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2019 ANNUAL REPORT

> “We have the business and sales pipeline today that we expect to propel growth for 2020.”
>
> Glenn Lurie,
> President and CEO, Synchronoss

Our Mission

Enable global companies to deliver continuous transformative customer experiences that create high value engagements and new monetization opportunities.

Our Vision

With our support, global companies create game-changing interactions with their customers that were previously considered unachievable.

As we reflect on the accomplishments of the past year and look to the year ahead, we are focused on growth for our shareholders, our key priorities and our core values. With this focus, we're strengthening and expanding our relationships with leading operators worldwide while continuing to find opportunities in the Telecommunications, Media and Technology (TMT) space.

The foundation for success that we established in 2018 yielded proof points across our product portfolio with major business wins booked in 2019. We secured three new cloud deals, including a new Tier 1 operator, AT&T—reinforcing our unmatched leadership in the white label personal cloud market. Additionally, we achieved a unique market position as being the provider of not only the RCS-based advanced messaging solution in Japan for all three Japanese operators but by being selected by the US Cross-Carrier Messaging Initiative (CCMI)—a new joint venture of AT&T, Sprint, T-Mobile and Verizon—to also deliver this next generation of messaging. This makes Synchronoss the unquestioned leader in operator RCS-based advanced messaging with access to over 300 million subscribers, engaging with the same platform and ecosystem. Furthermore, we forged new partnerships and distribution channels with some of the most important players in the IoT smart building space, including Arrow, Tridium and Accruent. Lastly, we reinforced the effectiveness and validity of our digital platform, using it to improve our own speed to market integration for our platforms, as well as delivering integration services on behalf of Amazon and its portfolio of digital services.

While we have done a great deal to reset our foundation and intensify our momentum, as we go to press for this 2019 annual report, the world is facing the novel coronavirus pandemic. Our customers are all facing previously unheard-of challenges as we prepare for what the remainder of 2020 will bring. Our products and services are used by the TMT market to engage and interact with and among consumers. At the heart of all of this is communication. We believe our portfolio is strong and well-positioned to help our customers support their end-users through this crisis. The tools our customers have at their disposal could be used to pivot and offer services that support both their end-users now and help all of us adapt to a “new normal” in the future. Our products and platforms are well-positioned to support that pivot while driving growth, reducing costs and improving overall customer experience.

As I bring this letter to a close, we want to thank all our shareholders, our customers and our partners for their tireless and continued support. We also thank our employees for their continued dedication in these challenging times and for living the 3Ps that set the foundation of the Synchronoss culture. Looking ahead, we are preparing for the world in a post-pandemic environment, positioned to drive growth, shareholder value and working in a world that has changed for all of us.

Glenn

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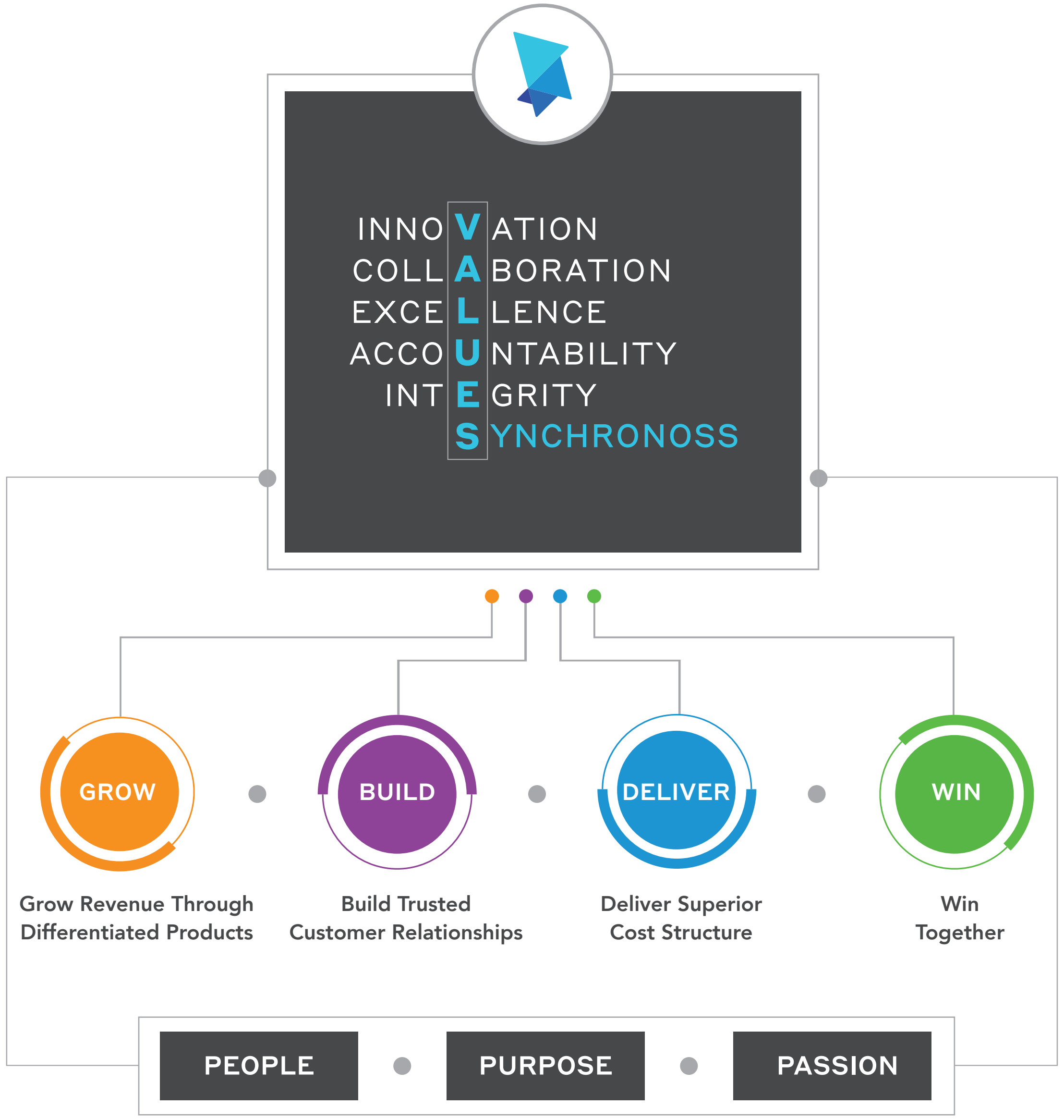
Our key priorities and core values are at the center of everything we do



Create New Revenue Streams, Scale New Ecosystems, Lower The Costs for Digital Innovation: It's What We Do.

In 2019, we answered operators' biggest question in this massive investment 5G environment: how can we find new, incremental revenue streams? We've answered this question with powerful customer-centric platforms and solutions that stand as proof points for brand new growth and cost savings.

PERSONAL CLOUD

A vital consumer service and viable new revenue for operators

Synchronoss is the world leader in providing white label personal cloud. In 2019, we grew our addressable market by more than 200 million subscribers—further validating that cloud is an essential service that drives sizable new revenue for operators.

ADVANCED MESSAGING

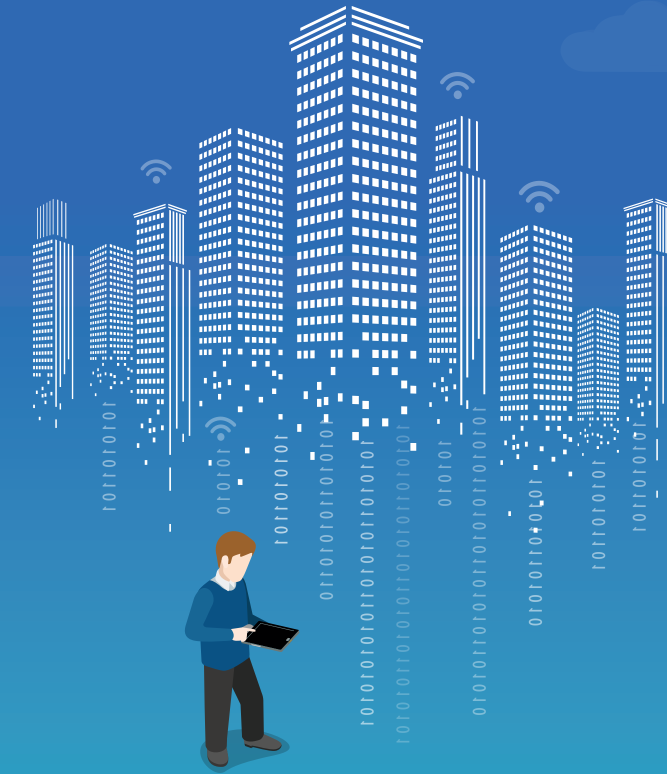
Innovative messaging for consumers and new commerce for brands

Our Advanced Messaging Platform is the first to deploy white label RCS messaging across leading operators in Japan. In 2019, we secured a contract to provide the same platform to the top four US operators—establishing a global market for over 300 million subscribers.

