our common stock since 2013 pursuant to share repurchase programs approved by our Board of Directors. On February 23, 2017, our Board of Directors approved a three-year capital return plan, pursuant to which we intend to return to stockholders approximately 75% of our free cash flow over the period, up to $700 million, through a combination of share repurchases and dividends. As of December 31, 2018, $318.2 million in share repurchases and $101.7 million in cash dividend payments to our stockholders have been made under this $700 million capital return plan, and $280.1 million remained. We expect to continue to repurchase shares in 2019 and on February 14, 2019, we announced a $0.325 per share cash dividend to be paid on March 12, 2019 to stockholders of record as of February 25, 2019, totaling approximately $16.5 million. Our Board of Directors will continue to review this capital return plan for potential modifications based on our financial performance, business outlook and other considerations. Our ability to repurchase our shares and/or pay cash dividends to our stockholders is subject to our having sufficient cash available and our maintaining compliance with our credit facility covenants.

We may elect to raise additional capital through the sale of additional equity or debt securities or expand our credit facility to develop or enhance our services, to fund expansion, to respond to competitive pressures or to acquire complementary products, businesses or technologies. If we elect to do so, additional financing may not be available in amounts or on terms that are favorable to us, if at all.

During the last three years, inflation and changing prices have not had a material effect on our business and we do not expect that inflation or changing prices will materially affect our business in the foreseeable future.

Non-GAAP Financial Measures

Regulation S-K Item 10(e), “Use of Non-GAAP Financial Measures in Commission Filings,” defines and prescribes the condition for use of non-GAAP financial information. We have presented the following non-GAAP measures in accordance with this standard. We believe that these non-GAAP measures of financial results provide useful information to management and investors regarding certain financial and business trends relating to our financial condition and results of operations. Management uses these non-GAAP measures to compare our performance to that of prior periods and uses these measures in financial reports prepared for management and our Board of Directors. We believe that the use of these non-GAAP financial measures provides an additional tool for investors to use in evaluating ongoing operating results and trends and in comparing our financial measures with other software-as-a-service companies, many of which present similar non-GAAP financial measures to investors.

In addition to our Consolidated Financial Statements prepared in accordance with GAAP, to date, we have considered the following non-GAAP financial measures to be key indicators of our financial performance:

- “Non-GAAP revenue,” which we define as GAAP revenue adding back the impact of the fair value acquisition accounting adjustment on acquired deferred revenue;
- “Non-GAAP operating income,” which we define as GAAP net income (loss) from operations adding back the impact of the fair value acquisition accounting adjustment on acquired deferred revenue, acquisition-related costs and amortization, litigation-related expense, stock-based compensation expense, restructuring charges and gain on disposition of assets, as well as including amortization expense for acquired company internally capitalized software development costs adjusted in acquisition accounting;
- “EBITDA,” which we define as GAAP net income (loss) excluding interest and other expense, net, income taxes and depreciation and amortization expenses;
- “Adjusted EBITDA,” which we define as EBITDA adding back the impact of the fair value acquisition accounting adjustment on acquired deferred revenue, acquisition-related costs, litigation-related expense, stock-based compensation expense, restructuring charges and gain on disposition of assets, as well as including amortization expense for acquired internally developed capitalized software development costs adjusted in acquisition accounting;
- Non-GAAP other income (expense), net, which we define as GAAP other income (expense), net excluding non-cash cumulative translation adjustment gains and losses;
- “Non-GAAP provision for (benefit from) income taxes,” which we define as GAAP provision for (benefit from) income taxes excluding the tax impact from the fair value adjustment on acquired deferred revenue, acquisition-related costs and amortization, litigation-related expense, stock-based compensation expense, restructuring charges, gain on disposition of assets, the tax impact related to the enactment of the U.S. Tax Act, and discrete integration-related tax items, and including the tax impact of amortization expense for acquired internally capitalized software development costs adjusted in acquisition accounting;
- “Non-GAAP net income,” which we define as GAAP net income (loss) excluding the adjustments noted in non-GAAP operating income, non-GAAP other income (expense), net, and non-GAAP provision for incomes taxes above; and
- “Non-GAAP net income per diluted share,” which we define as non-GAAP net income divided by fully-diluted weighted average shares outstanding.

