

Five9, Inc.
Form 10-K
February 25, 2019
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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: 001-36383

Five9, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware

94- 3394123

(State or Other Jurisdiction of Incorporation or Organization) (I.R.S. Employer Identification No.)

Bishop Ranch 8

4000 Executive Parkway, Suite 400

San Ramon, CA 94583

(Address of Principal Executive Offices) (Zip Code)

(925) 201-2000

(Registrant's Telephone Number, Including Area Code)

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

Title of each class	Name of each exchange on which registered
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Common Stock, \$0.001 par value	The NASDAQ Global 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 and post 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 definition of "large accelerated filer," "accelerated

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filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer Accelerated Filer
Non-accelerated filer (Do not check if a smaller reporting Company) Smaller Reporting Company
Emerging growth company

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

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

The aggregate market value of registrant’s common stock held by non-affiliates of the registrant based upon the closing sale price on the NASDAQ Global Market on June 30, 2018, the last business day of the Registrant’s most recently completed second fiscal quarter, was approximately \$1,526.5 million. Shares held by each executive officer, director and their affiliated holders and by each other person (if any) who owns 10% of the outstanding common stock or more have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of February 15, 2019, there were 59,253,048 shares of the Registrant’s common stock, par value \$0.001 per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant’s definitive Proxy Statement for the 2019 Annual Stockholders’ Meeting, which the registrant expects to file with the Securities and Exchange Commission within 120 days of December 31, 2018, are incorporated by reference into Part III (Items 10, 11,12, 13 and 14) of this Annual Report on Form 10-K.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, which involve substantial risks and uncertainties. These statements reflect the current views of our senior management with respect to future events and our financial performance. These forward-looking statements include statements with respect to our business, expenses, strategies, losses, growth plans, product and client initiatives, market growth projections, and our industry. Statements that include the words “expect,” “intend,” “plan,” “believe,” “project,” “forecast,” “estimate,” “may,” “should,” “are,” or similar statements of a future or forward-looking nature identify forward-looking statements for purposes of the federal securities laws or otherwise.

Forward-looking statements address matters that involve risks and uncertainties. Accordingly, there are or will be important factors that could cause our actual results to differ materially from those indicated in these statements. These factors include the information set forth under the caption “Risk Factors” and elsewhere in this report, and include the following:

- our quarterly and annual results may fluctuate significantly, including as a result of the timing and success of new product and feature introductions by us, may not fully reflect the underlying performance of our business and may result in decreases in the price of our common stock;
- if we are unable to attract new clients or sell additional services and functionality to our existing clients, our revenue and revenue growth will be harmed;
- our recent rapid growth may not be indicative of our future growth, and even if we continue to grow rapidly, we may fail to manage our growth effectively;
- failure to adequately expand our sales force could impede our growth;
- if we fail to manage our technical operations infrastructure, our existing clients may experience service outages, our new clients may experience delays in the deployment of our solution and we could be subject to, among other things, claims for credits or damages;
- security breaches and improper access to or disclosure of our data or our clients’ data, or other cyber attacks on our systems, could result in litigation and regulatory risk, harm our reputation and adversely affect our business;
- the markets in which we participate involve numerous competitors and are highly competitive, and if we do not compete effectively, our operating results could be harmed;
- if our existing clients terminate their subscriptions or reduce their subscriptions and related usage, our revenues and gross margins will be harmed and we will be required to spend more money to grow our client base;
- our growth depends in part on the success of our strategic relationships with third parties and our failure to successfully grow and manage these relationships could harm our business;
- we have established, and are continuing to increase, our network of master agents and resellers to sell our solution;
- our failure to effectively develop, manage, and maintain this network could materially harm our revenues;
- we sell our solution to larger organizations that require longer sales and implementation cycles and often demand more configuration and integration services or customized features and functions that we may not offer, any of which could delay or prevent these sales and harm our growth rates, business and operating results;
- because a significant percentage of our revenue is derived from existing clients, downturns or upturns in new sales will not be immediately reflected in our operating results and may be difficult to discern;
- we rely on third-party telecommunications and internet service providers to provide our clients and their customers with telecommunication services and connectivity to our cloud contact center software and any failure by these service providers to provide reliable services could cause us to lose clients and subject us to claims for credits or damages, among other things;
- we have a history of losses and we may be unable to achieve or sustain profitability;
- the contact center software solutions market is subject to rapid technological change, and we must develop and sell incremental and new products in order to maintain and grow our business;
- we may not be able to secure additional financing on favorable terms, or at all, to meet our future capital needs;

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failure to comply with laws and regulations could harm our business and our reputation; and we may not have sufficient cash to service our convertible senior notes and repay such notes, if required. The foregoing factors should not be construed as exhaustive and should be read together with the other cautionary statements included in this report. If one or more of these or other risks or uncertainties materialize, or if our underlying assumptions prove to be incorrect, our actual results may differ materially from what we anticipate. You should not place undue reliance on our forward-looking statements. Any forward-looking statements you read in this report reflect our views only as of the date of this report with respect to future events and are subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, growth strategy and liquidity. We undertake no obligation to update any forward-looking statements made in this report to reflect events or circumstances after the date of this report or to reflect new information or the occurrence of unanticipated events, except as required by law.

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PART I

ITEM 1. Business

Overview

Five9 is a pioneer and leading provider of cloud software for contact centers. Since our inception, we have exclusively focused on delivering our platform in the cloud and are disrupting a significantly large market by replacing legacy on-premise contact center systems. Contact centers are vital hubs of interaction between organizations and their customers and, therefore, are essential to delivering successful customer service, sales and marketing strategies. Our mission is to empower organizations to transform their contact centers into customer engagement centers of excellence, while improving business agility and significantly lowering the cost and complexity of their contact center operations. Our purpose-built, highly scalable and secure Virtual Contact Center, or VCC, cloud platform delivers a comprehensive suite of easy-to-use applications that enable the breadth of contact center-related customer service, sales and marketing functions. We have become an established leader in the cloud contact center market, facilitating more than five billion call minutes between our more than 2,000 clients and their customers per year. We believe our ability to combine software and telephony into a single unified platform that is delivered in the cloud creates a significant advantage.

Based on our current product offering and historical average annual recurring revenue per seat, we believe that the market for our solution is approximately \$24 billion annually worldwide. Gartner, Inc., or Gartner, estimated that there are approximately 15.8 million contact center agents worldwide. Furthermore, we believe cloud penetration of the contact center market in North America is between 10% to 15%. We believe adoption of cloud contact center software solutions is increasing rapidly as a result of several distinct trends. The increasing adoption of cloud computing, especially within customer relationship management, or CRM, is creating strong demand for integrated cloud contact center software solutions. In addition, cloud contact center software solutions now offer the functionality required by large, complex enterprise contact centers. Furthermore, we believe organizations typically refresh their contact center systems every 8 to 10 years, which provides an opportunity for cloud solutions to replace legacy on-premise contact center systems when these replacement decisions arise. On-premise systems require large up-front investments, long deployment cycles and are burdensome to maintain. These systems are also often inflexible, complex, and require significant duplication of effort and integration across multiple sites. This creates substantial challenges for clients with on-premise contact center systems to implement new features or upgrades, or to integrate with adjacent cloud solutions. As a result, cloud contact center software solutions are replacing legacy on-premise contact center systems.

Our solution, which is comprised of our Virtual Contact Center, or VCC, cloud platform and applications, allows simultaneous management and optimization of customer interactions across voice, chat, email, web, social media and mobile channels, either directly or through our application programming interfaces, or APIs. Our VCC cloud platform matches each customer interaction with an appropriate agent resource and delivers relevant customer data to the agent in real-time through integrations with adjacent enterprise applications, such as CRM software, to optimize the customer experience and improve agent productivity. Our solution ensures our clients always have the latest version of our software. Delivered on-demand, our solution enables our clients to quickly deploy agent seats in any geographic location with only a computer, headset and broadband internet connection, and rapidly adjust the number of contact center agent seats in response to changing business requirements. Unlike legacy on-premise contact center systems, our solution requires minimal up-front investment, can be rapidly deployed and is maintained by us in the cloud.

Our sales model consists of a field sales team that sells our solution into larger opportunities and a telesales team that sells our solution into smaller opportunities. We have developed a proven, high velocity, metrics-driven sales and marketing strategy, which is designed to effectively identify, qualify and close sales opportunities. To complement this go-to-market strategy, we have developed a large ecosystem of technology and system integrator partners and independent software vendors to help increase awareness of our solution in the market and drive incremental sales opportunities with new and existing clients. We have also established, and are continuing to increase, our network of master sales agents, which provide sales leads and resellers that sell our solution to new and existing clients. This network has helped us attract additional clients. Our resellers have assisted us, and we expect they will continue to

assist us, in expanding internationally.

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We provide our solution through a software-as-a-service, or SaaS, business model with recurring subscriptions based primarily on the number of agent seats and minutes of usage, as well as the specific functionalities and applications our clients deploy.

We have achieved significant growth in recent periods. For the years ended December 31, 2018, 2017 and 2016, our revenues were \$257.7 million, \$200.2 million and \$162.1 million, respectively, representing year-over-year growth of 29% and 24%, respectively. We incurred net losses of \$0.2 million, \$9.0 million and \$11.9 million for the years ended December 31, 2018, 2017 and 2016, respectively, as a result of increased investment in our growth. As of December 31, 2018, 2017 and 2016, our total assets were \$394.7 million, \$128.2 million and \$105.2 million, respectively. Our recurring revenue model combined with our Annual Dollar-Based Retention Rate, which was 103% as of December 31, 2018, have enhanced our ability to forecast our financial performance and plan future investments. For a description of how our Annual Dollar-Based Retention Rate is calculated, please refer to ITEM 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Part II of this Annual Report on Form 10-K.

We operate in a single reportable segment. Please refer to the geographical information for each of the last three years in Note 11 of the notes to our consolidated financial statements. Please refer to the discussion of risks related to our foreign operations in the section entitled “ITEM 1A. Risk Factors.”

Industry Overview

Contact centers must evolve in today’s rapidly changing technology environment

Contact centers are vital hubs of interaction between organizations and their customers and are mission critical to the successful execution of customer service, sales and marketing strategies. Both consumer and enterprise technology trends are driving an evolution in contact center strategies. Today, customers increasingly expect seamless communications across multiple channels, including voice, chat, email, web, social media and mobile, thereby increasing the number of touch points between organizations and their customers. Along with these additional channels, customers expect personalized interactions to enhance overall customer service. Delivering customer interactions to an appropriate agent resource, while delivering relevant customer data to the agent in real-time, is crucial in providing effective customer service.

As the needs of organizations and their customers have become more sophisticated, so have the demands for contact centers. Striving for greater efficiency in meeting demand, the use of remote agents and geographically dispersed contact centers has proliferated. To increase capacity and undertake upgrades, on-premise contact centers must unify geographically dispersed agents and hardware, which requires building out teams and facilities to forecasted future capacity and is a long-term undertaking. In order to meet these changing demands, contact centers must upgrade their existing on-premise contact center systems or migrate their contact center operations to the cloud.

Legacy on-premise contact center systems are inefficient

The majority of contact center operations today rely on legacy on-premise contact center systems that include business workflows, as well as hardware and software architectures designed more than a decade ago. Legacy on-premise contact center systems are typically developed for location-specific deployments and are often costly, inflexible, complex and require significant duplication of effort and integration across multiple sites. Key shortcomings of these legacy systems include:

Long and complex implementation and upgrade cycles. Implementation of legacy on-premise contact center systems requires long deployment timelines and complex integrations with other enterprise systems. Once these systems have been deployed, integrated and customized, upgrades and modifications can be extremely challenging.

Due to these customized solutions and complex integrations, clients will often forego or postpone upgrades for fear of disabling key functionality. If they do choose to upgrade, clients are often required to rebuild integrations in order to retain full functionality, which frequently results in significant expenditures of time, resources and capital.

Inflexible resource deployment. As organizations expand globally, they require the ability to easily manage remote agents and quickly adjust agent seats to accommodate peak call volumes. Most legacy on-premise contact center systems do not provide these capabilities and, as a result, their clients are typically unable to quickly scale their contact center operations in response to changing business needs. This often results in costly over-building of additional capacity to accommodate peak volumes.

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Duplicative technology stacks across multiple sites. Organizations must integrate multiple contact center sites to drive efficiency and create a unified customer view. Organizations running on-premise systems often find themselves with dissimilar systems at each site resulting in non-integrated and inefficient silos of technology. Moreover, technology at each site is in a constant state of change over time. The initial and ongoing integration of these contact center sites for such organizations requires significant ongoing investment.

Our Opportunity

Based on our current product offerings and historical average annual recurring revenue per seat, we believe that the market for our solution is approximately \$24 billion annually worldwide. Gartner estimated that there are approximately 15.8 million contact center agents worldwide. Furthermore, we believe cloud penetration of the contact center market in North America is between 10% to 15%. We believe the market for contact center solutions is undergoing a significant shift to the cloud driven primarily by:

- adoption of cloud CRM solutions;
- sophistication of cloud contact center software solutions;
- technology refresh of on-premise contact center systems; and
- simplicity of the cloud vs. complexity of legacy on-premise.

Adoption of cloud CRM solutions has grown as organizations seek to enhance their sales strategies, increase business agility and reduce costs. CRM solutions typically integrate deeply with contact center solutions to provide agents with real-time access to customer information. The shift to cloud CRM and ease of integration are creating significant demand for integrated cloud contact center software solutions. As the market opportunity has expanded, cloud contact center software solutions have evolved to meet the requirements of large, complex enterprise contact centers. We believe organizations have typically refreshed their on-premise contact center systems every 8 to 10 years. Given the prevalence of cloud CRM and the capabilities of cloud-based contact centers, cloud solutions are increasingly considered as a replacement alternative to legacy on-premise contact center systems during these refresh decisions.

Our Solution

We deliver a comprehensive, end to end cloud software solution for contact centers. Our solution enables organizations of all sizes to enhance customer experience through omnichannel engagement, improve customer service, increase sales performance and improve the efficiency and cost of their operations. Our solution is designed to enable customers to seamlessly engage through voice, video, website, mobile, chat, email, click-to-call, callback, social and messaging. Our agent interface is an intuitive modern browser-based design providing easy visualization of customer profile, context and cross channel history. Our Freedom platform provides a modern micro services-based open enterprise architecture built with representational state transfer, or REST, API's and powerful software development kits, or SDKs, enabling customers, partners and developers to deliver powerful solutions that bridge the context gap between their unique systems. We provide high voice quality with our Agent Connect service and our call-by-call carrier optimization routing. With our "Genius" Artificial Intelligence, or AI, enablement layer, combined with our robust Natural Language Processing, or NLP, we can determine customer sentiment, reason for contact and recommend the next best action, enabling enterprises to transform their customer's experience from reactive interactions into trusted, proactive engagements. Our complete end-to-end capabilities include computer-telephony integration, or CTI, interactive voice response, or IVR, visual IVR, automatic contact distribution, or ACD, with skills-based routing, reporting, dashboards, agent and supervisor desktop, dialer, mobile applications for contact center and customer, pre-built CRM integrations, quality management, speech and desktop analytics, customer surveys and workforce management.

Our cloud contact center solution, which we refer to as our solution, provides the following key elements:

Rapid implementation, seamless updates and pre-built integrations. Our solution is designed to be deployed quickly and seamlessly with minimal disruption to a client's operations. The pre-built integrations with leading CRM and other enterprise applications reduce the complexity and burden-of-effort of integrating with the client's business applications. Our solution is designed to be seamlessly updated so that clients are always on the latest version of the software, while maintaining their existing configurations, ensuring minimal disruption to the client's contact center operations.

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Highly flexible platform. Our solution provides easy administration, configuration and role-based functionalities for agents, supervisors and administrators enabling the rapid adjustment of contact center resources to meet a changing mix of contact channels and peaks-and-troughs in contact volumes.

Scalable, secure and reliable multi-tenant architecture. Our solution provides organizations of all sizes with the robust contact center functionality, scalability, flexibility and security required in the most sophisticated and distributed environments.

Our solution provides the following key benefits to clients:

Higher agent productivity. Our solution empowers agent productivity and effectiveness by allowing agents to handle both inbound and outbound calls and interact with customers across multiple contact channels, including voice, chat, email, web, social media and mobile. Our solution gives agents the ability to switch between media channels through an easy-to-use, unified interface that provides agents with all of the relevant content and tools needed to complete the task at hand.

Improved customer experience. Our intelligent contact routing and self-service IVR capabilities, pre-built CRM integrations, and multichannel engagement ensure that customers receive an omnichannel experience. Each new contact is quickly routed to an appropriate agent resource. Using the rich contact history and additional context through integrations with CRM applications, agents have immediate access to the most current, relevant and accurate information about the customer, resulting in increased first contact resolutions and a more satisfying experience for the customer.

Enhanced end-to-end visibility. Our solution provides clients' operations staff, quality team and leadership with a complete view of contact center performance through a comprehensive set of historical reports, real-time dashboards, and quality and performance management tools. Clients can also extract reporting data from our solution for further analysis using a spreadsheet application or using the sophistication of an enterprise business intelligence application. This insight provides an organization-wide view of customer engagement performance and allows clients to quickly determine the appropriate actions required to address changing circumstances.

Greater operational efficiency. Our solution provides contact center managers and supervisors with significant visibility into their agents' productivity and effectiveness and the performance of their inbound queues and outbound campaigns. Our solution has robust intelligence and analytics capabilities to help supervisors optimize operations and campaigns in real-time to drive increased efficiency. Our role-based interfaces deliver specific functionality to both desktops and mobile devices to meet the unique needs of agents, supervisors and administrators.

Compelling value proposition. We provide a unified cloud-based software and telephony platform for contact center operations, including software applications, technology infrastructure, maintenance, monitoring, storage, security, client support and upgrades, which enables our clients to simplify their technology infrastructure and streamline IT costs. We manage upgrades and deployments remotely, resulting in lower total cost of operations relative to legacy on-premise contact center systems that often require in-house technical support staff.