SMART BUILDINGS

Enables savings, control and connections for the IoT ecosystem

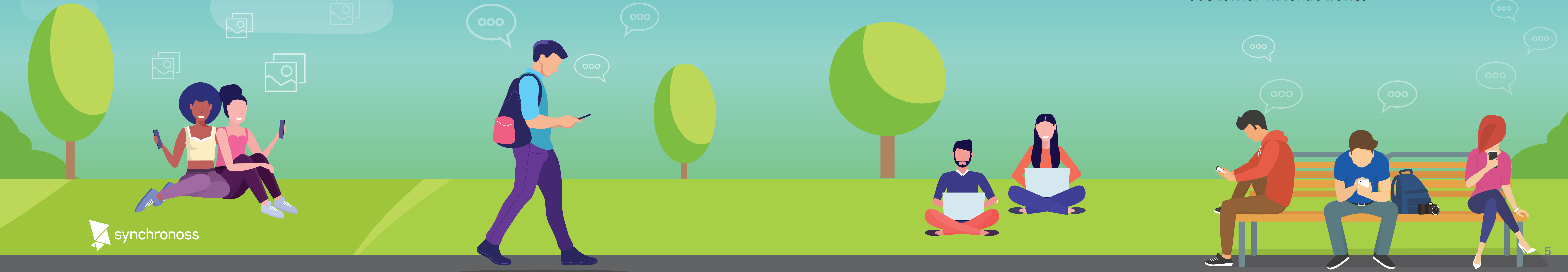
We created a new and valuable tool for building managers to optimize the use of leading smart building platforms to better harness energy, reduce costs and create new, innovative ways to maximize building performance.



DIGITAL

A proven platform to create efficiencies, savings, revenue and innovation

We continue to innovate digital experiences and transactions for our customers to lower costs, drive new revenue and increase customer interactions.



Synchronoss Personal Cloud

The World's Leader in Operator Personal Cloud

Cloud is no longer a new idea for keeping personal data and media safe and secure. It's a critical part of daily life. As the world's largest provider of white label personal cloud, we give operators the powerful opportunity to meet this critical need with the trust, security and integrity that other platforms simply cannot meet. And consumers are responding.

A VALUABLE EXPERIENCE THAT SUBSCRIBERS NEED AND OPERATORS WANT

Consumer content is being generated faster than phone storage can keep up. And personal data has never been more shared, more meaningful, more personal and more critical to preserve. Synchronoss frees customers to generate and share more media than ever to connect with their loved ones, across any device, and never worry about their data's access and security.

2019—A RECORD YEAR FOR GROWING OUR ADDRESSABLE MARKET

verizon ~120M SUBSCRIBERS

at&t ~100M SUBSCRIBERS

ASSURANT® ~50M SUBSCRIBERS

TRACFONE® ~21M SUBSCRIBERS

Source: Synchronoss Primary Research Inputs, Statista Survey, Arthur D. Little Research and Analysis

> "Operators are in a great position by offering a critical, branded service, giving their customers new ways to use their personal data and the trust that it will always be there, and it will always be secure."
>
> – Glenn Lurie, President and CEO, Synchronoss

Synchronoss Advanced Messaging

A Global Platform, New Ecosystem and the New Revenue Opportunity of a Generation

Synchronoss was the first RCS platform to deploy to Tier 1 operators in Japan. In 2019, we expanded our RCS coverage to the top four US operators. This not only creates a superior experience for messaging, its scale gives brands a meaningful opportunity to engage consumers in new ways.

Advanced messaging creates a unique "one-stop-shop" for friends and brands that delivers convenience while safeguarding security and privacy. The result is a messaging experience that is winning consumer hearts.

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“Our advanced messaging platform brings the possibilities of RCS to life for consumers, brands and operators in a single ecosystem.”

Glenn Lurie, President and CEO, Synchronoss

JAPAN
~70M ADDRESSABLE SUBSCRIBER DEVICES

US
~260M ADDRESSABLE SUBSCRIBER DEVICES
AT&T
SPRINT
T-MOBILE
VERIZON

SYNCHRONOSS ADVANCED MESSAGING PLATFORM

Our advanced messaging platform connects brands to hundreds of millions of subscribers, opening up a significant new channel for a new kind of "conversational commerce"—at scale.

98% Open rate of today's SMS
Source: Gartner

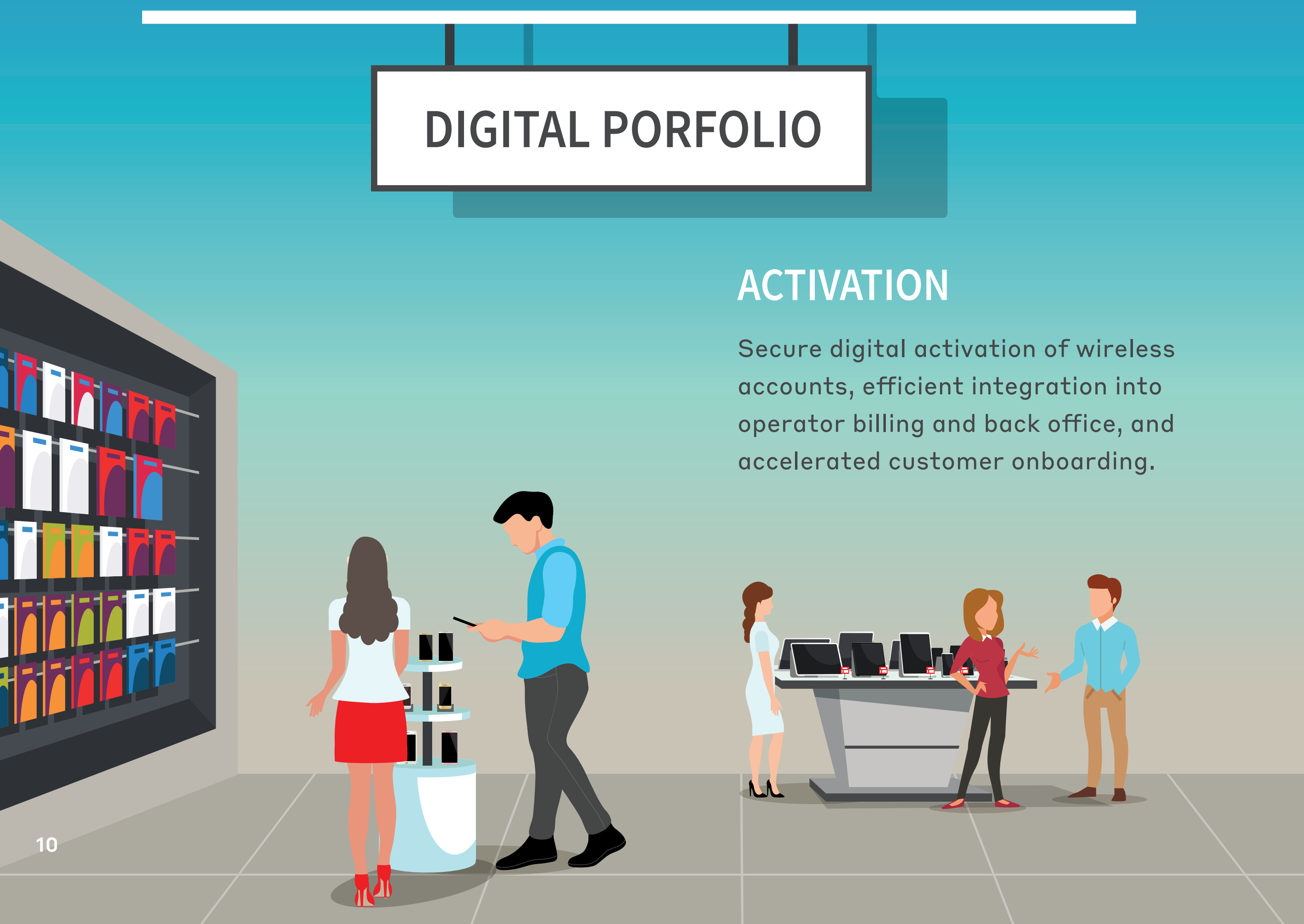
72% BY 2023 mobile will hold the lion's share of digital spend
Source: Marketer