The revenue and expense items described below are excluded from our GAAP results to arrive at our non-GAAP measures, as outlined above:

- Fair value adjustment on acquired deferred revenue is an acquisition accounting adjustment recorded to reduce acquired deferred revenue to the fair value of the remaining obligation.
- Acquisition-related costs relate to costs associated with the acquisitions of intellectual property and businesses and include transaction, transition and integration-related fees and expenses (including legal, accounting and other professional fees, severance, retention bonuses) and subsequent adjustments to our initial estimated amount of contingent consideration associated with acquisitions.

- Acquisition-related costs and amortization relate to acquisition-related costs, as defined above, and the amortization of acquired intangible assets.

- Stock-based compensation expense relates to stock-based compensation awards granted to our executive officers, employees and outside directors.
- Litigation-related expense relates to costs associated with the defense and settlement of claims brought against us including intellectual property infringement claims and other material litigation.
- Restructuring charges include one-time employee termination benefits and excess facility and other costs resulting from reductions of personnel driven by modifications to our business strategy. These costs may vary in size based on our restructuring plan.
- Gain on disposition of assets relates to the gain on the sale of the Xively business.
- Acquisition accounting on internally capitalized software development relates to the amortization of acquired internally developed capitalized software development costs that were adjusted in acquisition accounting with the recording of a completed technology intangible asset.
- Depreciation and amortization expense relates to costs associated with the depreciation and amortization of fixed and intangible assets.
- Interest and other income (expense), net relates to the interest earned (incurred) on outstanding cash balances and marketable securities, interest expense primarily related to our credit facility, as well as realized and unrealized foreign currency gains and losses resulting from multi-currency settlements occurring during the period and period end translation adjustments.
- Income tax provision (benefit) relates to GAAP income tax provision (benefit) during the period.

We consider our non-GAAP financial measures and these certain financial and operating metrics important to understanding our historical results, improving our business, benchmarking our performance against peer companies, and identifying current and future trends impacting our business.

The exclusion of certain expenses in the calculation of non-GAAP financial measures should not be construed as an inference that these costs are unusual or infrequent. We anticipate excluding these expenses in future presentations of our non-GAAP financial measures.

We do not consider these non-GAAP measures in isolation or as an alternative to financial measures determined in accordance with GAAP. The principal limitation of these non-GAAP financial measures is that they exclude significant elements that are required to be recorded in our financial statements pursuant to GAAP. In addition, they are subject to inherent limitations as they reflect the exercise of judgments by management in determining these non-GAAP financial measures. In order to compensate for these limitations, management presents our non-GAAP financial measures in connection with our GAAP results. We urge investors to review the reconciliation of our non-GAAP financial measures to the comparable GAAP financial measures, which we have included in this Form 10-K and in our press releases announcing our quarterly financial results, and not to rely on any single financial measure to evaluate our business.

Reconciliation tables of the most comparable GAAP financial measures to the non-GAAP measures are presented as follows (in thousands, except per share data):

	Years Ended December 31,		
	2016	2017	2018
	(in thousands)		
GAAP Revenue	$336,068	$989,786	$1,203,992
Add Back:			
Effect of acquisition accounting on fair value of acquired deferred revenue	—	34,314	3,718

Non-GAAP Revenue	$336,068	$1,024,100	$1,207,710

	Years Ended December 31,		
	2016	2017	2018
	(In thousands, except per share data)		
GAAP Net income (loss) from operations	$4,413	$(11,817)	$86,023
Add Back:			
Effect of acquisition accounting on fair value of acquired deferred revenue	—	34,314	3,718
Stock-based compensation expense	38,350	67,292	65,734
Acquisition related costs	25,063	59,802	22,880
Litigation related expenses	148	2,348	584
Amortization of acquired intangibles	10,061	183,018	