Our Competitive Strengths

We believe that our position as a leading provider of cloud contact center software results from several key competitive strengths, including:

Cloud-based, enterprise-grade platform and end-to-end application suite. We deliver a cloud-based enterprise-grade platform and applications suite with multi-channel capabilities that allows our clients to manage their entire contact center operation. Our highly scalable, secure and multi-tenant architecture enables us to serve large, distributed enterprises with complex contact center requirements, as well as smaller organizations, all from a single cloud platform.

Rapid deployment and support of our comprehensive solution. Our high-touch engagement model for larger implementations leverages a proven lifecycle approach including detailed discovery, design, testing, training and optimization. This not only accelerates agent activation, but also targets desired business outcomes. Through the use of tools and processes that have been refined over thousands of customers, we can also efficiently meet the needs of our smaller clients. We offer flexibility and integrate with a number of leading CRM vendors, including: salesforce.com, Inc., or Salesforce, Oracle Corporation, or Oracle,

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Zendesk, Inc., or Zendesk, Microsoft Corporation, or Microsoft, ServiceNow, Inc., or ServiceNow, and others. Once operational, we offer a high touch Premium Support service where we assign a Technical Account Manager who has intimate knowledge of the customers' operations so we can quickly resolve issues and fine tune the solution. As a result, our clients' contact centers become fully operational faster and they recognize time to value more quickly than with legacy on-premise contact center systems.

Reliable, secure, compliant and scalable platform. Our platform delivers what we believe is industry leading reliability; cybersecurity using a defense-in-depth approach; legal and regulatory compliance features designed to assist our clients in complying with applicable laws, regulations and industry standards including Telephone Consumer Protection Act, or TCPA, Customer Proprietary Network Information, or CPNI, Health Insurance Portability and Accountability Act of 1996, Communications Assistance for Law Enforcement Act, or CALEA, Gramm-Leach-Bliley Act, EU's General Data Protection Regulation, or GDPR, Canada's Personal Information Protection and Electronic Documents Act, or PIPEDA, and analogous provincial laws, and Payment Card Industry Data Security Standard, or PCI DSS, and is scalable to accommodate the requirements of larger clients.

Proven, repeatable and scalable go-to-market model. We engage with our clients through a highly scalable and metrics-driven sales and marketing organization that effectively identifies, qualifies and closes sales opportunities. The deep domain expertise of our field sales team is instrumental in selling to larger opportunities, and our highly efficient telesales model enables us to cost-effectively identify, qualify and close a high volume of smaller opportunities. Our ecosystem of technology and system integrator partners increases awareness of our solution and helps generate new sales opportunities. We believe our go-to-market model gives us an efficient and effective means of targeting organizations of all sizes.

Established market presence and a large, diverse client base. We have a large, diverse client base of over 2,000 organizations across multiple industries. We believe our clients view us as a key strategic solutions provider. The performance, reliability, ease-of-use and comprehensive nature of our solution has resulted in high client retention. Extensive partner ecosystem. We have cultivated a robust ecosystem of partners including a variety of leading CRM software vendors such as Salesforce, Oracle, Zendesk, Microsoft and ServiceNow; Workforce Optimization, or WFO, vendors such as Calabrio, Inc., or Calabrio, Verint Systems Inc., or Verint, and Coordinated Systems, Inc., or CSI; unified communications vendors such as Microsoft Teams (formerly Skype for Business), Fuze, and Cisco; system integrators such as Accenture PLC, Deloitte Consulting LLP and PwC LLP; master agents and resellers; cloud private branch exchange, or PBX, phone systems vendors; independent software vendors; and telephony providers such as AT&T Inc., Verizon Communications Inc. and CenturyLink Communications, LLC. We believe this ecosystem has enabled us to increase our brand awareness and enhance the functionality and value of our solution for our clients.

Focus on innovation and thought leadership. Since our inception, we have been an innovator of cloud contact center software. Our investment in research and development has driven our growth and enabled us to deliver a cloud contact center software solution with the features and functionality to power the most complex contact centers. Our extensive domain expertise enables us to enhance our solution and serves as a critical competitive differentiator. We strive to be a thought leader in our industry, identifying and developing cloud capabilities to transform traditional contact center operations into customer engagement centers of excellence. One of the newest transformational technologies is AI. AI relies on vast volumes of data and contact centers are a rich source of this data, from call detail records, to full recordings of calls and customer interactions. With recent advances in automatic speech recognition, voice recordings have the potential to quickly become a source for training machine-learning models. We believe that AI is likely to have a profound impact in how businesses deliver service to their customers.

Our Growth Strategy

Our objective is to strengthen our position as a leader in cloud contact center software. To accomplish this goal, we are pursuing the following growth strategies:

Capture increased market share. We believe that the adoption of cloud contact center software solutions is increasingly driven by mainstream adoption of cloud computing, especially within CRM, as well as the increasing capabilities of these solutions. With organizations refreshing their contact center systems every 8 to 10 years, cloud solutions have an opportunity to replace legacy on-premise contact center systems at the

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time a replacement decision is made. We believe there is a substantial opportunity for us to win new clients and increase our market share given the strength and client benefits of our cloud solution. We intend to continue to invest aggressively in our sales force and marketing capabilities to win new clients.

Continue to increase sales in our existing client base. Many of our clients initially deploy our solution to support only a portion of their contact center agents. We intend to increase the number of agents using our solution within our existing clients as they experience the benefits of our cloud solution. We also intend to sell our existing clients incremental applications to increase our revenue and the value of our existing client relationships.

Maintain our innovation leadership by strengthening and extending our solution. We have an innovative platform that has enabled us to establish a leadership position in the cloud contact center software market. To preserve and expand our leadership position, we intend to continue to make significant investments in research and development to strengthen our existing solution and develop additional industry-leading contact center features and applications.

Facilitated by the Five9 “Genius” AI-enablement layer, we plan to provide our customers with innovative AI-powered applications and use-cases, including conversational virtual agents, agent assistance, business insights and AI-powered routing. We are designing our AI products to improve customer experiences and operational effectiveness while realizing potentially significant cost savings.

Access to Data. As AI becomes increasingly important in the contact center market, access to data will become a key differentiator among vendors. Leading vendors processing a high number of customers interactions will have more data that can be applied to necessary training of machine learning algorithms, which creates a positive reinforcement cycle that we believe will enable customer contact solutions to be more effective.

Further develop our partner ecosystem. We have established strong partner relationships with organizations in the contact center ecosystem to further enhance the value of our VCC cloud platform. We intend to continue to cultivate new relationships with additional CRM, WFO and unified communications partners as well as system integrators, master agents, resellers, PBX providers, phone systems vendors, independent software vendors and telephony providers to enhance the value of our solution and drive sales.

Expand internationally. To date, our primary focus has been on the U.S. market, which represented 93%, 94% and 93% of our revenue in 2018, 2017 and 2016, respectively, based on bill to addresses. We believe there is a significant opportunity for our cloud solution to disrupt incumbent legacy on-premise contact center systems internationally. We plan to increase our sales capabilities internationally by expanding our direct sales force and working with channel partners to target these markets and grow our international client base. We have co-location data center facilities in Europe to provide clients in certain countries of the European Union, or EU, with regional access to our cloud contact center solution to better serve local needs.

Selectively pursue acquisitions. In addition to organically developing and strengthening our solution, we intend to selectively explore acquisition opportunities of companies and technologies to expand the functionality of our solution, provide access to new clients or markets, or both.

Our Virtual Contact Center Cloud Platform and Applications

Our cloud contact center software solution consists of our highly scalable VCC cloud platform that delivers a comprehensive suite of easy-to-use, secure applications to cover the breadth of contact center-related customer service, sales and marketing functions. Our VCC cloud platform acts as the hub for omnichannel engagement between our clients and their customers. This enables clients to fully manage the end-to-end customer experience in a single unified architecture. Our solution enables our clients to manage customer interactions across multiple channels including voice, chat, email, web, video, social media and mobile and connects them to the most appropriate agent. Whether the resource is an internal contact center agent, an outsourcer, an agent working from home, a knowledge worker, or self-service, our solution enables our clients to deliver a highly effective customer experience.

Our solution is built using a multi-tenant architecture and delivered in the cloud. The following diagram illustrates our VCC cloud platform and comprehensive suite of applications used by agents, supervisors and administrators. In addition, we provide a robust set of management applications including workforce management, reporting, quality management and supervisor tools.

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Inbound Contact Center: With our VCC cloud platform, organizations of all sizes have everything they need to handle their inbound customer engagement. This includes the ability to take voice calls, respond to chat and email, and engage with a wide range of social media sources. Our platform includes a full-featured IVR system that allows our clients to provide a self-service capability and to automatically determine the customer intent and identify the type of resource to best handle the customer inquiry. At the center of our VCC cloud platform is the ACD module which provides intelligent routing of customer interactions. This enables clients to classify and prioritize customer interactions and ensure that the interactions are delivered to the most appropriate resource to provide the best customer experience and maximize business results.

Through CTI capabilities, out-of-the-box integrations with CRM solutions (such as Salesforce, Oracle, Zendesk, Microsoft and ServiceNow), and easy to use open APIs, clients can provide a personalized customer experience by prioritizing important customers and delivering customer information to the agent handling the interaction. This promotes quick first contact resolution, which is a key factor in delivering a superior customer experience.

Outbound Contact Center: Our Outbound Contact Center application enables our clients to improve the efficiency and productivity of outbound contact center agents. We provide a complete solution for outbound sales and marketing campaigns, including multiple automated dialing options, so our clients can find the right match for their needs and environment, whether outbound business-to-consumer, or B2C, business-to-business, B2B, or 1:1 proactive customer care. We provide a variety of outbound dialer modes, including a patented predictive dialer capability. The predictive dialer greatly enhances the productivity of agents and sales representatives by increasing productive talk time and minimizing idle time spent listening to voice mail and busy signals. These dialer solutions allow our clients to choose the automation capabilities that best align with their contact center environment and objectives, including lead prospecting, qualifying, nurturing and converting. We also provide campaign management tools such as list management, sophisticated dialer rules and agent scripting. In addition, we provide a manual touch mode option that provides tools to outbound clients to comply with the TCPA regulations.

Blended Contact Center: We provide both inbound and outbound capabilities on a single platform to unify contact center operations and enable end-to-end customer engagement. This improves agent productivity as interactions are automatically selected and routed to agents based on interaction volume. When inbound call volumes are low, the blending ability allows clients to shift inbound agent resources to outbound-related functions. For example, inbound agents can be assigned to the outbound queue for automatic follow-ups on any customer interaction, flag customer surveys for personalized attention, or resolve open customer issues.

Omnichannel Applications Powered by Five9: Our multichannel applications are powered by a unique set of technologies. These technologies include an advanced NLP engine to filter and categorize interactions, eliminate spam and determine sentiment. Based on a client's unique set of business policies and needs, our solution provides simpler, smarter, and more productive omnichannel engagement by offering agents sentiment analysis, clustering, trending topics, and relevance. In addition, Five9 powers agent assistance tools to help agents resolve issues quickly.

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Five9 VCC integrates voice with chat, email, web, social media and mobile applications for a true omnichannel agent and customer experience.

• Five9 Social - Applies contact center customer service and sales best practices to social channels. Our solution routes, tracks and reports on agent performance in responding to social media posts in the same manner as other channels.

• Five9 Chat - Live consumer-to-agent chat from mobile or web devices gives agents the ability to respond, record and manage multiple chat interactions.

• Five9 Email - Makes email a high-response sales, service and support channel. Our email routing capability filters and intelligently routes email requests to enable the best qualified agents to respond in a timely manner.

Five9 Visual IVR - Our visual IVR application provides mobile customer care for today's connected customers. It allows clients to develop an IVR script once and deploy it on multiple touchpoints, including mobile devices and websites.

Management Applications: Our integrated portfolio of management applications is built and delivered on our highly scalable and flexible VCC cloud platform. Our solution provides real-time supervisor tools to monitor and manage the performance of agents and call flows. We also provide a suite of configurable management reports to enable clients to manage the end-to-end performance of their contact center operations. For clients with high-end Workforce Optimization, or WFO, needs, our solution can provide fully integrated workforce and quality management applications through our strategic relationships with Calabrio, Verint and CSI. Our solution has native recording capabilities for contact centers that need to record their interactions.

Our clients can access our VCC cloud platform in five different ways:

Agent Desktop: Serves as the unified environment for contact center agents. Agents are provided with one easy-to-use desktop that is designed to allow agents to seamlessly conduct omnichannel interactions. Our universal transaction model adjusts to the needs of the interaction, including voice, chat, email, web, social media or mobile, yet feels familiar to the agent, making training simple. Automated call scripting and real-time customer data, such as purchase and interaction history, is delivered to empower agents with the information they need to deliver a superior customer experience.

• CRM Integrations: For clients that prefer to have their agents or sales representatives work within their CRM desktop, we offer pre-built integrations with leading providers of CRM systems such as Salesforce, Oracle, Zendesk, Microsoft and ServiceNow. In addition, professional services can provide integrations with custom or legacy CRM systems. Our solution provides softphone and telephony capabilities within the CRM desktop, and routes each customer interaction to an appropriate agent resource. Agents are able to work within a familiar desktop, equipped with full telephony controls and giving them immediate access to the most current, relevant and accurate information about the customer.

• Supervisor Plus: Provides supervisors with a modern browser-based tool to optimize the contact center and ensure high quality customer interactions. This tool includes a visual supervisor dashboard that provides easy to use visibility into call routing, queues, service levels, workflow management, utilization, campaign statistics and agent productivity. A mobile tablet version of the supervisor application is also available to help supervisors monitor agents, listen in on conversations, coach agents, and oversee queues and agent performance metrics while on the contact center floor. These metrics typically include average handle time, first contact resolution, number of interactions handled and contact outcomes.

Administrator: Provides administrators with a comprehensive set of integrated tools to easily configure agent skills (such as language, domain expertise, and media channels to service), determine interaction routing strategies, specify IVR scripts and manage the contact center operation. The Five9 Administrator system is easy to use so contact center business personnel can set up and make changes themselves, without having to rely on specialized IT staff often required to manage legacy on-premise contact center systems. This represents a key advantage of our VCC cloud platform as it allows businesses to adapt quickly to keep up with the rapid changes required in contact center operations.

Reporting and Analytics: Real-time and historical reports provide statistics and key performance indicators to allow executives and supervisors to monitor the contact center, improve reaction time to interaction volume and manage agents more effectively. We provide more than 100 standard reports with multiple views

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and drill-downs into individual inbound calls and multichannel interaction metrics, customer interaction outcomes, and outbound sales and marketing program metrics. Our reporting module also enables clients to build customized reports and reporting schedules.

Experience Orchestration: The Five9 Engagement Workflow allows businesses to decide how customers can interact with the contact center. At the heart of Engagement Workflow is a powerful drag-and-drop workflow tool that is used to configure the customer experience. This is done using a set of pre-built and configurable modules; speech services such as automated speech recognition and text-to-speech synthesis; text services such as NLP; data services such as database query; customization services such as scripting; and real-time rules modules. The Five9 Genius AI-enablement layer is an integral part of Engagement Workflow, which allows AI technologies to be effectively applied to the delivery of experience to the customer.

Five9 Open Platform: We provide a comprehensive set of open APIs and SDKs that allow customers, developer partners, system integrators and independent software vendors to customize our application and to integrate complementary products with the Five9 solution. This open platform approach ensures that customers can have the confidence that the already high level of functionality we provide out-of-the-box can be further customized or enhanced to meet the specific needs of their business.

Clients

We have a large and diverse client base comprised of more than 2,000 organizations as of December 31, 2018, with no single client representing more than 10% of our revenues in 2018, 2017 or 2016. Our client base spans organizations of all sizes across multiple industries, including banking and financial services, business process outsourcers, consumer, healthcare and technology.

Sales

Our sales model consists of a field sales team that sells our solution into larger opportunities and a telesales team that sells our solution into smaller opportunities. We established our business targeting smaller opportunities and have expanded our sales focus to larger opportunities as we gained traction in the market and enhanced the capabilities of our cloud solution. We have developed a disciplined, high volume, metrics-driven sales strategy, designed to enable us to efficiently generate and close a large number of new sales opportunities. Our telesales team focuses on qualified leads generated through traffic to our websites, and also supports our field sales team through lead generation and lead-tracking activities. Our field and telesales teams are also responsible for selling to existing clients that may renew their subscriptions, increase the number of agents using our cloud solution, add new applications from our solution and expand the deployment of our solution across their contact centers.

Marketing

To build client awareness and adoption of our solution, our lead generation activities consist primarily of client referrals, search engine marketing, internet advertising, digital marketing campaigns, social media, trade shows, industry events, co-marketing with strategic partners and telemarketing. In addition, our industry analyst, press and media outreach programs, and web site marketing initiatives are designed to build brand awareness and preference for Five9. We offer free trials and services to allow prospective clients to experience the quality and ease-of-use of our cloud solution, to learn about the features and functionality of our VCC cloud platform in more detail, and to quantify the benefits of our cloud solution.

To complement our sales and marketing efforts, we have developed a large ecosystem of software, technology, telephony and system integrator partners and independent software vendors who help increase awareness of our solution and generate new and installed base sales opportunities.

Research and Development

Our ability to compete depends in large part on our continuous commitment to research and development and our ability to improve the functionality of, and add new features to, our VCC cloud platform. Our core research and development center is based in our San Ramon, California headquarters with additional engineers located in Russia, which allows us to benefit from relatively low-cost and highly skilled software developers. Our engineering team has deep software and telecommunications skills, and works closely with our sales team to identify our clients' product requirements. In addition, continuous interactions with our partners enable our engineers to enhance the usability and performance of our platform and its integration with best-in-class CRM and other business applications and telephony

technologies.

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As of December 31, 2018, we had 204 employees in our research and development group. Our research and development expenses totaled \$34.2 million, \$27.1 million and \$23.9 million for the years ended December 31, 2018, 2017 and 2016, respectively. We intend to increase our rate of research and development spending in 2019 to continue to deliver robust functionality to our clients.

Professional Services

We offer comprehensive professional services to our clients to assist in the successful implementation and optimization of our solution. Our professional services include application configuration, system integration, and education and training. Our clients may use our professional services team for implementing our solution or, in limited cases, they may also choose to perform these services themselves or engage third-party service providers to perform such services. Our cloud solution allows us to eliminate the need for lengthy and complex technology integrations, such as deploying equipment or maintaining hardware infrastructure for individual clients. As a result, we are typically able to deploy and optimize our solution in significantly less time than required for deployments of legacy on-premise contact center systems.