Improved engagement vs. SMS
80% OPEN RATE **25%** RESPONSE RATE
Source: Operator trials

Synchronoss Digital Portfolio

Our Digital Solutions Help Transform New Experiences, Journeys, Delivery Timelines and Bottom Line Savings

Whether it's trimming time and resources off service activations, accelerating the creation and management of omnichannel journeys across a growing number of touchpoints or making personalized retail experiences more cost effective, Synchronoss Digital Solutions help realize the promise of digital technology—doing way more for less.



ACTIVATION

Secure digital activation of wireless accounts, efficient integration into operator billing and back office, and accelerated customer onboarding.

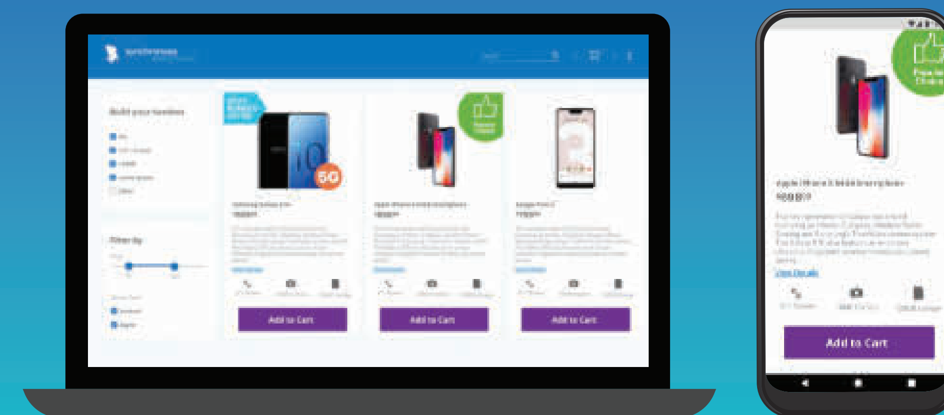
OUR DIGITAL PORTFOLIO DELIVERS OMNICHANNEL CUSTOMER JOURNEYS AND SLASHES TIME TO MARKET

4x reduction in time-to-market

85% increase in coding productivity

30% fewer resources to deliver personalized, omnichannel experiences

Source: (Based on client feedback of comparative POC performance vs. leading competitive player)



DIGITAL EXPERIENCES

Fast creation of innovative digital journeys and integration into legacy back-office systems with an ultra-efficient low code interface.

AI/APPLIED ANALYTICS

Insights to quickly and easily adapt to evolving business needs and IT environments—delivering agility and a competitive advantage.

OPTIMIZES LEGACY TECHNOLOGY TO ACHIEVE SAVINGS AND INNOVATION

Onboards new cloud customers seamlessly

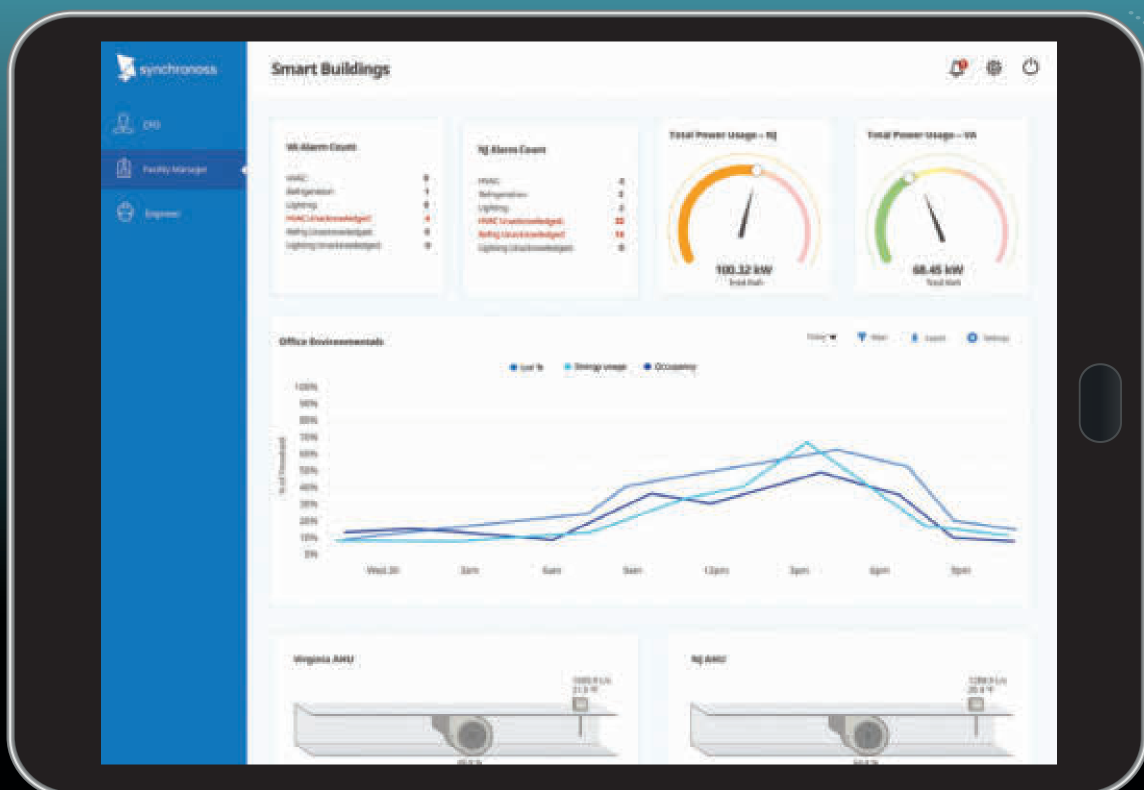
Integrates advanced messaging with operator billing

Uses applied analytics to inform administrator use cases

Synchronoss Smart Buildings Platform

A Single, Intelligent Dashboard Makes It Easier to Save Costs

Today's facility managers must do more with less. Success hinges on optimizing operations and maintenance while reducing capital expenditures. Synchronoss is unique in the smart building market, providing a single pane view to monitor, control and optimize energy usage and systems.



“The smart building has the potential to be an excellent use case for the internet of things, but enterprises struggle with disparate systems that lack integration. At Synchronoss, we're building partnerships to remove this obstacle”

– David Haight, President and General Manager, Global Partnerships, Synchronoss

DRIVING THE NEED TO OPTIMIZE EFFICIENCY AND COSTS

24B Energy is the single largest operating expense in a typical commercial building, costing American businesses more than $24 billion a year.

Source: Trane

30% An IoT-based approach using wireless sensors can reduce deployment cost by around 30% when compared to a traditional building management system.

Source: Intel

THE VALUE OF ANALYTICS-BASED ACTIONS

Smart Buildings uses advanced analytics and AI to unite the different systems in the market, helping building administrators take the right action, at the right time—and save money.