Technology and Operations

Our highly scalable and flexible VCC cloud platform is the result of more than 16 years of research, development, client engagement and operational experience. The platform is comprised of in-house developed intellectual property, open source products and commercially available hardware and software. The platform is designed to be redundant and we believe that all components can be upgraded, expanded or replaced with minimal or no interruption in service. We currently deliver our services globally from four third-party co-location data center facilities located in Santa Clara, California; Atlanta, Georgia; Slough, England and Amsterdam, the Netherlands. We also deliver some services using public cloud infrastructure and plan to increase our use of public cloud infrastructure over time. Our infrastructure, including our third-party co-location facilities, is designed to support real-time mission-critical telecommunications, applications and operational support systems. Our infrastructure is built with redundant, fault-tolerant components divided into distinct security zones forming protective layers for our applications and customer data.

We have designed and maintain an operations, capacity and security program to monitor and maintain our platform, ensure efficient utilization of the platform capacity and protect against security threats or data breaches. Our operations team monitors our data centers for potential performance issues, unauthorized attempts to access secure data or applications and the overall integrity of the platform.

Competition

The market for contact center software is fragmented, highly competitive and evolving rapidly in response to shifting consumer behavior, especially the rapid adoption of mobile devices and social media. The proliferation of each is driving change in contact center technology, as customers expect companies to give them the option of seamless communication across any channel according to their preference and needs. Combined with the disruptive nature of the cloud in the contact center, this has resulted in competitors who come from different market and product heritages, and who vary in size, breadth and scope of the products and services offered. We currently compete with large legacy on-premise contact center system vendors that offer on-premise enterprise telephony and contact center systems, such as Avaya Inc., or Avaya, and Cisco Systems, Inc., or Cisco, and legacy on-premise software companies that come from a CTI heritage, such as Aspect Software, Inc., or Aspect, and Genesys Telecommunications Laboratories, Inc., or Genesys (including through its acquisition of Interactive Intelligence Group, Inc., or Interactive Intelligence). These legacy technology and software companies are increasingly expanding their traditional on-premise contact center systems with competing cloud offerings, either through acquisitions or in-house development. Additionally, we compete with vendors that historically provided other contact center services and technologies and expanded to offer cloud contact center software. These companies include inContact, Inc. (acquired by NICE Ltd.), and Seranova, which previously was named LiveOps, Inc., or LiveOps. We also face competition from smaller contact center service providers with specialized contact center software offerings and from larger companies that have recently introduced products that compete with ours. For example, Amazon.com, Inc., or Amazon, and Twilio Inc., or Twilio, have introduced solutions aimed at companies who wish to build their own contact centers with in-house developers. Our actual and potential competitors may enjoy competitive advantages over us, including greater name recognition,

longer operating histories, larger

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marketing budgets and greater financial and technical resources. We believe the principal competitive factors in our market include:

- breadth and depth of solution features;
- reliability, scalability and quality of the platform;
- ease and speed of deployment;
- ease of application administration and use;
- level of client satisfaction;
- domain expertise in contact center operations;
- integration with third-party applications;
- ability to quickly adapt and upgrade to new and evolving technologies;
- pricing;
- ability to quickly adjust agent seats based on business requirements;
- breadth and domain expertise of the sales, marketing and support organization;
- ability to keep pace with client requirements;
- extent and efficiency of our professional services;
- ability to offer multiple channels of engagement; and
- size and financial stability of operations.

We believe we currently compete effectively with respect to each of the factors identified above.

Intellectual Property

We rely on a combination of patent, copyright, and trade secret laws in the U.S. and other jurisdictions, as well as license agreements, confidentiality agreements, and other contractual protections, to protect our proprietary technology. We also rely on a number of registered and unregistered trademarks to protect our brand. In addition, we require our employees and independent contractors involved in development of intellectual property on our behalf to enter into agreements acknowledging that all works or other intellectual property generated or conceived by them on our behalf are our property, and assigning to us any rights, including intellectual property rights, that they may claim or otherwise have in those works or property, to the extent allowable under applicable law.

As of December 31, 2018, our intellectual property portfolio included five registered U.S. trademarks, 10 issued U.S. patents, one pending U.S. patent application and one registered U.S. copyright. As of December 31, 2018, we also had three issued patents and 10 trademark registrations outside the U.S. The expiration dates of our issued patents range from 2030 to 2034. In general, our patents and patent applications apply to aspects of our VCC cloud platform.

We are also a party to various license agreements with third parties that typically grant us the right to use certain third-party technology in conjunction with our solution. We expect that software and other applications in our industry may be subject to third-party infringement claims as the number of competitors grows and the functionality of applications in different industry segments overlaps. Any of these third parties might make a claim of infringement against us at any time.

Seasonality

We believe that there can be seasonal factors that may cause our revenues in the first half of a year to be relatively lower than our revenues in the second half of a year. During each of 2018, 2017 and 2016, 53% of our total revenues were generated in the second half of each year. We believe this is due to increased activities in retail, healthcare and education.

Employees

As of December 31, 2018, we had 983 full-time employees, including 432 in technology and operations, 204 in research and development, 228 in sales and marketing, and 119 in general and administrative. None of our employees are covered by collective bargaining agreements. We believe our employee relations are good and we have never experienced any work stoppages.

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Regulatory

The following summarizes important, but not all, federal, state and foreign regulations that could impact our operations. Federal and state regulations are subject to judicial review, administrative revision and statutory changes through legislation that could materially affect how we and others in this industry operate.

The Telecommunications Act of 1996 vests the Federal Communications Commission, or FCC, with jurisdiction over interstate telecommunications services, while preserving state and local jurisdiction over many aspects of these services. As a result, telecommunications services are regulated at both the federal and state levels in the United States.

We are classified as a telecommunications service provider for federal regulatory purposes. Since our business is regulated by the FCC, we are subject to existing or potential FCC regulations relating to privacy, disability access, porting of numbers, automatic number dialing, contributions to the federal Universal Service Fund and related funds, or USF, and other requirements. If we do not comply with FCC rules and regulations, we could be subject to FCC enforcement actions, fines, loss of operating authority and possibly restrictions on our ability to operate or offer certain of our services. Any enforcement action by the FCC, which may be a public process, would hurt our reputation in the industry, possibly impair our ability to sell our services to clients and could harm our business and results of operations. The FTC also has jurisdiction over some of our business practices, including advertising, trade practices, privacy and telemarketing. If we do not comply with FTC rules and regulations, we could be subject to an FTC enforcement action, fines or restrictions on our business practices.

We must comply with numerous federal regulations, including:

Telephone Consumer Protection Act, or TCPA, which regulates the use of automatic dialing equipment and pre-recorded messages to contact consumers, and the Telemarketing Sales Rule, which has similar obligations as to telemarketing activities;

CALEA, which requires covered entities to assist law enforcement in undertaking electronic surveillance; contributions to the USF, which requires that we pay a percentage of our revenues resulting from the provision of interstate telecommunications services to support certain federal programs;

payment of annual FCC regulatory fees based on our interstate and international revenues;

rules pertaining to access to our services by people with disabilities and contributions to the Telecommunications Relay Services fund;

FCC rules regarding CPNI which require that we not use such information without customer approval, subject to certain exceptions; and

Federal Trade Commission Act and rules promulgated thereunder, which generally relate to avoiding unfair and deceptive trade practices, our advertising, and privacy practices.

In addition, we must make contributions and other payments on our usage-based fees to state and local governmental entities. The tax and fee structure for communications services such as ours is complex, ambiguous and subject to interpretation. If taxing and regulatory authorities enact new rules or regulations or expand their interpretations of existing rules and regulations, we could incur additional liabilities. In addition, the collection of additional taxes, fees or surcharges in the future could increase our prices or reduce our profit margins. Compliance with these regulations may also make us less competitive with those competitors who are not subject to, or choose not to comply with, these regulations. See Note 10 of the notes to consolidated financial statements under ITEM 8 of this Form 10-K for a discussion of our liabilities related to USF matters.

As we expand internationally, we will be subject to laws and regulations in the countries in which we offer our services. Regulation of the solutions we provide outside the U.S. varies from country to country, is often unclear, and may be more onerous than those imposed on our services in the U.S. For example, the European Union adopted a new law governing data protection and privacy called the General Data Protection Regulation, or the GDPR, which became effective on May 25, 2018. The law requires companies to meet new and extended requirements regarding the processing of personal data. Non-compliance with the GDPR can trigger steep fines of up to €20 million or 4% of total worldwide annual turnover, whichever is higher. In addition, we are subject to Canada's Personal Information Protection and Electronic Documents Act, or PIPEDA, and the analogous provincial laws, which similarly impose data privacy and security obligations on our processing of personal data. Our regulatory obligations in foreign

jurisdictions could harm the use or cost of our solution in international locations as data protection and privacy laws and regulations around the world continue to evolve.

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The legislative and regulatory scheme for telecommunications service providers and other solutions we provide will continue to evolve and can be expected to change the competitive environment for these services. It is not possible to predict how such evolution and changes will affect our business or our industry. If we do not comply with current or future rules or regulations that apply to our business, we could be subject to substantial additional fines and penalties, we may have to restructure our service offerings, exit certain markets, accept lower margins or raise the price of our services, any of which could harm our business and results of operations. See “Risk Factors — Risks Related to Regulatory Matters” under ITEM 1A of this Form 10-K for more information.

Company Information

We were incorporated in Delaware in 2001. We operate in a single reportable segment. Our principal executive office is located at Bishop Ranch 8, 4000 Executive Parkway, Suite 400, San Ramon, CA 94583 and our telephone number is (925) 201-2000. Our website address is www.five9.com. Our website and the information contained therein or connected thereto shall not be deemed to be incorporated into this annual report on Form 10-K. We own or have rights to trademarks or trade names that we use in connection with the operation of our business, including our corporate names, logos and domain names. In addition, we own or have the rights to copyrights, trade secrets and other proprietary rights that protect the content of our products. Solely for convenience, some of the copyrights, trademarks and trade names referred to in this annual report on Form 10-K are listed without ©, ® and ™ symbols, but we will assert, to the fullest extent under applicable law, our rights to our copyrights, trademarks and trade names.

Available Information

Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy and information statements and amendments to reports are filed with, or furnished to, the United States Securities and Exchange Commission, or SEC, pursuant to the Securities Exchange Act of 1934, as amended, or the Exchange Act. The public may obtain these filings at the SEC’s Public Reference Room at 100 F Street, NE, Washington, DC 20549 or by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website at <https://www.sec.gov> that contains reports, proxy and information statements and other information regarding Five9 and other companies that file materials with the SEC electronically. Copies of Five9’s reports on Form 10-K, Forms 10-Q and Forms 8-K, may be obtained, free of charge, electronically through our internet website, <http://investors.five9.com/sec.cfm> as soon as reasonably practicable after such material is filed electronically with, or furnished to, the SEC. The information on our website is not a part of, or incorporated by reference into, this annual report on Form 10-K.

ITEM 1A. Risk Factors

Our operations and financial results are subject to various risks and uncertainties. You should consider carefully the risks and uncertainties described below, together with all of the other information in this report. If any of the following risks or other risks actually occur, our business, financial condition, results of operations, and future prospects could be materially harmed, and the price of our common stock could decline.

Risks Related to Our Business and Industry

Our quarterly and annual results may fluctuate significantly, may not fully reflect the underlying performance of our business and may result in decreases in the price of our common stock.

Our quarterly and annual results of operations, including our revenues, profitability and cash flow have varied, and may vary significantly in the future, and period-to-period comparisons of our operating results may not be meaningful. Accordingly, the results of any one quarter or period should not be relied upon as an indication of future performance. Our quarterly and annual financial results may fluctuate as a result of a variety of factors, many of which are outside our control and, as a result, may not fully reflect the underlying performance of our business. Fluctuation in quarterly and annual results may harm the value of our common stock. Factors that may cause fluctuations in our quarterly and annual results include, without limitation:

- market acceptance of our solution;
- our ability to attract new clients and grow our business with existing clients;
- client renewal rates;
- our ability to adequately expand our sales and service team;
- our ability to acquire and maintain strategic and client relationships;

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the amount and timing of costs and expenses related to the maintenance and expansion of our business, operations and infrastructure;

the timing and success of new product and feature introductions by us or our competitors or any other change in the competitive dynamics of our industry, including consolidation among competitors, clients or strategic partners;

network outages or security incidents, which may result in additional expenses or losses, legal or regulatory actions, the loss of clients, the provision of client credits, and harm to our reputation;

seasonal factors that may cause our revenues in the first half of a year to be relatively lower than our revenues in the second half of a year;

inaccessibility or failure of our cloud contact center software due to failures in the products or services provided by third parties;

our ability to expand, and effectively utilize, our network of master agents and resellers;

the timing of recognition of revenues under current and future GAAP;

changes in our pricing policies or those of our competitors;

increases or decreases in the costs to provide our solution or pricing changes upon any renewals of client agreements;

the level of professional services and support we provide our clients;

fluctuations or changes in the components of our revenue;

the addition or loss of key clients, including through acquisitions or consolidations;

general economic, industry and market conditions;

the amount and timing of costs and expenses related to our research and development efforts or in the acquisition of technologies or businesses and potential future charges for impairment of goodwill from acquired companies;

compliance with, or changes in, the current and future domestic and international regulatory environment;

the hiring, training and retention of key employees;

litigation or other claims against us;

the ability to expand internationally, and to do so profitably;

our ability to obtain additional financing; and

advances and trends in new technologies and industry standards.

If we are unable to attract new clients or sell additional services and functionality to our existing clients, our revenue and revenue growth will be harmed.

To increase our revenue, we must add new clients, add additional agent seats and sell additional functionality to existing clients, and encourage existing clients to renew their subscriptions on terms favorable to us. As our industry matures, as our clients experience seasonal trends in their business, or as competitors introduce lower cost or differentiated products or services that are perceived to compete favorably with ours, our ability to add new clients and renew, maintain or sell additional services to existing clients based on pricing, cost of ownership, technology and functionality could be harmed. As a result, our existing clients may not renew our agreements or may decrease their number of agent seats, and we may be unable to attract new clients or grow or maintain our business with existing clients, which could harm our revenue and growth.

Furthermore, a portion of our revenue is generated by acquiring domestic and international telecommunications minutes from wholesale telecommunication service providers and reselling those minutes to our clients. As a result, if telecommunications rates decrease, we must resell more minutes to maintain our level of usage revenue.

Our recent rapid growth may not be indicative of our future growth, and if we continue to grow rapidly, we may fail to manage our growth effectively.

For the years ended December 31, 2018, 2017 and 2016, our revenues were \$257.7 million, \$200.2 million and \$162.1 million, respectively, representing year-over-year growth of 29% and 24%, respectively. In the future, as

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our revenue increases, our annual revenue growth rate may decline. We believe our revenue growth will depend on a number of factors, including our ability to:

- compete with other vendors of cloud-based enterprise contact center systems, including recent market entrants, and with providers of legacy on-premise systems;
- increase our existing clients' use of our solution and further develop our partner ecosystem;
- strengthen and improve our solution through significant investments in research and development and the introduction of new and enhanced solutions;
- introduce our solution to new markets outside of the United States and increase global awareness of our brand; and
- selectively pursue acquisitions.

If we are not successful in achieving these objectives, our ability to grow our revenue may be harmed. In addition, we plan to continue to invest in future growth, including expending substantial financial and other resources on:

- sales and marketing, including a significant expansion of our sales and professional services organization;
- our technology infrastructure, including systems architecture, management tools, scalability, availability, performance and security, as well as disaster recovery measures;
- solution development, including investments in our solution development team and the development of new solutions, as well as new applications and features for existing solutions;
- international expansion; and
- general administration, including legal, regulatory compliance and accounting expenses.

Moreover, we continue to expand our headcount and operations. We grew from 780 employees as of December 31, 2016 to 860 employees as of December 31, 2017, and to 983 employees as of December 31, 2018. We anticipate that we will continue to expand our operations and headcount in the near term and beyond. This growth has placed, and future growth will place, a significant strain on our management, administrative, operational and financial resources, company culture and infrastructure. Our success will depend in part on our ability to manage this growth effectively. To manage the expected growth of our operations and personnel, we will need to continue to improve our operational, financial and management controls and our reporting systems and procedures. Failure to effectively manage growth could result in difficulty or delays in adding new clients, declines in quality or client satisfaction, increases in costs, system failures, difficulties in introducing new features or solutions, the need for more capital than we anticipate or other operational difficulties, and any of these difficulties could harm our business performance and results of operations.

The expected addition of new employees and the capital investments that we anticipate will be necessary to help us grow and to manage that growth will make it more difficult for us to generate earnings or offset any future revenue shortfalls by reducing costs and expenses in the short term. If we fail to manage our anticipated growth, we will be unable to execute our business plan successfully.

Failure to adequately expand our direct sales force will impede our growth.

We need to continue to expand and optimize our sales infrastructure in order to grow our client base and business. We plan to continue to significantly expand our direct sales force, both domestically and internationally. Identifying and recruiting qualified personnel and training them in the use and sale of our solution requires significant time, expense and attention. It can take several months before our sales representatives are fully trained and productive. Our business may be harmed if our efforts, and the expense incurred, to expand and train our direct sales force do not generate a corresponding increase in revenues. In particular, if we are unable to hire, develop and retain talented sales personnel or if new sales personnel are unable to achieve desired productivity levels in a reasonable period of time, we may not be able to realize the expected benefits of this investment or increase our revenues.

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If we fail to manage our technical operations infrastructure, our existing clients may experience service outages, our new clients may experience delays in the deployment of our solution and we could be subject to, among other things, claims for credits or damages.

Our success depends in large part upon the capacity, stability, security and performance of our operations infrastructure. From time to time, we have experienced interruptions in service, and may experience such interruptions in the future. These service interruptions may be caused by a variety of factors, including infrastructure changes, human or software errors, viruses, security attacks, fraud, spikes in client usage and denial of service issues. In some instances, we may not be able to identify the cause or causes of these performance problems within an acceptable period of time. Our failure to achieve or maintain expected performance levels, stability and security could harm our relationships with our clients, result in claims for credits or damages, damage our reputation, significantly reduce client demand for our solution, cause us to incur significant expense and personnel time replacing and upgrading our infrastructure and harm our business.

We have experienced significant growth in the number of agents seats and interactions that our infrastructure supports. As the number of agent seats within our client base grows and our clients' use of our service increases, we need to continue to make additional investments in our capacity to maintain adequate stability and performance, the availability of which may be limited or the cost of which may be prohibitive. In addition, we need to properly manage our operations infrastructure in order to support version control, changes in hardware and software parameters and the evolution of our solution. If we do not accurately predict or improve our infrastructure requirements to keep pace with growth in our business, our business could be harmed.

Security breaches and improper access to or disclosure of our data or our clients' data, or other cyber attacks on our systems, could result in litigation and regulatory risk, harm our reputation and our business.

Our solution involves the storage and transmission of our clients' information, including information about our clients' customers or other information treated by our clients as confidential. Unauthorized access, unauthorized use of our systems, security breaches or other cyber attacks could result in the loss of confidentiality, integrity and availability of such information, leading to litigation, governmental investigations and enforcements actions, indemnity obligations, increased expense, and other liability. Such incidents could also cause interruptions to the solution we provide, degrade the user experience, or cause clients to lose confidence in our solution. In April 2017, we were notified that third parties were suspected of having unlawfully acquired some of our clients' information. We conducted an investigation, believe this acquisition was the result of a vulnerability that has now been remediated, and notified clients we determined may have been impacted. Expenses related to this incident were not material.

While we have security measures in place to protect client information and minimize the probability of security breaches and other cyber attacks, if these measures fail as a result of a cyber-attack, other third-party action, employee error, malfeasance or otherwise, and someone obtains unauthorized access to our clients' information, our reputation could be damaged, our business may suffer and we could incur significant liability. Because the techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until they are launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. In addition, third parties may attempt to fraudulently induce employees or users to disclose information in order to gain access to our data or our users' data. Moreover, any failure on the part of third parties, including our clients, to maintain appropriate security measures for their own systems could harm our relationships with our clients, result in claims against us for credits or damages, damage our reputation and significantly reduce client demand for our solution. Any or all of these issues could harm our ability to attract new clients, cause existing clients to cancel, reduce or not renew their subscriptions, result in reputational damage or subject us to third-party lawsuits, governmental investigations and enforcement actions, regulatory fines or other action or liability, including orders or consent decrees forcing us to modify our business practices, all of which could materially harm our business, reputation or financial results.

The markets in which we participate involve numerous competitors and are highly competitive, and if we do not compete effectively, our operating results could be harmed.

The market for contact center solutions is highly competitive. Generally, we do not have long-term contracts with our clients and our clients can terminate our service and switch to competitors' offerings on short notice.

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We currently compete with large legacy technology vendors that offer on-premise enterprise telephony and contact center systems, such as Avaya and Cisco, and legacy on-premise software companies that come from a CTI heritage, such as Aspect and Genesys (including through its acquisition of Interactive Intelligence). These legacy technology and software companies are increasingly supplementing their traditional on-premise contact center systems with competing cloud offerings, either through acquisition or in-house development. Additionally, we compete with vendors that historically provided other contact center services and technologies and expanded to offer cloud contact center software. These companies include inContact (acquired by NICE Ltd.) and Seranova, which previously was named LiveOps. We also face competition from many smaller contact center service providers with specialized contact center software offerings, and from larger companies that have recently introduced products that compete with ours. For example, Amazon and Twilio have introduced solutions aimed at companies who wish to build their own contact centers with in-house developers. Our actual and potential competitors may enjoy competitive advantages over us, including greater name recognition, longer operating histories and larger marketing budgets, as well as greater financial or technical resources. With the introduction of new technologies and market entrants, we expect competition to continue to intensify in the future.

Some of our competitors can devote significantly greater resources than we can to the development, promotion and sale of their products and services and many have the ability to initiate or withstand substantial price competition. Current or potential competitors may also be acquired by third parties with significantly greater resources. In addition, many of our competitors have stronger name recognition, longer operating histories, established relationships with clients, more comprehensive product offerings, larger installed bases and major distribution agreements with consultants, system integrators and resellers. Our competitors may also establish cooperative relationships among themselves or with third parties that may further enhance their product offerings or resources and ability to compete. If our competitors' products, services or technologies become more accepted than our solution, if they are successful in bringing their products or services to market earlier than ours, or if their products or services are less expensive or more technologically capable than ours, our revenues could be harmed. Pricing pressures and increased competition could result in reduced sales and revenues, reduced margins and loss of, or a failure to maintain or improve, our competitive market position, any of which could harm our business.

If our existing clients terminate their subscriptions or reduce their subscriptions and related usage, our revenues and gross margins will be harmed and we will be required to spend more money to grow our client base.

We expect to continue to derive a significant portion of our revenues from existing clients. As a result, retaining our existing clients is critical to our future operating results. We offer monthly, annual and multiple-year contracts to our clients, with 30 days' notice generally required for changes in the number of agent seats, including to zero, or termination of their contracts. Subscriptions and related usage by our existing clients may decrease if:

- clients are not satisfied with our services, prices or the functionality of our solution;
- the stability, performance or security of our solution are not satisfactory;
- our clients' business declines due to industry cycles, seasonality, business difficulties or other reasons;
- clients favor products offered by other contact center providers, particularly as competition continues to increase;
- fewer clients purchase usage from us;
- alternative technologies, products or features emerge or gain popularity that we do not provide;
- our clients or potential clients experience financial difficulties; or
- the U.S. or global economy declines.

If our existing clients' subscriptions and related usage decrease or are terminated, we will need to spend more money to acquire new clients and still may not be able to maintain our existing level of revenues. We incur significant costs and expenses, including sales and marketing expenses, to acquire new clients, and those costs and expenses are an important factor in determining our profitability. There can be no assurance that our efforts to acquire new clients will be successful.

Our growth depends in part on the success of our strategic relationships with third parties and our failure to successfully grow and manage these relationships could harm our business.

We leverage strategic relationships with third parties, such as CRM providers, WFO providers, other technology providers, system integrators, and telephony providers. For example, our CRM and system integrator

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relationships provide significant lead generation for new client opportunities. These relationships are typically not exclusive and our partners often also offer products of our competitors. As we grow our business, we will continue to depend on both existing and new strategic relationships. Our competitors may be more successful than we are in establishing or expanding relationships with third parties or may provide incentives to third parties to favor their products over our solution. These strategic partners may cease to recommend our solution to prospective clients due to actual or perceived lack of features, technological or security issues or failures, reputational concerns, economic incentives, or other factors, which would harm our business, financial condition and operations. Furthermore, there has and continues to be a significant amount of consolidation in our industry and adjacent industries, and if our partners are acquired, fail to work effectively with us or go out of business, they may no longer support or promote our solution, or may be less effective in doing so, which could harm our business, financial condition and operations. If we are unsuccessful in establishing or maintaining our strategic relationships with third parties, or these partners fail to recommend our solution, our ability to compete in the marketplace or to grow our revenues could be impaired and our operating results may suffer. Even if we are successful, we cannot assure you that these relationships will result in increased client usage of our solution or increased revenue.

In addition, identifying new partners, and negotiating and documenting relationships with them, requires significant time and resources. As the complexity of our solution and our third-party relationships increases, the management of those relationships and the negotiation of contractual terms sufficient to protect our rights and limit our potential liabilities will become more complicated. We also license technology from certain third parties, including through OEM relationships. Certain of these agreements permit either party to terminate all or a portion of the relationship without cause at any time and for any reason. If one of these agreements is terminated by the other party, we would have to find an alternative source or develop new technology ourselves, which preclude, limit or delay our ability to offer our solution or certain product features to our clients, result in increased expense and harm our business. Our inability to successfully manage and maintain these complex relationships or negotiate sufficient contractual terms could harm our business.

We have established, and are continuing to increase, our network of master agents and resellers to sell our solution; our failure to effectively develop, manage, and maintain this network could materially harm our revenues.

We have established, and are continuing to increase, our network of master sales agents, which provide sales leads, and resellers, which sell our solution to new and existing clients. This network has helped us attract additional clients. Our resellers have assisted and we expect that they will continue to assist us in expanding internationally. These master agents and resellers sell, or may in the future decide to sell, solutions for our competitors. Our competitors may be able to cause our current or potential master agents or resellers to favor their services over ours, either through financial incentives, technological innovation, solution features or performance, by offering a broader array of services to these service providers or otherwise, which could reduce the effectiveness of our use of these third parties. If we fail to maintain relationships with current master agents and resellers, fail to develop relationships with new master agents and resellers in new and existing markets, if we fail to manage, train, or provide appropriate incentives to our existing master agents and resellers, or if our master agents and resellers are not successful in their sales efforts, sales of our subscriptions may decrease or not grow at an appropriate rate and our operating results could be harmed. In addition, identifying new resellers, and negotiating and documenting relationships with them, requires significant time and resources. As the complexity of our solution and our reseller relationships increases, the management of those relationships and the negotiation of contractual terms sufficient to protect our rights and limit our potential liabilities will become more complicated. Our inability to successfully manage these complex relationships or negotiate sufficient contractual terms could harm our business.

The loss of one or more of our key clients, or a failure to renew our subscription agreements with one or more of our key clients, could harm our ability to market our solution.

We rely on our reputation and recommendations from key clients in order to market and sell our solution. The loss of any of our key clients, or a failure of some of them to renew or to continue to recommend our solution, could have a significant impact on our revenues, reputation and our ability to obtain new clients. In addition, acquisitions of our clients could lead to cancellation of our contracts with those clients, thereby reducing the number of our existing and

potential clients and key reference clients.

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Our clients may fail to comply with the terms of their agreements, necessitating action by us to collect payment, or may terminate their subscriptions for our solution.

If clients fail to pay us under the terms of our agreements or fail to comply with the terms of our agreements, including compliance with regulatory requirements and intellectual property terms, we may terminate clients, lose revenue, be unable to collect amounts due to us, be subject to legal or regulatory action and incur costs in enforcing the terms of our contracts, including litigation. Some of our clients may seek bankruptcy protection or other similar relief and fail to pay amounts due to us, seek reimbursement for amounts already paid, or pay those amounts more slowly, which could harm our operating results, financial position and cash flow.

We sell our solution to larger organizations that require longer sales and implementation cycles and often demand more configuration and integration services or customized features and functions that we may not offer, any of which could delay or prevent these sales and harm our growth rates, business and operating results.

As we continue to target our sales efforts at larger organizations, we face greater costs, longer sales and implementation cycles and less predictability in closing sales. These larger organizations typically require more configuration and integration services, which increases our upfront investment in sales and deployment efforts, with no guarantee that these clients will subscribe to our solution or increase the scope of their subscription. Furthermore, with larger organizations, we must provide greater levels of education regarding the use and benefits of our solution to a broader group of people in order to generate a sale. As a result of these factors, we must devote a significant amount of sales support and professional services resources to individual clients and prospective clients, thereby increasing the cost and time required to complete sales. Our typical sales cycle for larger organizations is four to six months, but can be significantly longer, and we expect that our average sales cycle may increase as sales to larger organizations continue to grow as a percentage of our business. Longer sales cycles could cause our operating and financial results to be less predictable and to fluctuate from period to period. In addition, many of our clients that are larger organizations initially deploy our solution to support only a portion of their contact center agents. Our success depends on our ability to increase the number of agent seats and the number of applications utilized by larger organizations over time as we incur additional sales and marketing expense in these efforts. There is no guarantee that these clients will increase their subscriptions for our solution. If we do not expand our initial relationships with larger organizations, the return on our investments in sales and deployment efforts for these clients will decrease and our business may suffer.

Furthermore, we may not be able to provide the configuration and integration services that larger organizations typically require. For example, our solution does not currently permit clients to modify our software code, but instead requires them to use our set of APIs. If prospective clients require customized features or functions that we do not offer, and that would be difficult for them to deploy themselves, they will need to use our services or third-party service providers or we may lose sales opportunities with larger organizations and our business could suffer.

Because a significant percentage of our revenue is derived from existing clients, downturns or upturns in new sales will not be immediately reflected in our operating results and may be difficult to discern.

We generally recognize subscription revenue from clients monthly as services are delivered. As a result, a significant percentage of the subscription revenue we report in each quarter is derived from existing clients. Consequently, a decline in new subscriptions in any single quarter will likely have only a small impact on our revenue results for that quarter. However, the cumulative impact of such declines could negatively impact our business and results of operations in future quarters. Accordingly, the effect of significant downturns in sales and market acceptance of our solution, and potential changes in our pricing policies or renewal rates, will typically not be reflected in our results of operations until future periods. We also may be unable to adjust our cost structure to reflect the changes in revenue, resulting in lower margins and earnings. In addition, our subscription model makes it difficult for us to rapidly increase our revenue through additional sales in any period, as revenue from new clients will be recognized over time as services are delivered. Moreover, many of our clients initially deploy our solution to support only a portion of their contact center agents and, therefore, we may not generate significant revenue from these new clients at the outset of our relationship, if at all. Any increase to our revenue and the value of these existing client relationships will only be reflected in our results of operations as subscription revenue is recognized, and if and when these clients increase the number of agent seats and the number of components of our solution they deploy over time.

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We rely on third-party telecommunications and internet service providers to provide our clients and their customers with telecommunication services and connectivity to our cloud contact center software and any failure by these service providers to provide reliable services could cause us to lose clients and subject us to claims for credits or damages, among other things.

We rely on third-party telecommunication service providers to provide our clients and their customers with telecommunication services. These telephony services include the public switched telephone network, or PSTN, telephone numbers, call termination and origination services, and local number portability for our clients. In addition, we depend on our internet bandwidth suppliers to provide uninterrupted and error-free service through their telecommunications networks. We exercise little control over these third-party providers, which increases our vulnerability to problems with the services they provide.

When problems occur, it may be difficult to identify the source of the problem. Service disruption or outages, whether caused by our service, the products or services of our third party service providers, or our clients' or their customers' equipment and systems, may result in loss of market acceptance of our solution and any necessary repairs or other remedial actions may force us to incur significant costs and expenses.

If any of these service providers fail to provide reliable services, suffer outages, degrade, disrupt, increase the cost of or terminate the services that we and our clients depend on, we may be required to switch to another service provider. Delays caused by switching our technology to another service provider, if available, and qualifying this new service provider could materially harm our client relationships, business, financial condition and operating results. Further, any failure on the part of third party service providers to achieve or maintain expected performance levels, stability and security could harm our relationships with our clients, cause us to lose clients, result in claims for credits or damages, increase our costs or the costs incurred by our customers, damage our reputation, significantly reduce client demand for our solution and seriously harm our financial condition and operating results.

Our clients and their customers rely on internet service providers to provide them with access and connectivity to our cloud contact center software and changes in how internet service providers handle and charge for access to the internet could materially harm our client relationships, business, financial condition and operations results.

In 2015, the FCC released an order, commonly referred to as network neutrality, that, among other things, prohibited (i) the impairment or degradation of lawful internet traffic on the basis of content, application or service and (ii) the practice of favoring some internet traffic over other internet traffic based on the payment of higher fees. In June 2018, the FCC repealed the network neutrality regulations imposed by the 2015 order. Internet service providers in the U.S. may now be able to impair or degrade the use of, or increase the cost of using, our solution. Network neutrality regulations vary widely among the jurisdictions in which we operate. While certain jurisdictions have strong protections for services such as ours, others either lack a network neutrality framework or otherwise do not strictly enforce network neutrality regulations. Further, the U.S. Federal government is currently challenging in court the ability of states to enforce network neutrality requirements adopted at the state level. The impairment, degradation or prioritization of lawful internet traffic by internet service providers could materially harm the performance of our solutions, our client relationships, business, financial condition and operating results.

We depend on data centers operated by third parties and public cloud providers and any disruption in the operation of these facilities could harm our business.

We host our solution at data centers located in Santa Clara, California; Atlanta, Georgia; Slough, England and Amsterdam, the Netherlands. Any failure or downtime in one of our data center facilities could affect a significant percentage of our clients. While we control and have access to our servers and all of the components of our network that are located in our external data centers, 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, or if one of our data center operators is acquired, closes, suffers financial difficulty or is unable to meet our growing capacity needs, we may be required to transfer our servers and other infrastructure to new data center facilities, and we may incur significant costs and service interruptions in connection with doing so.

Our data centers are subject to various points of failure. Problems with cooling equipment, generators, uninterruptible power supply, routers, switches, or other equipment, whether or not within our control, could result in service

interruptions for our clients as well as equipment damage. Our data centers are subject to disasters such as earthquakes, floods, fires, hurricanes, acts of terrorism, sabotage, break-ins, acts of vandalism and other events,

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which could cause service interruptions or the operators of these data centers to close their facilities for an extended period of time or permanently. The destruction or impairment of any of our data center facilities could result in significant downtime for our solution and the loss of client data. Because our ability to attract and retain clients depends on our providing clients with highly reliable service, even minor interruptions in our service could harm our business, revenues and reputation. Additionally, in connection with the continuing expansion of our existing data center facilities, there is an increased risk that service interruptions may occur as a result of server addition, relocation or other issues.

Our data centers are also subject to increased power costs. We may not be able to pass on any increase in power costs to our clients, which could reduce our operating margins.

We also host some of our voice services on the public cloud in the following regions: Tokyo, Japan; Sydney, Australia; Sao Paulo, Brazil; Dublin, Ireland and plan to increase our use of public cloud infrastructure in other regions. We have little or no control over public cloud providers. Any disruption of the public cloud or any failure of the public cloud providers to effectively design and implement sufficient security systems or plan for increases in capacity could, in turn, cause delays or disruptions in our services. In addition, using the public cloud presents a variety of additional risks, including risks related to sharing the same computing resources with others, reliance on public cloud providers' authentication, security, authorization and access control mechanisms, a lack of control over the public cloud's redundancy and security systems and fault tolerances, and a reduced ability to control data security and privacy.