10% Reduction in annual maintenance costs

Source: McKinsey

~20% Up to 20% reduction in downtime

Source: McKinsey

BUILDING PARTNERSHIPS THAT DELIVER END-TO-END SMART BUILDING SOLUTIONS

- TRIDIUM
- ARROW
- ACCRUENT
- AT&T

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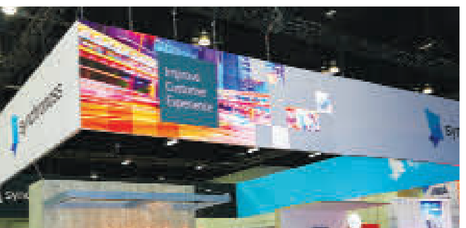

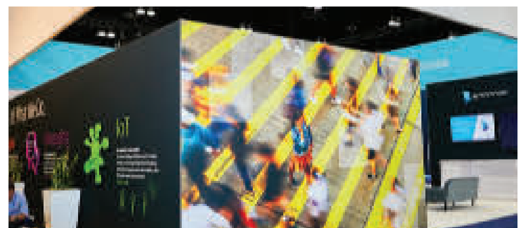

Stockholder Information

For address changes, consolidation, lost or replacement certificates, contact:

Transfer Agent and Registrar
American Stock Transfer & Trust Company LLC.

6201 15th Avenue
Brooklyn, NY, 11219
800.937.5449
Outside of the US
+01.718.921.8200 x 4801

Common Stock

Synchronoss Technologies, Inc. is listed on NASDAQ under the ticker symbol "SNCR"

Annual Meeting

The annual meeting of stockholders will be held on June 3, 2020 at 10 am Eastern Time virtually via a live interactive audio webcast on the internet at : **www.virtualshareholdermeeting.com/SNCR2020**

Auditors

Ernst & Young LLP
Iselin, NJ 08830

Investor Relations

investor@synchronoss.com
800.575.7606

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, 2019

Or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 000-52049

SYNCHRONOSS TECHNOLOGIES, INC.

(Exact name of registrant as specified in its charter)

Delaware	**06-1594540**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
200 Crossing Boulevard, 8th Floor Bridgewater, New Jersey	**08807**
(Address of principal executive offices)	(Zip Code)

(866) 620-3940
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $.0001 par value	SNCR	The Nasdaq Stock Market, LLC

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

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

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

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

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

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

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

The aggregate market value of the common stock held by non-affiliates of the Registrant as of June 28, 2019, the last business day of the Registrant's last completed second quarter, based upon the closing price of the common stock as reported by The Nasdaq Stock Market on such date was approximately $331.7 million. Shares of common stock held by each executive officer, director and stockholders known by the Registrant to own 10% or more of the outstanding stock based on public filings and other information known to the Registrant have been excluded since such persons may be deemed affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 10, 2020, a total of 44,564,306 shares of the Registrant's common stock were outstanding.
The exhibit index as required by Item 601(a) of Regulation S-K is included in Item 15 of Part IV of this report on Form 10-K.

DOCUMENTS INCORPORATED BY REFERENCE

Information required by Part III (Items 10, 11, 12, 13 and 14) is incorporated by reference to portions of the Registrant's definitive Proxy Statement for its 2020 Annual Meeting of Stockholders (the "Proxy Statement"), which is to be filed pursuant to Regulation 14A within 120 days after the end of the Registrant's fiscal year ended December 31, 2019. Except as expressly incorporated by reference, the Proxy Statement shall not be deemed to be a part of this report on Form 10-K.

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SYNCHRONOSS TECHNOLOGIES, INC.
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PART I

FORWARD LOOKING STATEMENTS

The words "Synchronoss," "we," "our," "ours," "us" and the "Company," refer to Synchronoss Technologies, Inc. and its consolidated subsidiaries. We were incorporated in Delaware in 2000. All statements in this Annual Report on Form 10-K for the fiscal year ended December 31, 2019 (the "Form 10-K") that are not historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, including statements regarding Synchronoss' "expectations," "beliefs," "hopes," "intentions," "anticipates," "seeks," "strategies," "plans," "targets," "estimations," "outlook" or the like. Such statements are based on management's current expectations and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Past performance is not necessarily indicative of future results. Synchronoss cautions investors that there can be no assurance that actual results or business conditions will not differ materially from those projected or suggested in such forward-looking statements as a result of various factors. We encourage you to read Management's Discussion and Analysis of our Financial Condition and Results of Operations and our consolidated financial statements contained in this Form 10-K. We also encourage you to read Item 1A of Part I of this Form 10-K, entitled Risk Factors, which contains a more complete discussion of the risks and uncertainties associated with our business. In addition to the risks described in Item 1A of this Form 10-K, other unknown or unpredictable factors also could affect our results. Therefore, the information in this Form 10-K should be read together with other reports and documents that we file with the Securities and Exchange Commission from time to time, including on Form 10-Q and Form 8-K, which may supplement, modify, supersede or update those risk factors. Synchronoss expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in Synchronoss' expectations with regard thereto or any change in events, conditions, or circumstances on which any such statements are based.

This Form 10-K includes industry and market data that we obtained from periodic industry publications, third-party studies and surveys, filings of public companies in our industry and internal company surveys. These sources include government and industry sources. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Although we believe the industry and market data incorporated into this Form 10-K to be reliable, this information could prove to be inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with complete certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. In addition, we do not know all of the assumptions regarding general economic conditions or growth that were used in preparing the forecasts from the sources relied upon or cited herein.

ITEM 1. *BUSINESS*

General

Our Cloud, Messaging, Digital and Internet of Things ("IoT") platforms help the world's leading companies, including operators, original equipment manufacturers ("OEMs"), as well as Media and Technology providers compete in today's markets by delivering innovative customer experiences that create high value engagement, save costs and create new monetization opportunities. With the help of our technologies and solutions, leading global companies can routinely create game changing interactions with their customers that were previously considered unachievable. Our technologies act as a catalyst to enable and unlock new capabilities in our customers' organizations, creating new value through new experiences for their end users.

We market our solutions and services directly through our sales organizations in the Americas, Europe, Middle East and Africa ("EMEA") and Asia-Pacific ("APAC"). Our platforms give our customers new opportunities in the Telecommunications, Media and Technology ("TMT") space, taking advantage of the rapidly converging services, connected devices, networks and applications. Our platforms power products and solutions across the TMT marketplace allow our customers to create forward-looking and compelling customer experiences with less resources.

We deliver platforms, products and solutions including:

- Cloud sync, backup, storage, device set up, content transfer and content engagement for user generated content
- Advanced, multi-channel messaging peer-to-peer ("P2P") communications and application-to-person ("A2P") commerce solutions
- Digital experience management ("Platform as a Service" or "PaaS") - including digital journey creation, journey design products and IoT systems management technology for Smart Buildings, Smart Cities, etc.

We help our customers accelerate and monetize value-add services for secure and broadband networks and connected devices. Our technologies appeal to a diverse group of customers in a converging TMT space including:

- Communication service providers ("CSP")
- Cable operators/multi-services operators ("MSO")
- Media and Technology Companies with multi-customer-facing channels in global markets
- OEMs with embedded connectivity (e.g. smartphones, laptops, tablets and mobile internet devices)
- IoT ecosystem participants who use a variety of technologies (e.g. Blockchain) to enable a wide array of devices (e.g. smart buildings, automobiles, connected homes, etc.) sensors, networks and systems.

Our industry-leading customers include Tier 1 mobile service providers such as AT&T Inc., BT, Verizon Wireless, Vodafone, Orange, Sprint, T-Mobile and Telstra; Tier 1 cable operators/MSOs and wireline operators like AT&T Inc., Comcast, Cablevision, Charter, CenturyLink, Mediacom and Level 3 Communications; and large OEMs such as Apple and Ericsson. These customers utilize our platforms, technology and services to service both consumer and business customers. We also service technology leaders such as Microsoft, various global System Integrators and well-known household brands such as Amazon among others.

The Synchronoss Personal Cloud Platform™ is a secure and highly scalable white label platform designed to store and sync subscribers' personally created content seamlessly to and from current and new devices. This allows our carriers' customers to protect, engage with and manage their personal content and gives our Operator customers the ability to increase average revenue per user ("ARPU") through a new monthly recurring charge ("MRC") and opportunities to mine valuable data that will give subscribers accesses to new, beneficial services. Additionally, our Personal Cloud Platform performs an expanding set of value-add services including facilitating an Operator's initial device setup and enhancing visibility and control across disparate devices within subscribers' smart homes.

The Synchronoss Messaging Platform is the world leader in providing a private, white-label, platform and solution stack to enable telecommunications power for hundreds of millions of subscribers' mobile messaging and mailboxes. Our Advanced Messaging Product is a powerful, secure and intelligent white label messaging platform that expands capabilities for Operators and TMT companies to offer P2P messaging via Rich Communications Services ("RCS"). Additionally, our Advanced Messaging Product powers commerce and a robust ecosystem for Operators, brands and advertisers to execute A2P commerce and data-rich dialogue with subscribers. Our Mobile Messaging Platform ("MMP") is poised to provide a single standard ecosystem onboarding and management to brands, advertisers and message wholesalers across Japan, North America and EMEA.

The Synchronoss Digital Platform is a suite of technology, tools and solutions that includes digital experience creation and management, automated provisioning, artificial intelligence and financial analytics and service a broad swatch of TMT and IoT markets.

Digital Experience Platform ("DXP") is a purpose-built, low-code experience creation and management toolset that sits between our customers' end-user facing applications and their existing back end systems, enabling the authoring and management of customer journeys in a cloud-native no/low-code environment. This platform can be operated by IT professionals and citizen developers (business analysts, etc.) enabling our customers to bring more compelling and complex experiences to market in less time with fewer and more diverse resources in a real-time, collaborative environment.

Digital Activation Platform has been a foundational technology for Synchronoss that was used to remote activate subscriber accounts for the first iPhone® that launched in 2007. Since then, Activation has been integrated as a core function within the Digital Experience Platform. This functionality allows Operators and indirect mobility resellers to easily activate mobility plans with carriers without requiring a large dedicated team. It gives these companies the flexibility to conform the journey to support multiple front ends and customer systems at 1/20th of the time and cost.

Diversified Digital Solution Suite is a highly specialized collection of offerings designed to create automated workflows to help Operators perform complex financial analytics, validation, reconciliation and governance of supply chain and life cycle within public clouds; facilitate automated, end-to-end, telecom service order life cycle management; and provide planning, designing and maintenance of physical network assets. These technologies integrate into customer Enterprise Resource Planning systems & internal data marts, Inventory Management Systems, Operator Portal and Off-Net Trading Partners.

The Synchronoss IoT Platform is a cloud-based Software-as-a-Service ("SaaS") solution and Advanced Analytics offering that integrates with Building Management Systems ("BMS") and sensors to synthesize data and deliver single-pane-of-glass visibility into all control systems (HVAC, lighting, refrigeration, etc.), a company's health, energy consumption and costs. Sophisticated machine learning algorithms generate optimal configurations to reduce overall energy consumption and costs, reduce maintenance and lengthen control systems' lifespan. Within the Synchronoss IoT Platform portal, users have access to visualizations, dashboards, canned and Ad Hoc analysis, monitoring and tracking and notifications and alerts. Advanced Analytics packages including equipment optimization, predictive maintenance, failure prediction and anomaly detection.

Markets We Serve

Our platforms, products and solutions operate in a white label capacity serving a diverse range of customers in the TMT and IoT markets.

Telecommunications, Media and Technology

TMT companies operate and/or market white label instantiations of Synchronoss Cloud, Messaging, Digital and IoT platforms, products and solutions to power new, digitally enhanced experiences for their subscribers and employees. TMT companies use Synchronoss platforms to author and manage new workflows and customer experiences, orchestrate data from existing back office systems and create personalized customer experiences across channels and touch points (e.g. online, mobile apps, call centers and care, retail, self-service, etc.). This creates new ways to interface with their customers and subscribers that can lower cost and increase revenues and satisfaction.

Operators

A foundational focus of Synchronoss, CSPs and MSOs market white label implementations of our Synchronoss Cloud, Messaging, Digital and IoT platforms, products and solutions to their subscribers around the world. CSPs and MSOs market and re-sell the value-added services powered by our technology to their subscribers as part of stand-alone subscriptions, value-added bundles or use our technologies directly to enhance their digital offerings and workflow. CSPs and MSOs license Synchronoss Personal Cloud to enhance their value-added service offerings to subscribers who purchase and lease mobile devices and network connectivity - storing and syncing their user generated content (e.g., videos, photos, documents, contacts, music etc.). CSPs and MSOs license Synchronoss Advanced Messaging and Email to enable white label multichannel messaging services including advanced P2P, A2P transactions and brand/advertiser ecosystems. CSPs and MSOs also re-sell our IoT solutions such as Smart Buildings as part of a revitalized set of Operator technology offers.

Internet of Things and Smart Buildings

Companies in the TMT space as well as OEMs and technology suppliers use Synchronoss Cloud, Messaging and Digital platforms, products and solutions to enable consumer and machine to machine ("M2M") experiences across new connected devices in the IoT market (e.g. smart homes, connected automobiles, wearable devices, smart appliances, smart buildings, smart cities, drones, etc.). Synchronoss Cloud platforms, products and solutions provide a single-source storage solution for connected devices that don't have a native data storage solution. Synchronoss Messaging platforms, products and solutions enable dialogue between devices, nodes/sensors and end users of IoT transactions. Synchronoss Digital platforms, products and solutions provide data orchestration and transaction automation capabilities to enable more targeted and secure use of data across IoT devices, networks, nodes/sensors and human participants.

Synchronoss Platforms, Products and Solutions

Our platforms, products and solutions conduct business-to-consumer ("B2C"), business-to-business ("B2B"), enterprise and indirect channel (i.e., resellers/dealers) transactions. The capabilities of our platforms are designed to provide our customers with the opportunity to improve operational performance and efficiencies and identify new revenue opportunities.

Our platforms, products and solutions offer flexible, scalable, extensible and relevant solutions backed by service level agreements ("SLA's") and exception handling. Our various platforms are designed to be:

Carrier Grade: We design our platforms to handle high-volume transactions from carriers rapidly and efficiently, with virtually no down-time. Our platforms are also capable of simultaneously handling millions of device content related transactions on a daily basis to ensure that personal content on all subscriber devices stays fresh and synchronized with the Cloud.

Ease of Use: Our platforms resolve complexity with back end data and system frameworks to create simple, easy use cases to end users and subscribers. Our Digital platform provides automation of device, product and service fulfillment relieving manual workflows and providing economy of scale; it orchestrates data from various data and business silos to create new, elegant and powerful end user use cases that existing system frameworks cannot support. Our Messaging platform provides common onboarding

for third-party brands that allow them to create bots and other commerce instances and then manage them throughout the customer lifecycle. Our Cloud platform creates an easy cross platform sync and access to subscriber personal data.

Data-driven: Our platforms, products and solutions operate with the assistance of analytics, smart tagging, artificial intelligence, natural language processing, reporting and other data-driven insights. Our technology uses data to help shape user experiences, summarize reporting, prompt next best actions and recommendations and conduct automated dialogue with subscribers.

Automated: We design our platforms to eliminate manual processes and to automate otherwise labor-intensive tasks, thus improving operating efficiencies and order accuracy and cost reduction. By tracking every order and identifying those that are not provisioned properly, our platforms are designed to substantially reduce the need for manual intervention and reduce unnecessary customer service center calls. The technology of our platforms automatically guides a customer's request for service through the entire series of required steps.

Predictable and Reliable: We are committed to providing high-quality, dependable services to our customers. To ensure reliability, system uptime and other service offerings, our transaction management is guaranteed through SLAs. Our platforms offer a complete customer management solution, including exception handling, which we believe is one of the main factors that differentiates us from our competitors. In performing exception handling, our platforms recognize and isolate transaction orders that are not configured to specifications, process them in a timely manner and communicate these orders back to our customers, thereby improving efficiencies and reducing backlog. In the past couple years, if manual intervention is required, our exception handling services are performed through outsourced centers located in Canada and the United States and, where applicable, to other cost-effective geographies. Additionally, our database is designed to preserve data integrity while ensuring fast, efficient, transaction-oriented data retrieval methods.