Shifts over time or from quarter-to-quarter in the mix of sizes or types of organizations that purchase our solution or changes in the components of our solution purchased by our clients could affect our gross margins and operating results.

Our strategy is to sell our solution to both smaller and larger organizations. Our gross margins can vary depending on numerous factors related to the implementation and use of our solution, including the features and number of agent seats purchased by our clients and the level of usage and professional services and support required by our clients. For example, our larger clients typically require more professional services and because our professional services offerings typically have negative margins, any increase in sales of professional services could harm our gross margins and operating results. We also have lower margins on our usage revenues. Sales to larger organizations may also entail longer sales cycles and more significant selling efforts and expense. Selling to smaller clients may involve smaller contract sizes, fewer opportunities to sell additional services, a higher likelihood of contract terminations, lower returns on sales and marketing expense, fewer potential agent seats and greater credit risk and uncertainty. If the mix of organizations that purchase our solution, or the mix of solution components purchased by our clients, changes unfavorably, our revenues and gross margins could decrease and our operating results could be harmed.

We are in the process of expanding our international operations, which exposes us to significant risks.

To date, we have not generated significant revenues outside of the U.S., Canada and the U.K. However, we already have significant operations outside these countries and we expect to grow our international presence in the future. The future success of our business will depend, in part, on our ability to expand our operations and customer base to other countries. Operating in international markets requires significant resources and management attention and will subject us to regulatory, economic, and political risks that are different from those in the U.S. In addition, in order to effectively market and sell our solutions in international markets, we will be required to localize our solutions, including the language in which our solutions are offered, which will increase our costs, could result in delays in offering our solutions in these markets and may decrease the effectiveness of our sales efforts. Due to our limited experience with international operations and developing and managing sales and distribution channels in international markets, our international expansion efforts may not be successful.

We have a history of losses and we may be unable to achieve or sustain profitability.

We have incurred significant losses in each annual period since our inception in 2001. We incurred net losses of \$0.2 million, \$9.0 million and \$11.9 million for the years ended December 31, 2018, 2017 and 2016, respectively. As of December 31, 2018, we had an accumulated deficit of \$151.5 million. These losses and our accumulated deficit reflect the substantial investments we have made to develop our solution and acquire new clients. We expect the dollar

amount of our costs and expenses to increase in the future as revenue increases, although at a slower rate. We expect our losses to continue for the foreseeable future as we continue to invest in research and development and

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expand our business. Furthermore, to the extent we are successful in increasing our client base, we may also incur increased losses because costs associated with acquiring clients are generally incurred up front, while revenues are recognized over the course of the client relationship. We also have negative gross margins on our professional services, which are expected to continue in the medium term. In addition, as a public company, we incur significant legal, accounting and other expenses. Our historical or recent growth in revenues is not necessarily indicative of our future performance. Accordingly, there is no assurance that we will achieve profitability in the future or that, if we do become profitable, we will sustain profitability.

If the market for cloud contact center software solutions develops more slowly than we expect or declines, our business could be harmed.

The cloud contact center software market is not as mature as the market for legacy on-premise contact center systems, and it is uncertain whether cloud contact center solutions will achieve and sustain high levels of client demand and market acceptance. Our success will depend to a substantial extent on the widespread adoption of cloud contact center software solutions as a replacement for legacy on-premise systems. Many larger organizations have invested substantial technical, personnel and financial resources to integrate legacy on-premise contact center systems into their businesses and, therefore, may be reluctant or unwilling to migrate to cloud contact center solutions such as ours. It is difficult to predict client adoption rates and demand for our solution, the future growth rate and size of the cloud contact center software market, or the continued introduction of competitive products and services, including by new market entrants. The expansion of the cloud contact center software market depends on a number of factors, including the refresh rate for legacy on-premise systems, cost, performance and perceived value associated with cloud contact center software solutions, as well as the ability of providers of cloud contact center software solutions to address security, stability and privacy concerns. If we or other cloud contact center solution providers or other cloud providers experience security incidents, loss of client data, disruptions in service or other problems, the market for cloud contact center software products, solutions and services as a whole, including our solution, may be harmed. If cloud contact center software solutions do not achieve widespread adoption, or there is a reduction in demand for such solutions caused by a lack of client acceptance, enhanced product offerings, including cloud-based offerings, from on-premise providers, technological challenges, weakening economic conditions, security or privacy concerns, competing technologies and products, decreases in corporate spending or otherwise, it could result in decreased revenues and our business could be harmed.

Our recent growth makes it difficult to evaluate and predict our current business and future prospects.

While we have been in existence since 2001, much of our growth has occurred in recent years. Our recent growth may make it difficult for investors to evaluate our current business and our future prospects. We have encountered and will continue to encounter risks and difficulties frequently experienced by growing companies in rapidly changing industries, including increasing and unforeseen expenses as we continue to grow our business.

Our ability to forecast our future operating results is limited and subject to a number of uncertainties, including our ability to predict revenue and expense levels, and plan for and model future growth. We have encountered and will continue to encounter risks and uncertainties frequently experienced by growing companies in rapidly changing industries, such as the risks and uncertainties described in this report. If our assumptions regarding these risks and uncertainties, which we use to plan our business, are incorrect or change due to adjustments in our markets or our competitors and their product offerings, or if we do not address these risks successfully, our operating and financial results could differ materially from our expectations and our business could suffer.

If our solution fails, or is perceived to fail, to perform properly or if it contains technical defects, our reputation could be harmed, our market share may decline and we could be subject to product liability claims.

Our solution may contain undetected errors or defects that may result in failures or otherwise cause our solution to fail to perform in accordance with client expectations and contractual obligations. Moreover, our clients could incorrectly implement or inadvertently misuse our products, which could result in client dissatisfaction and harm the perceived utility of our products and our brand. Because our clients use our solution for mission-critical aspects of their business, any real or perceived errors or defects in, or other performance problems with, our solution may damage our clients' businesses and could significantly harm our reputation. If that occurs, we could lose future sales, or our existing clients could cancel our solution, seek payment credits, seek damages against us, or delay or withhold

payment to us, which could result in reduced revenues, an increase in our provision for uncollectible accounts and service credits, an increase in collection cycles for accounts receivable, and harm our financial results.

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In addition, since telecommunications billing is inherently complex and requires highly sophisticated information systems to administer, our billing system may experience errors or we may improperly operate the system, which could result in the system incorrectly calculating the fees owed by our clients or related taxes and administrative fees. Clients also may make indemnification or warranty claims against us, which could result in significant expense and risk of litigation. Product performance problems could result in loss of market share, reputational harm, failure to achieve market acceptance and the diversion of development resources.

Any product liability, intellectual property, warranty or other claims against us could damage our reputation and relationships with our clients, and could require us to spend significant time and money in litigation or pay significant settlements or damages. Although we maintain general liability insurance, including coverage for errors and omissions, this coverage may not be sufficient to cover liabilities resulting from such claims. Also, our insurers may disclaim coverage. Our liability insurance also may not continue to be available to us on reasonable terms, in sufficient amounts, or at all. Any contract or product liability claims successfully brought against us would harm our business.

We are subject to many hazards and operational risks that can disrupt our business, some of which may not be insured or fully covered by insurance.

Our operations are subject to many hazards inherent in the cloud contact center software business, including:

- damage to third-party and our infrastructure and data centers, related equipment and surrounding properties caused by earthquakes, hurricanes, tornadoes, floods, fires and other natural disasters, explosions and acts of terrorism;
- security breaches resulting in loss or disclosure of confidential client and customer data and potential liability to clients and non-client third parties for such losses on disclosures;
- inadvertent damage from third parties; and
- other hazards that could also result in suspension of operations, personal injury and even loss of life.

These risks could result in substantial losses and the curtailment or suspension of our operations. For example, in the event of a major earthquake along the West Coast of the United States (where our corporate headquarters and one of our data centers are located), hurricane, tropical storm, flooding or severe weather in the southeastern United States (where our other U.S. data center is located) or catastrophic events such as fire, power loss, telecommunications failure, cyber-attack, war or terrorist attack, we may be unable to continue our operations and may endure system and service interruptions, reputational harm, delays in product development, breaches of data security and loss of critical data, any of which could harm our business and operating results.

We are not insured against all claims, events or accidents that might occur. If a significant accident or event occurs that is not fully insured, if we fail to recover all anticipated insurance proceeds for significant accidents or events for which we are insured, or if we or our data center providers fail to reopen facilities damaged by such accidents or events, our operations and financial condition could be harmed. In addition to being denied coverage under existing insurance policies, we may not be able to maintain or obtain insurance of the type and amount we desire at reasonable rates.

The contact center software solutions market is subject to rapid technological change, and we must develop and sell incremental and new features and products in order to maintain and grow our business.

The contact center software solutions market is characterized by rapid changes in client requirements, frequent introductions of new and enhanced products and features and continuing and rapid technological advancement. To compete successfully, we must continue to devote significant resources to design, develop, deploy and sell new and enhanced contact center products, applications and features that provide increasingly higher capabilities, performance and stability at lower cost. If we are unable to develop or acquire new features for our existing solution or new applications that achieve market acceptance or that keep pace with technological developments, our business would be harmed. For example, we are focused on enhancing the reliability, features and functionality of our contact center solution to enhance its utility to our clients, particularly larger clients, with complex, dynamic and global operations. The success of these enhancements depends on many factors, including timely development, introduction and market acceptance, as well as our ability to transition our existing clients to these new products, applications and features. Failure in this regard may significantly impair our revenue growth. In addition, because our solution is designed to operate on a variety of systems, we need to continuously modify and enhance our solution to keep pace with changes

in hardware, operating systems, the increasing trend toward multi-channel

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communications and other changes to software technologies. We may not be successful in developing or acquiring these modifications and enhancements or bringing them to market in a timely fashion. Furthermore, uncertainties about the timing and nature of new network platforms or technologies, or modifications to existing platforms or technologies, could delay introduction of changes and updates to our solution and increase our research and development expenses. Any failure of our solution to operate effectively with future network platforms and technologies could reduce the demand for our solution, result in client dissatisfaction and harm our business.

Our ability to continue to enhance our solution is dependent on adequate research and development resources. If we are not able to adequately fund our research and development efforts, we may not be able to compete effectively and our business and operating results may be harmed.

In order to remain competitive, we must devote significant and increasing resources to develop new solution offerings, features and enhancements to our existing cloud contact center software, which will increase our research and development and operating expenses. Maintaining adequate research and development personnel and resources to meet the demands of the market is essential. If we are unable to develop products, applications or features internally due to constraints, such as high employee turnover, insufficient cash, inability to hire sufficient research and development personnel or a lack of other research and development resources, we may miss market opportunities. Furthermore, many of our competitors expend considerably greater amounts on their research and development programs than we do, and those that do not may be acquired by larger companies that would allocate greater resources to our competitors' research and development programs. Our failure to devote adequate research and development resources or compete effectively with the research and development programs of our competitors could harm our business.

If we are unable to maintain the compatibility of our software with other products and technologies, our business would be harmed.

Our clients often integrate our solution with their business applications, particularly third-party CRM solutions. These third-party providers or their partners could alter their products so that our solution no longer integrates well with them, or they could delay or deny our access to technology releases that allow us to adapt our solution to integrate with their products in a timely fashion. If we cannot adapt our solution to changes in complementary technology deployed by our clients, it may significantly impair our ability to compete effectively.

Our business could be harmed if our clients are not satisfied with the professional services and technical support provided by us or our partners.

Our business depends on our ability to satisfy our clients, not only with respect to our solution, but also with the professional services and technical support that are required for our clients to implement and use our solution to address their business needs. Professional services and technical support may be performed by our own staff or, in a select subset of cases, by third parties. Our professional services offerings typically have negative margins.

Accordingly, any increase in sales of professional services could harm our gross margins and operating results. We will need to continue to expand and optimize our professional services and technical support in order to keep up with new client installations and ongoing service, which takes time and expense to implement. Identifying and recruiting qualified service personnel and training them in our solution is difficult and competitive and requires significant time, expense and attention. We may be unable to respond quickly enough to accommodate short-term increases in client demand for support services. We also may be unable to modify the format of our support services or change our pricing to compete with changes in support services provided by our competitors. Increased client demand for these services, without corresponding revenues, could increase our costs and harm our operating results. If a client is not satisfied with the deployment and ongoing services performed by us or a third party, we could lose clients, miss opportunities to expand our business with these clients, incur additional costs, or suffer reduced (including negative) margins on our service revenue, any of which could damage our ability to grow our business. In addition, negative publicity related to our professional services and technical support, regardless of its accuracy, may damage our business by affecting our ability to compete for new business with current and prospective clients.

Sales to clients outside the United States or with international operations and our international sales efforts and operations support expose us to risks inherent in international sales and operations.

A key element of our growth strategy is to expand our international sales efforts and develop a worldwide client base. Because of our limited experience with international sales, our international expansion may not be

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successful and may not produce the return on investment we expect. To date, we have realized only a small portion of our revenues from clients outside the United States, with approximately 93% of our revenue for the year ended December 31, 2018 derived from clients with billing addresses in the United States.

Our international employees are primarily located in the Philippines, where technical support, training and other professional services are performed, and Russia, where software development operations are performed. We have increased our sales, marketing and support personnel in the U.K. to maintain and support our European data centers. Operating in international markets requires significant resources and management attention and subjects us to intellectual property, regulatory, economic and political risks that are different from those in the United States. As we increase our international sales efforts and continue our other international operations, we will face risks in doing business internationally that could harm our business, including:

- the need to establish and protect our brand in international markets;
- the need to localize and adapt our solution for specific countries, including translation into foreign languages and associated costs and expenses;
- difficulties in staffing and managing foreign operations, particularly hiring and training qualified sales and service personnel;
- the need to make implementations, and offer customer care, in various languages;
- different pricing environments, longer sales and accounts receivable payment cycles and collections issues;
- weaker protection for intellectual property and other legal rights than in the U.S. and practical difficulties in enforcing intellectual property and other rights outside of the U.S.;
- privacy and data protection laws and regulations that are complex, expensive to comply with and may require that client data be stored and processed in a designated territory;
- increased risk of piracy, counterfeiting and other misappropriation of our intellectual property in our locations outside the U.S.;
- new and different sources of competition;
- general economic conditions in international markets;
- fluctuations in the value of the U.S. dollar and foreign currencies, which may make our solution more expensive in other countries or may increase our costs, impacting our operating results when translated into U.S. dollars;
- compliance with customs duties, tariffs and other international trade complexities;
- compliance challenges related to the complexity of multiple, conflicting and changing governmental laws and regulations, including employment, tax, telecommunications and telemarketing laws and regulations;
 - increased risk of international telecom fraud;
- laws and business practices favoring local competitors;
- compliance with laws and regulations for foreign operations, including the Foreign Corrupt Practices Act, the U.K. Bribery Act and other anti-corruption laws, import and export control laws, tariffs, trade barriers, economic sanctions and regulatory or contractual limitations on our ability to sell our solution in certain foreign markets, and the risks and costs of non-compliance;
- increased financial accounting and reporting burdens and complexities;
- restrictions or taxes on the transfer of funds;
- adverse tax consequences; and
- unstable economic and political conditions.

These risks could harm our international operations, increase our operating costs and hinder our ability to grow our international business and, consequently, our overall business and results of operations. In addition, if the political and military situation in Russia and the Ukraine, or the relationship between Russia and the United States, significantly worsens, or if either Russia or the United States imposes significant new economic sanctions or restrictions on doing business, and we are restricted or precluded from continuing our software development operations in Russia, our costs could increase, and our product development efforts, business and results of operations could be significantly harmed. In addition, compliance with laws and regulations applicable to our international operations increases our cost of doing business outside the United States. We may be unable to keep current with changes in foreign government

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requirements and laws as they change from time to time. Failure to comply with these regulations could harm our business. In many countries outside the United States, it is common for others to engage in business practices that are prohibited by our internal policies and procedures or United States or international regulations applicable to us. Although we have implemented policies and procedures designed to ensure compliance with these laws and policies, there can be no assurance that all of our employees, contractors, strategic partners and agents will comply with these laws and policies. Violations of laws or key control policies by our employees, contractors, strategic partners or agents could result in delays in revenue recognition, financial reporting misstatements, fines, delays in filing financial reports required as a public company, penalties, or prohibitions on selling our solution, any of which could harm our business. We have undergone recent changes to our management team; we depend on our senior management team, and the loss of one or more key employees or an inability to attract and retain highly skilled executives and other employees could harm our business and results of operations.

Our former Chief Executive Officer resigned for health reasons (though he remains as Executive Chairman of our Board of Directors) effective December 2, 2017, resulting in the appointment of our Chief Financial Officer as Interim Chief Executive Officer, and the promotion of our EVP of Global Sales and Services to President. On May 1, 2018, we announced the appointment, effective as of May 3, 2018, of a new Chief Executive Officer. In connection with this appointment, our Chief Financial Officer no longer serves as Interim Chief Executive Officer, but continues to serve as our Chief Financial Officer. In addition, we have recently added several new executive officers.

Our success depends, in part, upon the performance and continued services of our executive officers and senior management team. If our new executive leadership team fails to perform effectively or if we fail to attract or retain our key executives or senior management, our business, financial condition or results of operations could be harmed. We also rely on our leadership team in the areas of research and development, marketing, sales, services and general and administrative functions, and on mission-critical individual contributors. The loss of one or more of our executive officers or key employees could seriously harm our business. We currently do not maintain key person life insurance policies on any of our employees.

To execute our growth plan, we must attract and retain highly qualified personnel and we may incur significant costs (including stock-based compensation expense) to do so. Competition for these personnel is intense, especially for senior executives, engineers highly experienced in designing and developing cloud software and for senior sales personnel. We have, from time to time, experienced, and we expect to continue to experience, difficulty in hiring and retaining employees with appropriate qualifications. We invest significant time and expense in training our employees, which increases their value to competitors who may seek to recruit them and increases our costs. If we fail to attract new personnel or fail to retain and motivate our current personnel, particularly our executive officers and senior management team, our business and future growth prospects would be harmed. Many of the companies with which we compete for experienced personnel have greater resources than we have. If we hire employees from competitors or other companies, their former employers may attempt to assert that these employees or we have breached legal obligations, resulting in a diversion of our time and resources and, potentially, damages.