Seamless: Our platforms integrate information across our customers' entire operation, including subscriber information, order information, delivery status, installation scheduling and content stored on the device to allow for the seamless activation and content transfer during the device purchase flow. Through our platforms, the device is automatically activated and consumer's content is available for use via the Cloud, ensuring continuity of service and reducing subscriber churn propensity. CSPs and multi-channel retailers can bundle additional applications during retail phone purchases, and also provide live updates to support new features and new devices. We have built our platforms using an open design with fully-documented software interfaces, commonly referred to as application programming interfaces ("API"). Our APIs enable our customers, strategic partners and other third parties to integrate our platforms with other software applications and to build best-in-class cloud-based applications incorporating third-party or customer-designed capabilities. Through our open design and alliance program, we believe we provide our customers with superior solutions that combine our technology with best-of-breed applications with the efficiency and cost-effectiveness of commercial, packaged interfaces.

Scalable: Our platforms are designed to process expanding transaction volumes reliably and cost effectively. While our transaction volume has increased rapidly since our inception, we anticipate substantial future growth in transaction volumes, and we believe our platforms are capable of scaling their output commensurately, requiring principally routine computer hardware and software updates. Our synchronization and activation platforms routinely support our customers' transactions at the highest level of demands when needed with our current production deployments. We continue to see the number of transactions for connected devices, such as smartphones, mobile Internet devices ("MID"), laptops, tablets and wirelessly enabled consumer electronics such as cameras, tablets, e-readers, personal navigation devices, global positioning system ("GPS") enabled devices, and other connected consumer electronics, to be one of the fastest growing transaction types across all our platforms, products and services. Our Synchronoss Personal Cloud platform is deployed across more than 95 million devices, managing 20 billion entities in the Cloud and performing more than 4 million synchronizations per day.

Value-add Reporting Tools: Our platforms' attributes are tightly integrated into the critical workflows of our customers and have analytical reporting capabilities that provide near real-time information for every step of the relevant transaction processes. In addition to improving end-user customer satisfaction, these capabilities are designed to provide our customers with value-added insights into historical and current transaction trends. We also offer mobile reporting capabilities for users to receive critical data about their transactions on connected devices.

Build Consumer Loyalty and Create New Revenue Streams: Our synchronization services help drive consumers to the CSPs, OEMs or multi-channel retailers by presenting them with a branded application and fully-integrated Web portal that provides convenience, security, and continuity for end user customers, which we believe helps our customers by further building the loyalty of their subscribers. Our Synchronoss Personal Cloud solution creates hundreds of millions of dollars in new revenue for operators and helps reduce subscriber churn by making it easy for subscribers to migrate smartphone content from an old device to a new device. Our Synchronoss Personal Cloud solution enables our carrier customers to sell premium value-add cloud storage solutions as well as cloud enabling premium partner opportunities. We are designing solutions that will allow carriers, OEMs and retail distributors to promote and fulfill new services through mobile channels to better monetize their cloud subscriber base.

Efficient: Our platforms' capabilities provide what we believe to be a more cost-effective, efficient and productive approach to enabling new activations across services and channels. Our solutions allow our customers to reduce overhead costs associated with building and operating their own customer transaction management infrastructure. With automated activation and integrated fall out support, our e-commerce platforms centralize customer service expectations, which we believe dramatically reduces our customers' subscriber acquisition/retention costs in addition to operating expenses for training and staffing costs. We also provide our customers with the information and tools intended to more efficiently manage marketing and operational aspects of their business, as well as business intelligence required to do targeted up-selling of their products and services.

Quick Concept to Market Delivery: The automation and ease of integration of our on-demand platform allows our customers to accelerate the deployment of their services and new service offerings by shortening the time between a subscriber's order and the provisioning of service or activation and enabling of a connected device(s).

Extensible and Relevant: Our customers operate in dynamic and fast paced industries. Our platforms and solutions are built in a modular fashion, thereby conducive to be extended dynamically and enabling our customers to offer solutions that are relevant to current market situations, with the goal of providing them with the competitive edge required for them to be successful. The platforms are also designed to be highly customizable to each carrier's specific back end systems as well as branding requirements.

Secure: By leveraging our identity and access management capabilities consumers can self- register their identity, be verified and credentialed and manage their profile in order to have the best customer experience possible. This solution also supports identity proofing and scoring in order to conduct fraud and cyber security detection and prevention.

I: Synchronoss Cloud Platforms

Synchronoss Cloud platforms, products and solutions are designed to create a seamless customer experience for Operator subscribers from device purchase, service onboarding and ongoing content management and engagement.

Our Synchronoss Personal Cloud™ platform is designed to deliver a competitive, high-value service and revenue stream through an operator-branded experience for subscribers to backup, restore, synchronize and share their personal content across smartphones, tablets, computers and other connected devices from anywhere at any time. The Synchronoss Personal Cloud™ service is bundled and/or sold to individual or groups of consumers (e.g. a family) for a monthly recurring charge (MRC). Our Synchronoss Personal Cloud™ platform gives an Operator better control of the user experience across all aspects of setting up and using a connected device. Our Synchronoss Personal Cloud™ platform is specifically designed to support smartphones, tablets and wirelessly enabled consumer electronics such as wearables for health and wellness, cameras, tablets, e-readers, personal navigation devices, and GPS enabled devices, as well as connected automobiles. Our Synchronoss Personal Cloud™ solution features products that facilitate the transfer of mobile content from one smart device to another and the sync, backup, storage, content management and content engagement features for mobile content.

Our Synchronoss Personal Cloud™ platform is linked to a family of clients designed to enable a persistent relationship between a subscriber and their content across devices and time. Our platform supports clients and data backup across major operating systems including: iPhone operating system ("iOS"), Android, Windows and works with mobile smart devices, tablets and PCs. Our platform and clients also support the backup, sync, upload and download of data classes including photos, videos, music, messages, documents, contacts and call logs. Our clients may also feature interactive features intended to stimulate daily use of the product such as smart tagging, image and facial recognition, flashbacks, smart stories, smart push notifications, advanced sharing capabilities, smart album creation with more being added over time. Our Synchronoss Personal Cloud™ platform and clients may also integrate with select third-party providers to co-opt features that drive third-party application and service engagement which is designed to provide future monetization opportunities to third parties and carriers. Synchronoss Personal Cloud™ is offered as different tiers of offers according to each Operator's service strategy:

- Freemium Cloud: Free Cloud Storage Tier Regardless of Service Plan, or lead with Free Trial then upsell to premium paid storage tiers
- Bundled Cloud: Value Add Services (i.e., Phone Insurance, Content Services), Include Cloud Storage as Part of Certain Service Plans. These bundles range from Hero Device, Security, Rate Plan and Low Storage Device Bundles
- Premium Cloud: Offer Cloud Storage as a Standalone Product that can be Purchased as an Individual Service for a MRC enabling new revenue streams and opportunities to mine valuable data that will give subscribers accesses to new, beneficial services.

Mobile Content Transfer

Our Synchronoss Mobile Content Transfer™ solution is an easy to use product whose client enables a secure, peer-to-peer, wireless transfer of content from one mobile smart device to another in a carrier retail location or at home/work, etc. Our solution supports secure mobile content transfer across major operating systems including iOS, Android and Windows. Our Synchronoss Mobile Content Transfer™ solution can transfer select data classes that may include photos, videos, music, messages, documents, contacts and call logs, across operating systems with varying degrees of support in accordance with the openness of the platform.