Volatility or lack of performance in the trading price of our common stock may also affect our ability to attract and retain qualified personnel because job candidates and existing employees often emphasize the value of the stock awards they receive in connection with their employment when considering whether to accept or continue employment. If the perceived value of our stock awards is low or declines, it may harm our ability to recruit and retain highly skilled employees.

If we fail to grow our marketing capabilities and develop widespread brand awareness cost effectively, our business may suffer.

Our ability to increase our client base and achieve broader market acceptance of our cloud contact center software solution will depend to a significant extent on our ability to expand our marketing operations. We plan to continue to dedicate significant resources to our marketing programs, including internet advertising, digital marketing campaigns, social media, trade shows, industry events, co-marketing with strategic partners and telemarketing. The effectiveness of our online advertising has varied over time and may vary in the future due to competition for key search terms, changes in search engine use and changes in the search algorithms used by major search engines. All of these efforts will continue to require us to invest significant financial and other resources in

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our marketing efforts. Our business will be seriously harmed if our efforts and expenditures do not generate a proportionate increase in revenue.

In addition, we believe that developing and maintaining widespread awareness of our brand in a cost-effective manner, both in the United States and internationally, is critical to achieving widespread acceptance of our solution and attracting new clients. Brand promotion activities may not generate client awareness or increase revenues, and even if they do, any increase in revenues may occur after the expense has been incurred, and may not offset the costs and expenses of building our brand. If we fail to successfully promote, maintain and protect our brand, or incur substantial costs and expenses, we may fail to attract or retain clients necessary to realize a sufficient return on our brand-building efforts, or to achieve the widespread brand awareness that is critical to increasing client adoption of our solution.

We may not be able to secure additional financing on favorable terms, or at all, to meet our future capital needs. To date, we have financed our operations, primarily through sales of our solution, lease facilities and the net proceeds from our equity and debt financings, including the sale of our convertible senior notes. We do not know when or if our operations will generate sufficient cash to fund our ongoing operations. We may require additional capital to respond to business opportunities, challenges, acquisitions, a decline in sales, increased regulatory obligations or unforeseen circumstances and may engage in equity or debt financings or enter into credit facilities.

We have a substantial amount of debt. As of December 31, 2018, we had approximately \$258.8 million in principal amount outstanding under our convertible senior notes entered into in May 2018. See Note 6 to the consolidated financial statements.

Any debt financing obtained by us in the future would cause us to incur additional debt service expenses and could include restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and pursue business opportunities and could be secured by all of our assets. If we raise additional funds through further issuances of equity or convertible debt securities, our existing stockholders could suffer significant dilution in their percentage ownership of our company, and any new equity securities we issue could have rights, preferences and privileges senior to those of holders of our common stock. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to grow and support our business and to respond to business challenges could be significantly limited.

Adverse economic conditions may harm our business.

Our business depends on the overall demand for cloud contact center software solutions and on the economic health of our current and prospective clients. In addition to the United States, Canada, the U.K. and Latin America, we plan to market and sell our solution in other European countries, Asia and other international markets. If economic conditions, including currency exchange rates, in these areas and other key potential markets for our solution continue to remain uncertain or deteriorate, clients may delay or reduce their contact center and overall information technology spending. If our clients or potential clients experience economic hardship, this could reduce the demand for our solution, delay and lengthen sales cycles, lower prices for our solution, and lead to slower growth or even a decline in our revenues, operating results and cash flows.

We may acquire other companies or technologies or be the target of strategic transactions, which could divert our management's attention, result in additional dilution to our stockholders and otherwise disrupt our operations and harm our operating results.

We may acquire or invest in businesses, applications or technologies that we believe could complement or expand our solution, enhance our technical capabilities or otherwise offer growth opportunities. The pursuit of potential acquisitions may divert the attention of management, and cause us to incur various costs and expenses in identifying, investigating and pursuing acquisitions, whether or not they are consummated. We may not be able to identify desirable acquisition targets or be successful in entering into an agreement with any particular target.

To date, the growth in our business has been primarily organic, and we have limited experience in acquiring other businesses, having only completed one small acquisition in 2013. In any future acquisitions, we may not be able to successfully integrate acquired personnel, operations and technologies, or effectively manage the combined business following the acquisition. We also may not achieve the anticipated benefits from our future acquired businesses due to

a number of factors, including:

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- inability to integrate or benefit from acquisitions in a profitable manner;
- unanticipated costs or liabilities associated with the acquisition, including legal claims arising from the activities of companies we acquire;
- acquisition-related costs;
- difficulty converting the clients of the acquired business to our solution and contract terms, including due to disparities in the revenue, licensing, support or professional services model of the acquired company;
- difficulty integrating the accounting systems, operations and personnel of the acquired business;
- difficulties and additional costs and expenses associated with supporting legacy products and the hosting infrastructure of the acquired business;
- diversion of management’s attention from other business concerns;
- harm to our existing relationships with our partners and clients as a result of the acquisition;
- the loss of our or the acquired business’s key employees;
- diversion of resources that could have been more effectively deployed in other parts of our business; and
- use of substantial portions of our available cash to consummate the acquisition.

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

Acquisitions could also result in dilutive issuances of equity securities, the use of our available cash, or the incurrence of additional debt to fund such acquisitions, which could harm our operating results. If an acquired business fails to meet our expectations, our operating results, business and financial condition could suffer.

In addition, third parties may be interested in acquiring us. We will continue to consider, evaluate and negotiate such transactions as we deem appropriate. Such potential transactions may divert the attention of management, and cause us to incur various costs and expenses in investigating, evaluating and negotiating such transactions, whether or not they are consummated.

If we are unable to maintain and further develop effective internal control over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock may decrease.

As a public company, we are required to maintain internal control over financial reporting and to report any material weaknesses in such internal controls. Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, requires that we evaluate and determine the effectiveness of our internal control over financial reporting and provide a management report and attestation from our independent registered public accountant on our internal control over financial reporting. This attestation has and will continue to increase our independent public accountant costs and expenses. If we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal controls are effective, which could cause our stock price to decline. A “material weakness” is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

If we have material weaknesses in our internal control over financial reporting, we may not detect errors on a timely basis and our financial statements may be materially misstated. If we identify material weaknesses in our internal control over financial reporting, if we are unable to comply with the requirements of Section 404 in a timely manner, if we are unable to assert that our internal control over financial reporting is effective or if our independent registered public accounting firm is unable to attest that our internal control over financial reporting is effective, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could decrease. We could also become subject to stockholder or other third-party litigation as well as investigations by the stock exchange on which our securities are listed, the SEC or other regulatory authorities, which could require additional financial and management resources and could result in fines, penalties, trading suspensions or other remedies.

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

U.S. GAAP is subject to interpretation by the FASB, the SEC and various bodies formed to promulgate and interpret appropriate accounting principles. A change in accounting standards or practices can have a significant effect on our reported results and may even affect our financial statements issued before the change is effective. New accounting pronouncements and varying interpretations of accounting pronouncements have occurred and will occur in the future. Changes to existing rules or the questioning of current practices may harm our reported financial results or the way we account for or conduct our business.

For example, in May 2014, the FASB issued new revenue recognition rules under Accounting Standard Codification 606 - Revenue from Contracts with Customers (“ASC 606”), which included a single set of rules and criteria for revenue recognition to be used across all industries. We adopted this new standard in January 2018 using a modified retrospective method. With the adoption of this standard, the timing of our commission expense recognition changed, which caused fluctuations in our operating results. See Note 2 to the consolidated financial statements for information regarding the effect of new accounting pronouncements on our financial statements.

The application of any new accounting guidance is, and will be, based on all information available to us as of the date of adoption and up through subsequent interim reporting, including transition guidance published by the standard setters. However, the interpretation of these new standards may continue to evolve as other public companies adopt the new guidance and the standard setters issue new interpretative guidance related to these rules. As a result, changes in the interpretation of these rules could result in material adjustments to our application of the new guidance, which could have a material effect on our results of operations and financial condition. Additionally, any difficulties in implementing these pronouncements could cause us to fail to meet our financial reporting obligations, which could result in regulatory discipline, cessation or disruption of trading in our common stock and harm investors’ confidence in us.

In addition, certain factors have in the past and may in the future cause us to defer recognition of revenues. For example, the inclusion in our client contracts of non-standard terms, such as acceptance criteria, could require the deferral of revenue. To the extent that such contracts become more prevalent in the future our revenue may be harmed. Because of these factors and other specific requirements under U.S. GAAP for revenue recognition, we must have precise terms and conditions in our arrangements in order to recognize revenue when we deliver our solution or perform our professional services. Negotiation of mutually acceptable terms and conditions can extend our sales cycle, and we may accept terms and conditions that do not permit revenue recognition at the time of delivery.

The results of the U.K.’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 U.K. elected to withdraw from the European Union in a national referendum, referred to as Brexit. The referendum was advisory, and the terms of any withdrawal are subject to a negotiation period that could last at least two years after the government of the U.K. formally initiated the withdrawal process on March 29, 2017. This election to withdraw has created significant uncertainty about the future relationship between the U.K. and the European Union, including with respect to the laws and regulations that will apply as the U.K. and the European Union determine which European Union laws to replace or replicate after the effectiveness of the withdrawal. The referendum has also given rise to calls for the governments of other European Union member states to consider withdrawal.

Brexit has harmed and may continue to harm global economic conditions and the stability of global financial markets. For example, Brexit introduced significant volatility in global stock markets and currency exchange rate fluctuations that resulted in the strengthening of the U.S. dollar against foreign currencies in which we conduct business. This volatility will likely continue while the U.K. and the European Union negotiate the terms of the withdrawal, as well as after the withdrawal takes effect. In November 2018, the European Union and the U.K. agreed upon the terms of an agreement that sets out the terms of the U.K.’s withdrawal from the European Union and includes a transitional period until December 31, 2020. If the agreement is not ratified by the European Union and the U.K. before the end of March 2019, then, absent the U.K. withdrawing its notice or members of the European Union agreeing to extend the two-year notice period, the U.K. will leave the European Union with no agreements in place beyond those temporary

arrangements which have or may be put in place by the European Union or individual European Union Member States, and the U.K. as part of no-deal contingency efforts and those

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conferred by mutual membership of the World Trade Organization. Given the lack of comparable precedent, it is unclear what financial, trade and legal implications the U.K. leaving the European Union with no agreements in place would have and how such withdrawal would affect our business and operations.

The strengthening of the U.S. dollar relative to other currencies will make our solution more expensive to international clients and may harm our international sales. Brexit could also cause disruptions to and create uncertainty surrounding our business, including affecting our relationships with our existing and future clients, owners of our data center facilities in the U.K. and the Netherlands and our data center partners' ability to retain and hire qualified employees, which could harm our business, business opportunities, results of operations, financial condition and cash flows.

We may not be able to utilize a significant portion of our net operating loss or research tax credit carryforwards, and under recently enacted lower federal corporate tax rates such tax benefits will be of less value, which could harm our profitability and financial condition.

As of December 31, 2018, we had federal and state net operating loss carryforwards due to prior period losses of \$216.8 million and \$120.0 million, respectively, which if not utilized will begin to expire in 2024 and 2028 for federal and state purposes, respectively. As of December 31, 2018, we also had research credit carryforwards for federal and California state tax purposes of \$3.2 million and \$2.8 million, respectively. If not utilized, the federal research credit carryforwards will begin to expire in 2022. The California research credit carryforwards do not expire. If we are unable to generate sufficient taxable income to utilize our net operating loss and research tax credit carryforwards, these carryforwards could expire unused and be unavailable to offset future income tax liabilities, which could harm our profitability and financial condition in future periods.

In addition, under Section 382 of the Internal Revenue Code of 1986, as amended, or IRC Section 382, our ability to utilize net operating loss carryforwards or other tax attributes, such as research tax credits, in any taxable year may be limited if we experience an "ownership change." An IRC Section 382 "ownership change" generally occurs if one or more stockholders or groups of stockholders who own at least 5% of our stock increase their ownership by more than 50 percentage points over their lowest ownership percentage within a rolling three-year period. Similar rules may apply under state tax laws. We experienced an ownership change prior to 2014 and the disclosed amounts of our net operating losses and research credit carryforwards have been reduced for the resulting effect of the IRC Section 382 limitations. Subsequent or future issuances or sales of our stock (including certain transactions involving our stock that are outside of our control) could cause an "ownership change" again, which would impose an annual limit on the amount of pre-ownership change net operating loss carryforwards and other tax attributes we can use to reduce our taxable income, potentially causing those tax attributes to expire unused or to be reduced, and increasing and accelerating our liability for income taxes. It is possible that such an ownership change could materially reduce our ability to use our net operating loss carryforwards or other tax attributes to offset taxable income, which could require us to pay more income taxes than if we were able to fully utilize our net operating loss carryforwards and harm our profitability.

In December 2017, the Tax Cuts and Jobs Act was enacted. The effect of the new tax law, and its regulations and interpretations, as well as any additional tax reform legislation in the United States or elsewhere, could harm our business and financial condition by, among other things, decreasing the value of our net operating loss carryforwards. If we are required to reduce the value of our net operating loss carryforwards, we may be required to record a corresponding charge to current earnings, which could harm our financial condition and results of operations in the period in which it is recorded.

Risks Related to Our Intellectual Property

Any failure to protect our intellectual property rights could impair our ability to protect our proprietary technology and our brand.

Our success and ability to compete depend in part upon our intellectual property. As of December 31, 2018, our intellectual property portfolio included five registered U.S. trademarks, 10 issued U.S. patents, one pending U.S. patent application and one registered U.S. copyright. As of December 31, 2018, we also had three issued patents, and 10 trademark registrations outside the U.S. The expiration dates of our issued patents range from 2030 to 2034. We primarily rely on copyright, trade secret and trademark laws, trade secret protection and confidentiality or license agreements with our employees, clients, partners and others to protect our intellectual property rights. However, the

steps we take to secure, protect and enforce our intellectual property rights may be inadequate. We

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may not be able to obtain any further patents or trademarks, our current patents could be invalidated or our competitors could design their products around our patented technology, and our pending applications may not result in the issuance of patents or trademarks. We have pending patent applications and trademark registrations outside the U.S., and we may have to expend significant additional resources to obtain additional protection and maintain current registrations as we expand our international operations. Furthermore, legal standards relating to the validity, enforceability and scope of protection of intellectual property rights in other countries, including Russia, where we have significant research and development operations, and the Philippines, where we have significant technical support, training and other professional services operations, are uncertain and may afford little or no effective protection of our proprietary technology, and the risk of intellectual property misappropriation may be higher in these countries. Consequently, we may be unable to prevent our proprietary technology from being infringed or exploited abroad, which could affect our ability to expand into international markets or require costly efforts to protect our technology.

In order to protect our intellectual property rights, we may be required to spend significant resources to monitor and protect these rights. Litigation brought to protect and enforce our intellectual property rights could be costly, time consuming and distracting to our management and could result in the impairment or loss of our intellectual property. Furthermore, our efforts to enforce our intellectual property rights may be met with defenses, counterclaims and countersuits attacking the validity and enforceability of our intellectual property rights. Accordingly, we may not be able to prevent third parties from infringing upon or misappropriating our intellectual property. Our failure to secure, protect and enforce our intellectual property rights could substantially harm the value of our technology, solutions, brand and business.

We will likely continue to be subject to third-party intellectual property infringement claims.

There is considerable patent and other intellectual property development activity and litigation in our industry. Our success depends upon our not infringing upon the intellectual property rights of others. Our competitors, as well as a number of other entities and individuals, may own or claim to own intellectual property relating to our industry. From time to time, third parties have claimed that we are infringing upon their intellectual property rights. For example, NobelBiz, Inc., or NobelBiz, filed a patent infringement lawsuit against us alleging that our local caller ID management service infringed on certain of its patents. In December 2017, the lawsuit was settled and the case was dismissed in its entirety.

Certain technology necessary for us to provide our solution may be patented, copyrighted or otherwise protected by other parties either now or in the future. In such case, we would have to negotiate a license for the use of that technology. We may not be able to negotiate such a license at a price that is acceptable, or at all. The existence of such a patent, copyright or other protections, or our inability to negotiate a license for any such technology on acceptable terms, could force us to cease using such technology and offering solutions incorporating such technology.

Others have claimed, or in the future may claim, that our solution and underlying technology infringe or violate their intellectual property rights. However, we may be unaware of the intellectual property rights that others may claim cover some or all of our technology or solution. Any claims or litigation could cause us to incur significant costs and expenses and, if successfully asserted against us, could require that we pay substantial damages or ongoing royalty payments, require that we refrain from using, manufacturing or selling certain offerings or features or using certain processes, prevent us from offering our solution or certain features thereof, or require that we comply with other unfavorable terms, any of which could harm our business and operating results. We may also be obligated to indemnify our clients or business partners and pay substantial settlement costs, including royalty payments, in connection with any such claim or litigation and to obtain licenses, which could be costly. Even if we were to prevail in such a dispute, any litigation regarding our intellectual property could be costly and time consuming and divert the attention of our management and key personnel from our business operations.

We employ third-party licensed software for use in or with our solution, and the inability to maintain these licenses or errors in the software we license could result in increased costs, or reduced service levels, which could harm our business.

Our solution incorporates certain third-party software obtained under licenses from other companies. We anticipate that we will continue to rely on such software from third parties in the future. Although we believe that there are

commercially reasonable alternatives to the third-party software we currently license, this may not be the case, or it may be difficult or costly to transition to other providers. In addition, integration of the software used in

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our solution with new third-party software may require significant work and require substantial investment of our time and resources. To the extent that our solution depends upon the successful operation of third-party software in conjunction with our software, any undetected errors or defects in this third-party software could prevent the deployment or impair the functionality of our solution, delay new product or solution introductions, result in increased costs, or a failure of our solution and injure our reputation. Our use of additional or alternative third-party software would require us to enter into license agreements with third parties and to integrate such software to our solution.