Backup & Transfer

Our Synchronoss Backup & Transfer™ solution is a variation of Synchronoss Mobile Content Transfer™ that offers the same peer-to-peer transfer of select data classes across smart mobile devices and major operating systems and also offers the ability to send supported data classes that may include photos, videos, music, messages, documents, contacts and call logs up to the cloud for temporary storage and then restore the content back into the new device or to a new device with the same client. This capability supports care channel use cases of securing content during a device wipe and also creates a value-added solution in the case of lost devices, cracked screens and other edge use cases. Furthermore, our Synchronoss Backup & Transfer™ solution gives the subscriber the capability to establish a cloud account at the point of transfer and an auto sync capability to keep content backed up to the cloud account going forward. This unified experience is designed to drive cloud enrollment at the point of transfer (often during a new line or upgrade) and provide an opportunity to get content into the Cloud to reduce the time of transfer for the next upgrade.

Out of Box Experience ("OOBE")

Synchronoss OOBE is an integrated solution to allow Operators to integrate a first-use, branded set up experience on Android devices from retail and online purchases. Operators integrated this application into Android devices to allow for an easier to use experience for a streamlined device set up, promote value-added service applications for download and introduce the ability to store content in the Cloud - allowing an easier onboarding experience at the next device purchase and/or upgrade.

II: Synchronoss Messaging Platforms

Synchronoss Messaging platforms, products and solutions enable cross channel, secure communications across connected devices.

Advanced Messaging

Our Advanced Messaging platform supports advanced messaging in both RCS and Real-Time Communication ("RTC") and enables rich, P2P communications and creates new commerce and revenue opportunities across channels via A2P experiences for Operators and other brands. Our messaging platform operates in tandem with Messaging-as-a-Platform ("MaaP") technologies as well as dedicated, third-party clients and native OEM clients.

- *P2P Advanced Messaging Client:* Advanced Messaging supports an advanced P2P client based on RCS and RTC technologies with compelling data (chat), voice, group and video communication features. Our RCS/RTC client creates new means of conversation providing richer communications, viral distribution via subscribers and provides new gateways for commerce that Short Message Service ("SMS") cannot provide.

- *A2P Messaging Commerce:* Our A2P solutions are an end-to-end set of capabilities to help Operators, TMT companies and third-party brands establish an AI-driven dialogue with subscribers and consumers. The Advanced Messaging platform aggregates chat bot engines, software development kits ("SDK's") and API's exposing these tools to third-party brands. This functions as an onboarding environment for chat bots, merchandising and advertising to function within a messaging environment. The platform collects user engagement data and through analytics powered dashboards, optimizing bot performance via campaign monitoring that ties into downstream third-party customer relationship management ("CRM") operations.

- *Messaging Marketplace:* Our MMP is designed to help Operators effectively interface with A2P Providers in a dynamic and automated digital environment. The MMP platform automates and orchestrates the on-boarding of third-party brands and services who participate in an Operator's A2P business. MMP provides easy to use tools to register a new A2P provider within an Operator's marketplace, integrating with Operator systems (commerce, billing), business terms of use, revenue sharing, etc. MMP provides a dynamic, comprehensive dashboard to give A2P providers real-time visibility to audience engagement, commerce transactions and other transaction-based dynamics. MMP allows for A2P providers to upload new experiences, new offers, manage dialogue with subscribers through chat bots, etc. through an easy-to-use no-code cloud native environment.

E-Mail

Our Email suite provides service providers with a secure, white-label, back-end framework for a branded email service that's reliable, consistent, and safe while also providing the opportunity to introduce and promote services that can be monetized. Service provider branded messaging is an essential solution for building stronger customer relationships while opening potential new revenue opportunities. It delivers increased subscriber "stickiness," resulting in higher trust, lower churn and increased brand reputation through higher-quality service. It also provides more cross-sell and upsell opportunities through seamless integration of advertising, real-time communications, social media, and other value-added services and applications. Our world-class email service has customers across the global market in North America, EMEA and APAC region.

Our carrier grade Email suite offers feature-rich, reliable, and secure messaging - on any device - through integrated email, chat, voice, video, personal cloud computing, unlimited storage, security, encryption, and anti-abuse capabilities. This messaging synergy delivers 50% to 70% savings on traditional siloed and hardware based storage solutions while enabling universal access via desktop, smartphones and connected devices to rich seamless integrated experience providing simpler sharing of content, greater privacy and security, enhanced trust around monetization and commerce transactions, and a fast responsive user experience supporting larger mailboxes and unlimited storage.

Our carrier branded Email solution offers leading anti-virus & anti-spam and malware technology to keep the integrity and security of the customer experience and protection of subscriber data to carrier standards. Our Email solution is an important repository for critical communications with an intuitive and feature-rich mobile and desktop email experience ensuring stickiness and increasing customer lifetime value.

III: Synchronoss Digital Platforms

Digital Experience Platform

Our Digital Experience platform allows IT professionals, business owners and business analysts to author and manage digital customer experiences in a cloud-native, low/no-code environment. The platform sits between customer-facing touch points and a customer's existing back office systems orchestrating data, work flows and processes into digital customer journeys that interface with end user channels creating user experiences that can be centrally managed and coordinated with less resources than is typical in a traditional IT environment.

Journey Creator

Journey Creator is a purpose-built, easy to use cloud-native toolset that allows IT managers and business owners to collaborate on creating and managing end user experiences across all customer-facing channels. Journey Creator is middleware that sits in between back office systems and customer-facing touch points - integrating orchestrating critical data and functionality into existing channel UI/UX. Journey Creator operates in an any-to-any environment - integrating with any system and any channel UI.

Integration: Graphical user interface ("GUI") is fully integrated into Journey Creator for creating endpoints and drag-and drop data mapping. Journey Creator supports complex transformations and mappings via GUI.

UI Flexibility & Control: Journey Creator's dynamic API and libraries enable any channel client to have a rich and dynamic UI that is run by the channel. It is currently optimized for JavaScript clients.

Business Logic: Drag and Drop Interface for even complex logic with option to use Groovy script if highly computationally complex rules are required.

Omni-channel: DXP is an API-first platform where the state is not held in the client even when the client is a single-page application ("SPA"). A core journey is defined and channel-specific variants can be configured on top of the core journey to simple re-use.

"Pause and Resume Experiences:" Journey Creator centrally manages different channel UI's and integrates the journeys to back end systems. Because Journey Creator is a common command and control layer, it can carry the state

of one channel to the state of another channel, essentially allowing a "pause and resume" effect from one customer touch point to another. This creates a consistent, friction free customer experience that recognizes the user appropriately as they move from one channel experience to the next.

Dev Ops: Journeys are digital content and able to be deployed and rolled back like web content. The engine that runs the journey remains unchanged between releases.

Resource Optimization: Journey Creator is designed to lower cost and decrease time to market while increasing the complexity and effectiveness of omni-channel customer experiences. Journey Creator serves as a central, standardized development environment with an efficient and easy to use, low/no-code object-oriented interface that literally links systems and end-user UIs together. Because it's centralized and non-developer friendly, a smaller, central team is capable to building and managing complex interfaces with a fraction of the resources and time necessary to manage less sophisticated experience in standard environments.

Customer Experience ("CX") IQ

CXIQ uses analytics, artificial intelligence and completely new methods of gathering actionable insights to produce insights to help our customers improve their channel experiences. CXIQ integrates into Journey Creator to allow for real-time feedback to newly created journeys, allowing experience authors and managers to make real time changes necessary to improve the quality and effect of the journey.

Journey Advisor

Journey Advisor uses programmed analytics to make intelligent recommendations to customer facing reps and agents. Journey Advisor drives the UI and business rules of a digital sales device (tablet, smart phone, etc.). The analytics that inform the business rules and work flow are derived from customers' existing systems and guided by the Synchronoss Insights Platform ("SIP") dynamically insert recommended "next best actions" for a rep based on filters set by a CRM system, customer profile, business rules, etc. Journey Advisor accelerates rep competency from a new hire to a new campaign/offer. This not only assists the rep's alignment with forecasted key performance indicators ("KPIs"), it helps model complex decisions and ultimately solves customer problems in less time.

Digital Coach

Digital Coach is a tool within DXP that serves as an intelligent dashboard or portal for customer facing reps to assess their performance against their goals and against peers. The SIP creates intelligent work flows around individual and group KPIs and uses "gamification."