There can be no assurance that the technology licensed by us will continue to provide competitive features and functionality or that licenses for technology currently utilized by us or other technology that we may seek to license in the future, including to replace current third-party software, will be available to us at a reasonable cost or on commercially reasonable terms, or at all. Third-party licensors may also be acquired or go out of business, which could preclude us from continuing to use such technology. The loss of, or inability to maintain, existing licenses could result in lost product features and litigation. The loss of existing licenses could also result in implementation delays or reductions until equivalent technology or suitable alternative solutions could be developed, identified, licensed and integrated, and could increase our costs and harm our business.

Our solution utilizes open source software, and any failure to comply with the terms of one or more of these open source licenses could negatively affect our business.

Our solution includes software covered by open source licenses, which may include, for example, free general public use licenses, open source front-end libraries and open source applications. The terms of various open source licenses have not been interpreted by United States courts, and there is a risk that such licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to market our solution. By the terms of certain open source licenses, we could be required to release the source code of our proprietary software, and to make our proprietary software available under open source licenses, if we combine our proprietary software with open source software in a certain manner. In the event that portions of our proprietary software are determined to be subject to an open source license, we could be required to publicly release the affected portions of our source code, re-engineer all or a portion of our technologies, or otherwise be limited in the licensing of our technologies, each of which could reduce or eliminate the value of our technologies and solutions. In addition to risks related to license requirements, usage of open source software can lead to greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or controls on the origin of the software. Given the nature of open source software, there is also a risk that third parties may assert copyright and other intellectual property infringement claims against us based on our use of certain open source software programs. Many of the risks associated with the usage of open source software cannot be eliminated, and could harm our business.

Risks Related to Regulatory Matters

Failure to comply with laws and regulations could harm our business and our reputation.

Our business is subject to regulation by various federal, state, local and foreign governmental agencies, including agencies responsible for monitoring and enforcing employment and labor laws, workplace safety, environmental laws, consumer protection laws, anti-bribery laws, import/export controls, federal securities laws and tax laws and regulations. In certain jurisdictions, these regulatory requirements may be more stringent than those in the United States and in other circumstances these requirements may be more stringent in the United States. Noncompliance with applicable regulations or requirements could subject us to investigations, sanctions, mandatory recalls, enforcement actions, disgorgement of profits, fines, damages, civil and criminal penalties or injunctions. If any governmental sanctions, fines or penalties are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, operating results, financial condition and our reputation could be harmed. In addition, responding to any action will likely result in a significant diversion of management's attention and resources and an increase in professional fees. Enforcement actions and sanctions could further harm our business, operating results, financial condition and our reputation.

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Alleged or actual failure to comply with the constantly evolving legal and contractual environment surrounding calling consumers and wireless phone numbers by other companies or our competitors or governmental or private enforcement actions related thereto, could harm our business, financial condition, results of operations and cash flows. The legal and contractual environment surrounding calling consumers and wireless phone numbers is constantly evolving. In the United States, two federal agencies, the Federal Trade Commission, or FTC and the FCC, and various states have laws including, at the federal level, the Telephone Consumer Protection Act of 1991, or TCPA, that restrict the placing of certain telephone calls and texts to residential and wireless telephone subscribers by means of automatic telephone dialing systems, prerecorded or artificial voice messages and fax machines. These laws require companies to institute processes and safeguards to comply with these restrictions. The legal interpretation of certain of the requirements of these laws has been in dispute before the courts and federal agencies and the FCC is expected to conduct further rulemaking proceedings that may further alter its interpretation of the legal requirements involved. Some of these laws, where a violation is established, can be enforced by the FTC, FCC, State Attorneys General, or private party litigants. In these types of actions, the plaintiff may seek damages, statutory penalties, costs and/or attorneys' fees.

We have designed our solution to comply with these laws. To the extent that our solution is viewed by clients or potential clients as less functional, or more difficult to deploy or use, because of our solution's compliance features, we may lose market share to competitors that do not include similar compliance safeguards. Our contractual arrangements with our clients who use our solution to place calls also expressly require them to comply with all such laws and to indemnify us for any failure to do so. We take reasonable steps to confirm such compliance. Even with these efforts, it is possible that the FTC, FCC, private litigants or others may attempt to hold our clients, or us as a software solution provider, responsible for alleged violations of these laws. It also is possible that we may not successfully enforce or collect upon our contractual indemnities from our clients. Defending such suits can be costly and time-consuming and could result in fines, damages, expenses and losses. Additionally, these laws, and any changes to them or the interpretation thereof, that further restrict calling consumers, including to wireless phone numbers, adverse publicity regarding the alleged or actual failure by companies, including our clients and competitors, to comply with such laws or governmental or private enforcement actions related thereto, could result in a reduction in the use of our solution by our clients and potential clients, which could harm our business, financial condition, results of operations and cash flows.

On December 12, 2018, the FCC issued an order concluding that the Short Message Service, or SMS, or text messages, is an information service under federal law and not a telecommunications service. The regulatory significance to us is that the FCC's decision gives wireless carriers the flexibility to block SMS messages if the carriers identify the messages as unwanted by their wireless customers. Such blocking efforts by carriers may make it more difficult for our clients to use SMS messages that are provided by us as a part of our overall communications and outreach solution for our clients. Thus, although SMS comprises only a very small portion of our revenue base, its future availability as an effective tool for communication and outreach for our clients and their customers is uncertain and could cause our solution to be less valuable to clients and potential clients.

Increased taxes on our service may increase our clients' cost of using our service and/or increase our costs and reduce our profit margins to the extent the costs are not passed through to our clients, and we may be subject to liabilities for past sales and other taxes, surcharges and fees.

During 2011, we analyzed our activities and determined that we were obligated to collect sales taxes on sales of our subscription services in certain U.S. states. Accordingly, we registered with those states and, in 2012, commenced paying past-due amounts and collecting sales taxes from our clients and remitting such taxes to the applicable state taxing authorities. Prior to 2012, we did not collect or remit U.S. state or local sales, use, gross receipts, excise and utility user taxes, fees or surcharges on our solution. During the first quarter of 2015, we conducted an updated review of the taxability of sales of our subscription services and identified four additional U.S. states where we may be obligated to collect and remit sales taxes.

During 2013, we analyzed our activities and determined that we may be obligated to collect and remit sales, excise and utility user taxes, as well as surcharges as a communications service provider, and pay gross receipts taxes, on our usage-based fees in certain U.S. states and municipalities. We neither collected nor remitted state and local taxes or

surcharges on usage-based fees in any of the periods prior to 2014. Based on our ongoing assessment of our U.S. state and local tax collection and remittance obligations in respect of usage-based fees, in 2014, we

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registered for tax and regulatory purposes in all U.S. states where we determined such registration is proper and commenced collecting and remitting applicable state and local taxes and surcharges on such fees.

During 2016, we analyzed our activities and determined that we may be obligated to collect and remit sales, excise and utility user taxes on certain charges related to toll free service in certain U.S. states and municipalities. We neither collected nor remitted state or local taxes on such charges prior to December 2016. In the third quarter of 2016, we recorded an accrual for potential tax exposure related to toll free call charges for all periods open under the applicable statutes of limitations for assessment.

During 2018, we analyzed our activities and determined that we may be obligated to collect and remit sales tax on separately-stated service-based charges related to our subscription services. We neither collected nor remitted sales tax on such charges prior to September 2018. In the third quarter of 2018, we began collecting applicable taxes on such charges.

We have accrued a contingent liability of \$1.1 million for our best estimate of the probable amount of taxes and surcharges that may be imposed by various states and municipalities on our activities, including our usage-based and subscription services, prior to registration. This contingent liability is based on our analysis of a number of factors, including the source location of our usage-based fees, the taxability of our subscription services and the rules and regulations in each state. The actual amount of state and local taxes and surcharges paid may differ from our estimates. See Note 10 to the consolidated financial statements.

While we have accrued for these potential liabilities in each period, such accruals are based on analyses of our business activities, the operation of our solution, applicable statutes, regulations and rules in each state and locality and estimates of sales subject to sales tax or other charges. State and local taxing and regulatory authorities may challenge our position and may decide to audit our business and operations with respect to state or local sales, use, gross receipts, excise and utility user taxes, fees or surcharges, which could result in our being liable for taxes, fees, or surcharges, as well as related penalties and interest, above our recorded accrued liability or additional liability for taxes, fees, or surcharges, as well as penalties and interest for our clients, which could harm our results of operations and our relationships with our clients. In addition, if our international sales grow, additional foreign countries may seek to impose sales or other tax collection obligations on us, which would increase our exposure to liability.

The applicability of state or local taxes, fees or surcharges relative to services such as ours is complex, ambiguous and subject to interpretation and change. If states enact new legislation or if taxing and regulatory authorities promulgate new rules or regulations or expand or otherwise alter their interpretations of existing rules and regulations, we could incur additional liabilities. In addition, the collection of additional taxes, fees or surcharges in the future could increase our prices or reduce our profit margins. Compliance with new or existing legislation, rules or regulations may also make us less competitive with those competitors who are not subject to, or choose not to comply with, such legislation, rules or regulations. We have incurred, and will continue to incur, substantial ongoing costs associated with complying with state or local tax, fee or surcharge requirements in the numerous markets in which we conduct or will conduct business.

Our ability to offer services outside the United States is subject to different regulatory and taxation requirements, which may be complicated and uncertain.

As we continue to expand the sale and implementation of our solutions internationally, we will be subject to additional regulations, taxes, surcharges and fees. Compliance with these new complex regulatory requirements differ from country to country, and are frequently changing and may impose substantial compliance burdens on our business. At times, it may be difficult to determine which laws and regulations apply and we may discover that we are required to comply with certain laws and regulations after having provided services for some time in that jurisdiction, which could subject us to retroactive taxes, fees and penalties, and we may be subject to conflicting requirements. For example, prior to 2016, we had not collected taxes on our sales in Canada. During the second quarter of 2015, we reviewed the taxability of our sales in Canada and determined that we were obligated to collect from our Canadian clients and remit such taxes to the Canadian federal government and certain provincial governments Value-added Taxes and/or Provincial Sales Taxes. We commenced collecting and remitting such taxes in January 2016.

Additionally, as we expand internationally, the risk that governments will regulate or impose new or increased taxes

or fees on our services increases. Any such additional regulation or taxes could decrease the value of our international expansion and harm our results of operations.

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We are subject to assessments for unpaid USF contributions, as well as interest thereon and civil penalties, due to our late registration and past failure to recognize our obligation as a USF contributor and as an international carrier. We are classified as a telecommunications service provider for regulatory purposes and we are required to make direct contributions to the USF based on revenue we receive from the resale of interstate and international telecommunications services. In order to comply with the obligation to make direct contributions, we are registered with the Universal Service Administrative Company, or USAC, which is charged by the FCC with administering the USF, and have been remitting the required contributions to USAC since our registration with USAC in April 2013. However, we were also required to pay assessments for periods prior to our registration with the USAC. In this connection, we had recorded a disputed liability of \$3.9 million related to our obligations for contributions for the period from 2008 to 2012. In January 2017, the FCC ruled in our favor with respect to most of the disputed amount. In September 2017, USAC issued a credit to us reflecting the FCC's ruling for the \$3.1 million of the \$3.9 million in disputed liability. In addition, USAC dropped its claim for interest and penalties related to the disputed liability of \$3.1 million. The remaining \$0.8 million in dispute involves USAC's assessment of liability for the period of 2003 through 2007, which was prior to the five year window during which we were required to maintain financial records for USF contribution purposes. In 2013, we filed a Request for Review (a form of appeal) of this disputed amount with the FCC, which remains pending. If the Request for Review is not resolved in our favor, it is possible that we will be required to pay the assessments relating to 2003 through 2007. As of December 31, 2018, we had accrued \$0.9 million in respect of the remaining disputed assessments, including interest and penalties, for the period of 2003 through 2007. See Note 10 to the consolidated financial statements.

In June 2015, in connection with our late registration with the USAC and past failure to recognize our obligation as a USF contributor and as an international carrier from 2003 to 2012, we entered into a consent decree with the FCC Enforcement Bureau. In the consent decree, we agreed to pay a civil penalty of \$2.0 million to the U.S. Treasury in twelve equal quarterly installments starting in July 2015 without interest. In the third quarter of 2014, we had accrued a \$2.0 million liability for the then tentative civil penalty. As of December 31, 2018, we had paid all amounts due under the civil penalty. The consent decree also required us to comply with certain internal regulatory compliance monitoring, training and reporting requirements during a three year period, which ended in June 2018. Although we are no longer subject to the compliance, monitoring, training, and reporting requirements imposed by the consent decree, the FCC routinely imposes a higher expectation of regulatory compliance on companies that were previously subject to consent decrees and any further violations of FCC rules could subject us to heightened enforcement action, including higher fines and penalties. See Note 6 to the consolidated financial statements.

Our ongoing obligations to pay federal, state and local telecommunications contributions and taxes may decrease our price advantage over, and ability to compete with our competitors who are not subject to, or choose not to comply with, those requirements. In addition, if we are unable to continue to pass some or all of the cost of these contributions and taxes to our clients, our profit margins on the minutes we resell will decrease. Our federal contributions and tax obligations may significantly increase in the future, due to new interpretations by governing authorities, governmental budget pressures, changes in our business model or solutions or other factors.

If we do not comply with FCC rules and regulations, we could be subject to further FCC enforcement actions, fines, loss of licenses and possibly restrictions on our ability to operate or offer certain of our services.

Since our business is regulated by the FCC, we are subject to existing or potential FCC regulations relating to privacy, disability access, porting of numbers, USF contributions and other requirements. If we do not comply with FCC rules and regulations, we could be subject to further FCC enforcement actions, fines, loss of licenses and possibly restrictions on our ability to operate or offer certain of our services. Any further enforcement action by the FCC, which may be a public process, would hurt our reputation in the industry, could impair our ability to sell our services to clients and could harm our business and results of operations.

The regulations to which we are subject (in whole or in part) include:

- the Communications Assistance for Law Enforcement Act, or CALEA, which requires covered entities to assist law enforcement in undertaking electronic surveillance;
- contributions to the USF which requires that we pay a percentage of our revenues resulting from the provision of interstate telecommunications services to support certain federal programs;

payment of annual FCC regulatory fees based on our interstate and international revenues;

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rules pertaining to access to our services by people with disabilities and contributions to the Telecommunications Relay Services fund; and

FCC rules regarding Customer Proprietary Network Information, or CPNI, which prohibit us from using such information without client approval, subject to certain exceptions.

If we do not comply with any current or future rules or regulations that apply to our business, we could be subject to additional and substantial fines and penalties, we may have to restructure our solutions, exit certain markets, accept lower margins or raise the price of our solutions, any of which could harm our business and results of operations. Reform of federal and state USF programs could increase the cost of our service to our clients, diminishing or eliminating our pricing advantage.

The FCC and a number of states are considering reform or other modifications to USF programs. The way we calculate our contribution may change if the FCC or certain states engage in reform or adopt other modifications. In April 2012, the FCC released a Further Notice of Proposed Rulemaking to consider reforms to the manner in which companies like us contribute to the federal USF program. In general, the Further Notice of Proposed Rulemaking is considering questions like: what companies should contribute, how contributions should be assessed, and methods to improve the administration of the system. We cannot predict the outcome of this proceeding nor its impact on our business at this time.

Should the FCC or certain states adopt new contribution mechanisms or otherwise modify contribution obligations that increase our contribution burden, we will either need to raise the amount we currently collect from our clients to cover this obligation or absorb the costs, which would reduce our profit margins. Furthermore, the FCC has ruled that states can require us to contribute to state USF programs. A number of states already require us to contribute, while others are actively considering extending their programs to include the solution we provide. Currently our USF contributions are borne by our clients, which could result in our solution becoming less competitive as compared to products provided by our competitors.

Privacy concerns and domestic or foreign laws and regulations may reduce the demand for our solution, increase our costs and harm our business.

Our clients use our solution to collect, transfer, use, and otherwise process, or Process, personal data regarding their customers and potential customers. The Processing of personal data and other types of protected data subjects us and our customers to a number of domestic and international laws that govern and regulate the Processing of personal data and other types of protected data. These laws regulate and address a range of issues including data privacy (e.g., restrictions or technological or process requirements regarding the Processing of data), cybersecurity (e.g., requirements for the protection of personal data against compromise of the confidentiality, integrity, or availability of personal data), breach notification, data governance, and risk management and reporting. These laws can vary substantially from jurisdiction to jurisdiction, and are rapidly evolving. Domestic and international government authorities are considering adopting, or may adopt, laws and regulations in the future, regarding the Processing of personal data obtained from consumers and individuals.

Moreover, laws and regulations outside the United States, and particularly in the European Union, or EU, often are more restrictive than those in the United States. Such laws and regulations may have more stringent compliance obligations in regards to data protection. By way of example, under the EU General Data Protection Regulation, or GDPR, data subjects have the right to access, correct, and request deletion of personal data stored or maintained by companies subject to GDPR, such companies may have shorter timeframes and broader requirements for informing data protection authorities and individuals of security breaches that affect their personal data, and, in some cases, may be required to obtain individuals' consent to process personal data for certain purposes. We also may be bound by additional, more stringent contractual obligations relating to our collection, use, and disclosure of personal, financial, and other data. It is possible that a governmental authority may implement a new law or interpret an existing law in a manner that limits our customers' ability to use our solutions or that requires us to make costly or detrimental changes in our solutions and services, whether on a one-time basis or as an ongoing increase in our operating costs and expenses. Further, some laws might require us to disclose proprietary or confidential aspects of our solutions in a manner that compromises the effectiveness of our solutions or that enables our competitors or bad actors to gain insight into the operation of our technology, enabling them to copy or circumvent our solutions and thereby reducing

the value of our technology.

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The costs of compliance with, and other burdens imposed by, such laws and regulations that are applicable to us and the businesses of our clients may limit the use and adoption of our solution and reduce overall demand for our solution. Also, failure to comply with such laws may lead to significant fines, penalties or other regulatory liabilities, such as orders or consent decrees forcing us or our clients to modify business practices, and reputational damage or third-party lawsuits for any noncompliance with such laws. Our business could be harmed if legislation or regulations are adopted, interpreted or implemented in a manner that is inconsistent from country to country and inconsistent with our current policies and practices, or those of our clients.

Furthermore, privacy and data protection concerns may cause consumers to resist providing the personal data or other types of protected data that may be subject to laws and regulations that is necessary to allow our clients to use our solution effectively. Even the perception of privacy concerns, whether or not valid, may inhibit market adoption of our solution in certain industries or countries.

The European Union's GDPR could increase our costs and the costs of our clients to operate, limit the use of our solution or change the way we operate, expose us to substantial fines and penalties if we fail to comply, and lead to similar laws being enacted in other jurisdictions.

On May 25, 2018, the EU adopted the GDPR. The GDPR replaces the EU Data Protection Directive, also known as Directive 95/46/EC, and is intended to harmonize data protection laws throughout the EU by applying a single data protection law that is binding throughout each member state. We and many of our customers are subject to the GDPR based upon our processing of personal data collected from EU data subjects, such as our processing of personal data of our customers in the EU and our processing of our EU employees' personal data.

The GDPR enhances data protection obligations 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, mandatory data breach notification requirements and onerous new obligations on services providers. Non-compliance with the GDPR can trigger steep fines of up to €20 million or 4% of total worldwide annual turnover, whichever is higher. The member states of the EU were tasked under the GDPR to enact certain implementing legislation that would add to or further interpret the GDPR requirements and this additional implementing legislation potentially extends our obligations and potential liability for failing to meet such obligations.

Given the breadth and depth of changes in data protection obligations, our compliance with the GDPR's requirements will continue to require time, resources and review of the technology and systems we use to satisfy the GDPR's requirements, including as EU member states continue to enact their legislation.

Among the compliance obligations the GDPR raises for us and our customers are requirements regarding the transfer of personal data from the EU to other jurisdictions, including the United States. In order to comply with the data transfer obligations imposed by the GDPR, we rely on the use of standard contractual clauses issued by the European Commission. Where applicable, we also enter into data processing agreements including standard contractual clauses approved by the Article 29 Working Party (now the Data Protection Board) to authorize the transfer of personal data from the EU and in support of our data processing activities on behalf of our customers. Recent litigation challenging the adequacy of the standard contractual clauses may negatively impact the operation of our business. The invalidation of the standard contractual clauses may require us to adopt costly or burdensome alternatives. It may be necessary to establish additional systems and business operations in the EU to avoid the transfer of personal data out of the EU. Such a change in the conduct of our business, may involve substantial expense and the diversion of resources from other aspects of our business, all of which may harm our business and results of operations.

Given the complexity of operationalizing the GDPR, the maturity level of proposed compliance frameworks and the relative lack of guidance in the interpretation of its numerous requirements, we and our customers are at risk of enforcement actions taken by EU data protection authorities or litigation from consumer advocacy groups acting on behalf of data subjects. This risk will likely remain until there is more guidance on the GDPR, including as to implementing legislation enacted by the member states and enforcement actions taken by various data protection authorities.

The implementation of the GDPR has led other jurisdictions to amend, or propose legislation to amend, their existing data protection laws to align with the requirements of the GDPR with the aim of obtaining an adequate level of data protection to facilitate the transfer of personal data from the EU. Accordingly, the challenges we face in the EU will

likely also apply to other jurisdictions outside the EU that adopt laws similar in construction to the GDPR or

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regulatory frameworks of equivalent complexity. For example, in 2018, the State of California adopted the California Consumer Privacy Act of 2018, or the CCPA. The CCPA has been characterized as the first “GDPR-like” privacy statute to be enacted in the United States because it mirrors a number of the key provisions of the GDPR. The CCPA establishes a new privacy framework for covered businesses by creating an expanded definition of personal information, establishing new data privacy rights for consumers in the State of California, imposing special rules on the collection of consumer data from minors, and creating a new and potentially severe statutory damages framework for violations of the CCPA and for businesses that fail to implement reasonable security procedures and practices to prevent data breaches. As currently enacted, we and our customers will be required to comply with these requirements before the CCPA becomes effective on January 1, 2020.

Risks Related to Ownership of Our Common Stock

Our stock price has been volatile, may continue to be volatile and may decline, including due to factors beyond our control.

The market price of our common stock has been volatile in the past and may fluctuate significantly in the future in response to numerous factors, many of which are beyond our control. During the twelve months ended December 31, 2018, the sale price per share of our common stock ranged from a low of \$22.55 to a high of \$49.50. Factors that may contribute to continuing volatility in the price of our common stock include:

- actual or anticipated fluctuations in our operating results;
- the financial projections we provide to the public, any changes in these projections or our failure to meet these projections;
- failure of securities analysts to initiate or maintain coverage of our company, changes in financial estimates by any securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors;
- ratings changes by any securities analysts who follow our company;
- sales of our common stock (or securities that convert to our common stock) by us or our significant stockholders, or the public announcement of same;
- the assessment of our business or position in our market published in research and other reports;
- announcements by us or our competitors of significant product or technical innovations, financings, acquisitions, strategic partnerships, joint ventures or capital commitments;
- entry into the market by new competitors, or the introduction of new products or the generation of new sales by us or our competitors;
- changes in operating performance and stock market valuations of other technology companies generally, or those in the software as a service industry in particular;
- price and volume fluctuations in the overall stock market, including as a result of trends in the U.S. or global economy;
- any major change in our board of directors or management;
- lawsuits threatened or filed against us;
- security breaches or incidents impacting our clients or their customers and security breaches of companies that provide solutions similar to our solution, which could negatively impact our industry as a whole;
- legislation or regulation of our business, the internet and/or contact centers;
- loss of key personnel;
- new entrants into the contact center market, including the transition by providers of legacy on-premise contact center systems to cloud solutions;
- the perceived or real impact of events that harm our direct competitors;
- developments with respect to patents or proprietary rights;
- general market conditions; and
- other events or factors, including those resulting from war, incidents of terrorism or responses to these events, which would be unrelated to our business and industry, and outside of our control.

In addition, stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many technology companies. Stock prices of many

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technology companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. These and other factors may disproportionately impact the trading price of our common stock. In the past, stockholders have instituted securities class action litigation following periods of market volatility. If we were to become involved in securities litigation, it could subject us to substantial costs, divert resources and the attention of management from our business and harm our business, results of operations, financial condition, reputation and cash flows.

If securities or industry analysts discontinue publishing research or reports about our business, or publish negative reports about our business, our share price and trading volume could decline.

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us or our business, our market and our competitors. We do not have any control over these analysts. If one or more of the analysts who cover us downgrade our shares or change their opinion of our shares or our business, our share price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in financial markets or our industry market, which could cause our share price or trading volume to decline.

Substantial future sales of shares of our common stock could cause the market price of our common stock to decline. The market price of shares of our common stock could decline as a result of substantial sales of our common stock, particularly sales by our directors, executive officers and significant stockholders or the perception in the market that holders of a large number of shares intend to sell their shares.

The future registration of shares of our common stock may cause our stock price to decline, even before such shares are actually sold in the market. We have registered shares of common stock that we may issue under our employee equity incentive plans. These shares can be sold freely in the public market upon issuance.

We are unable to predict the effect that sales, or the perception that our shares may be available for sale, will have on the prevailing market price of our common stock.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of our company more difficult, limit attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws may have the effect of delaying or preventing a change in control or changes in our management. Our amended and restated certificate of incorporation and amended and restated bylaws:

- provide that our board of directors is classified into three classes of directors;
- provide that stockholders may remove directors only for cause and only with the approval of holders of at least 66 $\frac{2}{3}$ % of our then outstanding capital stock;
- provide that the authorized number of directors may be changed only by resolution of the board of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- provide that our stockholders may not take action by written consent, and may only take action at annual or special meetings of our stockholders;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide notice in writing in a timely manner, and also specify requirements as to the form and content of a stockholder's notice;
- restrict the forum for certain litigation against us to Delaware;
- do not provide for cumulative voting rights (therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election);
- provide that special meetings of our stockholders may be called only by the chairman of the board, our chief executive officer or the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors; and

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provide that stockholders will be permitted to amend our amended and restated bylaws only upon receiving at least $66\frac{2}{3}\%$ of the votes entitled to be cast by holders of all outstanding shares then entitled to vote generally in the election of directors, voting together as a single class.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any “interested” stockholder for a period of three years following the date on which the stockholder became an “interested” stockholder.

The existence of these provisions could negatively affect the price of our common stock and limit opportunities for you to realize value in a corporate transaction.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the sole and exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders’ ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees. Our amended and restated certificate of incorporation provides that, unless we consent to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of fiduciary duty owed by any of our directors, officers or other employees to us or to our stockholders, (3) any action asserting a claim arising pursuant to the Delaware General Corporation Law or (4) any action asserting a claim governed by the internal affairs doctrine. The choice of forum provision may limit a stockholder’s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find the choice of forum provision contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, operating results and financial condition.

We have never paid cash dividends and do not intend to pay dividends for the foreseeable future.

We have never declared or paid any cash dividends on our common stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our board of directors, subject to applicable laws, and will depend on a number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, including under any future loan facilities, general business conditions and other factors that our board of directors may deem relevant. While our convertible senior notes do not prohibit payment of dividends, any dividends declared and paid by our board of directors would result in an adjustment to the conversion rate of such notes such that additional shares would be issuable upon conversion. Accordingly, holders of our common stock must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

Risks Related to Ownership of Our Convertible Senior Notes

Servicing our debt may require a significant amount of cash. We may not have sufficient cash flow from our business to pay our indebtedness, and we may not have the ability to raise the funds necessary to settle for cash conversions of the convertible senior notes or to repurchase the convertible senior notes for cash upon a fundamental change, which could adversely affect our business and results of operations.

In May 2018, we issued \$258.8 million in aggregate principal amount of convertible senior notes in a private offering. The interest rate is fixed at 0.125% per annum and is payable semiannually in arrears on May 1 and November 1 of each year, beginning on November 1, 2018. Our ability to make scheduled payments of principal, interest, or to refinance our indebtedness, including the convertible senior notes, depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not generate cash flows from operations in the future that are sufficient to service our debt and make necessary capital expenditures. If we are unable to generate such cash flows, we may be required to adopt one or more alternatives,

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such as selling assets, restructuring debt or obtaining additional debt financing or equity capital on terms that may be onerous or highly dilutive. Our ability to refinance any future indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations.

Subject to certain conditions, holders of the convertible senior notes have the right to require us to repurchase for cash all or any portion of their convertible senior notes upon the occurrence of a fundamental change (as defined in the indenture governing the convertible senior notes) at a fundamental change repurchase price equal to 100% of the principal amount of the convertible senior notes to be repurchased, plus accrued and unpaid interest, if any, to, but excluding, the fundamental change repurchase date. Upon conversion, unless we elect to deliver solely shares of our common stock to settle such conversion (other than paying cash in lieu of delivering any fractional share), we will be required to settle a portion or all of our conversion obligation through the payment of cash. We may not have enough available cash or be able to obtain financing at the time we are required to make repurchases in connection with such conversion and our ability to pay may additionally be limited by law, regulatory authority or agreements governing our future indebtedness. Our failure to repurchase the convertible senior notes at a time when the repurchase is required by the indenture governing the convertible senior notes or to pay any cash payable on future conversions as required by such indenture would constitute a default under such indenture. A default under the indenture or the fundamental change itself could also lead to a default under agreements governing our future indebtedness. If the repayment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase the convertible senior notes or make cash payments upon conversions thereof.

The conditional conversion feature of the convertible senior notes, if triggered, may adversely affect our financial condition and operating results.

In the event the conditional conversion feature of the convertible senior notes is triggered, holders of convertible senior notes will be entitled to convert the convertible senior notes at any time during specified periods at their option. If one or more holders elect to convert their convertible senior notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional share), we will be required to settle a portion or all of our conversion obligation through the payment of cash, which could adversely affect our liquidity. In addition, even if holders do not elect to convert their convertible senior notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the convertible senior notes as a current rather than long-term liability, which would result in a material reduction of our net working capital.

Transactions relating to our convertible senior notes may affect the value of our common stock.

The conversion of some or all of the convertible senior notes would dilute the ownership interests of existing stockholders to the extent we satisfy our conversion obligation by delivering shares of our common stock upon any conversion of such convertible senior notes. Our convertible senior notes may become convertible at the option of their holders under certain circumstances. If holders of our convertible senior notes elect to convert their convertible senior notes, we may settle our conversion obligation by delivering to them a significant number of shares of our common stock, which would cause dilution to our existing stockholders.

In addition, in connection with the issuance of the convertible senior notes, we entered into capped call transactions with certain financial institutions (the "Option Counterparties"). The capped call transactions are expected generally to reduce the potential dilution to our common stock upon any conversion or settlement of the convertible senior notes and/or offset any cash payments we are required to make in excess of the principal amount of converted convertible senior notes, as the case may be, with such reduction and/or offset subject to a cap based on the cap price. From time to time, the Option Counterparties or their respective affiliates may modify their hedge positions by entering into or unwinding various derivative transactions with respect to our common stock and/or purchasing or selling our common stock or other securities of ours in secondary market transactions prior to the maturity of the convertible senior notes. This activity could cause a decrease in the market price of our common stock.

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The accounting method for convertible debt securities that may be settled in cash, such as the convertible senior notes, could have a material effect on our reported financial results.

Under Financial Accounting Standards Board Accounting Standards Codification 470-20, Debt with Conversion and Other Options (“ASC 470-20”), an entity must separately account for the liability and equity components of convertible debt instruments (such as the convertible senior notes) that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer’s economic interest cost. ASC 470-20 requires the value of the conversion option of the convertible senior notes, representing the equity component, to be recorded as additional paid-in capital within stockholders’ equity in our consolidated balance sheet and as a discount to the convertible senior notes, which reduces their initial carrying value. The carrying value of the convertible senior notes, net of the discount recorded, will be accreted up to the principal amount of the convertible senior notes from the issuance date until maturity, which will result in non-cash charges to interest expense in our consolidated statement of operations. Accordingly, we will report lower net income or higher net loss in our financial results because ASC 470-20 requires interest to include both the current period’s accretion of the debt discount and the instrument’s coupon interest, which could adversely affect our reported or future financial results, the trading price of our common stock and the trading price of the convertible senior notes.

ITEM 1B. Unresolved Staff Comments

None.

ITEM 2. Properties

We currently lease approximately 109,500 square feet of office space worldwide. Information concerning our principal leased properties as of December 31, 2018 is set forth below:

Principal Use	Square Footage	Lease Expiration Date
San Ramon, California Corporate headquarters, sales, marketing, product design, professional services, research and development	79,600	March 2021
The Philippines Technical support, training and other professional services	16,500	March, 2020
Russia Software development	13,400	December 2019

The hosting of our equipment and software at co-located third-party facilities is also significant to our business. We have entered into rental agreements with third-party facilities in Santa Clara, California; Atlanta, Georgia; Slough, England; and Amsterdam, the Netherlands, which require monthly payments for a fixed period of time in exchange for certain guarantees of space, network and telecommunication availability. These agreements expire at various dates through 2021.

We believe our facilities are sufficient for our current needs.

ITEM 3. Legal Proceedings

Information with respect to this item may be found under the heading “Legal Matters” in Note 10 of the Notes to Consolidated Financial Statements in this Annual Report on Form 10-K, which information is incorporated herein by reference.

ITEM 4. Mine Safety Disclosures

Not applicable.

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PART II

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

Stock Price

Our common stock trades on The NASDAQ Global Market, or NASDAQ, under the symbol “FIVN.” The following table sets forth, for the periods indicated, the high and low reported sales prices of our common stock as reported by NASDAQ.

	High	Low
Year 2018		
First quarter	\$32.47	\$22.55
Second quarter	39.55	26.92
Third quarter	49.50	31.64
Fourth quarter	45.58	34.66

Year 2017

First quarter	\$ 18.93	\$ 14.00
Second quarter	24.80	16.30
Third quarter	23.93	19.53
Fourth quarter	27.81	22.51

Number of Common Stock Holders

On February 15, 2019, there were 34 stockholders of record of our common stock who held an aggregate of 59,253,048 shares of our common stock. We believe that there are a substantially greater number of beneficial owners of our common stock.

Dividend Policy

We have never declared or paid any cash dividends on our common stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. In addition, while our convertible senior notes do not prohibit payment of dividends, any dividends declared and paid by our board of directors would result in an adjustment to the conversion rate of such notes such that additional shares would be issuable upon conversion. Any future determination to declare cash dividends will be made at the discretion of our board of directors, subject to applicable laws, and will depend on a number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, including under any future loan facilities, general business conditions and other factors that our board of directors may deem relevant.

Recent Sales of Unregistered Securities

None.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Stock Performance Graph

The graph below compares the cumulative total return on our common stock with that of the Russell 2000 Index and the NASDAQ Computer and Data Processing Index. The period shown commences on April 4, 2014 and ends on December 31, 2018. The graph assumes \$100 was invested at the close of market on April 4, 2014 in the common stock of Five9, the Russell 2000 Index and the NASDAQ Computer and Data Processing Index, and

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assumes the reinvestment of any dividends. The stock price performance on the following graph is not intended to forecast or be indicative of future stock price performance of our common stock.

This performance graph shall not be deemed “soliciting material” or to be “filed” with the SEC for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any filing of Five9, Inc. under the Securities Act of 1933, as amended, or the Securities Act of 1934 Exchange, as amended.

ITEM 6. Selected Financial Data

The following selected consolidated statement of operations data for the years ended December 31, 2018, 2017 and 2016 and the selected consolidated balance sheet data as of December 31, 2018 and 2017 are derived from our audited consolidated financial statements included elsewhere in this Form 10-K. The following selected consolidated statement of operations data for the years ended December 31, 2015 and 2014 and the selected consolidated balance sheet data as of December 31, 2016, 2015 and 2014 are derived from our audited consolidated financial statements that are not included in this report.

Our historical results are not necessarily indicative of the results that may be expected in the future. You should read the following selected financial data in conjunction with the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” our consolidated financial statements, related notes, and other financial information included elsewhere in this Form 10-K.

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	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(in thousands, except per share data)				
Revenue	\$257,664	\$200,225	\$162,090	\$128,868	\$103,102
Cost of revenue ⁽¹⁾⁽²⁾	104,034	83,104	66,934	59,495	54,661
Gross profit	153,630	117,121	95,156	69,373	48,441
Operating expenses:					