Digital Activation Platform

Our Activation technology is a scalable and flexible platform that decouples the order processing customer experience from varied and legacy IT back office order management systems. This enables sale, delivery, and assurance of new "Complex Product" bundles quickly and cheaply, creates a uniform product portfolio and pricing schema across all Sales Channels and reduces cost while improving the customer experience by reducing error rates and throughput time in processing orders, alarms, etc. The platform is fully scalable, agile and adaptable to future products, services and channel changes; it serves as a future-proof activation platform with end-to-end channel visibility and analytics and features a flexible commercial model or product sale with professional services.

Digital Diversified Solutions Suite (Analytics and Financial Optimization of Networks)

The Synchronoss Spatial Suite provides an accurate, scalable solution for optimizing every phase of the network asset lifecycle including planning, sales, marketing and customer service. In addition to handling large volumes of customer transactions quickly and efficiently, our platforms are designed to recognize, isolate and address transactions when there is insufficient information or other erroneous process elements. This knowledge enables us to adapt our solutions to automate a higher percentage of transactions over time, further improving the value of our solutions to our customers. Our platforms also offer a centralized reporting platform that provides intelligent, real-time analytics around the entire workflow related to any transaction. This reporting allows our customers to appropriately identify buying behaviors and trends, define their subscriber segments and pin-point areas where their business is changing or could be improved. These analytics enable our customers to upsell new and additional products and services in a targeted fashion that help increase their consumption of our product offerings. The automation and ease of integration of our platforms are designed to enable our customers to lower the cost of new subscriber acquisitions, enhance the accuracy and reliability of customer transactions thereby reducing the inbound service call volumes, and responding rapidly to competitive market conditions to create new revenue streams.

Synchronoss Insights Platform ("SIP")

Synchronoss Insights Platform is an analytics platform delivered as a SaaS solution via a public cloud infrastructure. SIP is designed to ingest raw data and generate and deliver insights through application of pre-coded and ad hoc analyses and Advanced Analytical modules. It supports features to understand key performance indicators, perform iterative investigation and answer business questions using data patterns. Based on the target use case, SIP is configured to deliver value by loading, organizing, validating, and analyzing complex data to obtain and deliver actionable insights.

SIP's analytical services provide our solutions with a wide variety of techniques to address customers' business challenges:

- **Descriptive Analytics:** SIP provides comprehensive ability to review historical metrics and trendlines using time series analysis and KPI monitoring services.
- **Alert Management:** SIP supports the ability to define and create alerts on any metric using a configurable rule builder. These alert rules can be threshold based, historical average based or learning models based. SIP also supports the distribution of these alerts via email, SMS, as well as published in the SIP web portal.
- **Predictive Analytics:** SIP offers a comprehensive machine learning pipeline flow to process, train, build and select analytic models and deploy them to support specific use cases.

In addition to predictive analytics, other examples of advanced analytics use cases include device benchmarking, failure prediction, preventive maintenance, anomaly detection and forecasting.

Our analytics platform also provides state of the art data visualization. Using optimized storage of data sets in a variety of repositories that include index store, in-memory store and data lake, SIP's visualization layer supports iterative, ad-hoc visual analysis that is fully interactive.

SIP's analytical visualization module offers the following features:

- **Analyze:** Tabular, pivot and chart-based analysis in pre-defined or ad hoc execution. Ability for the user to create analysis and share through email, an export or within the portal. Several chart types are supported out-of-the-box including column, bar, pie, donut, area, line, dual axis, scatter, and bubble, etc.
- **Observe:** This module offers interactive dashboards that supports KPIs, scorecards and analysis. Users can consume these dashboards in ad hoc fashion or create dashboards themselves by adding any existing analysis into the canvas.
- **Alert:** This module support alert visualization, rules configuration, trend analysis and distribution.

Synchronoss IoT Platforms

Our IoT solutions create an easy to administer, cloud-based dashboard enabling a single source visibility and control to disparate devices, sensors and data pools. Our platforms harvest data from disparate back office, data lakes, devices and systems to build new use cases, automated workflows, activations and more to better manage the performance of IoT ecosystems. Our Digital Experience Platform allows IoT administrators to create and manage administrative experiences and M2M use cases and transactions. Our Cloud Platform provides sync and data transfer between disparate devices and data pools using partitioned storage and Artificial Intelligence ("AI") to guide intelligent sync of data as a device or service needs it. Our Advanced Messaging Platform provides IoT administrators with the ability to enhance workflows with automated or semi-automated chatbots guided by AI to create more proficient transactions, visibility and next best actions.

Synchronoss Smart Buildings

Our Smart Buildings solution is a cloud-based SaaS and advanced analytics offering that integrates with BMS and sensors to synthesize data and deliver single-pane-of-glass visibility into all control systems (HVAC, lighting, refrigeration, etc.), their health, energy consumption and costs. Sophisticated machine learning algorithms generate optimal configurations to reduce overall energy consumption and costs, reduce maintenance and lengthen control systems' lifespan. Within the portal, users have access to visualizations, dashboards, canned and ad hoc analysis, monitoring and tracking and notifications and alerts. Advanced Analytics packages including equipment optimization, predictive maintenance, failure prediction and anomaly detection.

By utilizing Synchronoss Smart Buildings solution, building and facility managers are able to gain efficiency in system and building operations, as well as realize savings, such as:

- Optimized and manage equipment settings and schedules with bi-directional integration and control within the Synchronoss Smart Buildings portal
- Eliminated software license and maintenance costs associated with existing control point software
- Reduced maintenance and operating costs by quickly integrating multiple sites and buildings across the globe into one portal by leveraging a virtualized cloud delivery model
- Easy visibility across various stakeholders with access and capabilities configured at the user level (executive dashboards, technician features, KPI reports, etc.)
- Increased energy efficiency with energy consumption analysis, energy trending and benchmarking, and identification of energy waste with recommendations for improvement
- Equipment optimization with predictive maintenance, equipment failure prediction to prevent catastrophic damage and breakage, and reduced expense of manual inspections and monitoring

Our technician application enables quick and pain-free sensor and gateway installation and activation with automatic integration with the Smart Buildings via the cloud.

Synchronoss Smart Buildings dashboards and visualizations offer a set of dashboards containing insights, trends and other meaningful metrics from each building system and integrated sensors (HVAC, Computer Room Air Conditioner, Air Handling Unit, Chiller, temperature and humidity sensors, etc.). Within the Smart Buildings portal, end-users are also able to:

- Observe metric values in real time and near-real time
- Go deeper into information being displayed using easy drill downs and filters
- Ability to quickly create new dashboards on the fly

Our Smart Buildings solution's monitoring and tracking capability allows the user to track KPI's and know ahead of time if business objectives and goals are on target, for example, the ability to track actual energy consumption compared to an annual forecast.

Users can schedule and run weekly, monthly or quarterly diagnostic health checks of all systems to compare actual functionality against system expectations given equipment age and environmental conditions. Smart Buildings can also produce energy usage reports for month over month and year over year energy consumption analysis.

Alerts can be configured using threshold based, heuristic, or machine learning rules and can be set to notify users within the portal, through Email, SMS or a combination. Other alert capabilities include the ability to:

- Customize escalations for alerts based on type and severity
- Schedule alert windows (snoozing, only portal during non-business hours, etc.)
- Acknowledge alerts remotely within Email or directly in the portal

Our Smart Buildings solution offers the ability to customize user access by hiding dashboards, metrics, data and limiting capabilities to meet business security needs and improve experience of users. Key users include:

Chief Financial Officers ("CFO"): Synchronoss Smart Buildings Platform is useful for CFO's to gain complete visibility of total building costs, insights to reduce costs and optimize ROI and easy creation and access to automated, data-rich reports.

Facility Managers: Synchronoss Smart Buildings Platform gives Facility Managers full visibility to facility information such as total power consumption, building alarms, building settings and can generate customized reports to be shared with Finance and other departments.

Facility Engineers: Synchronoss Smart Buildings Platform gives Facility Engineers visibility into various problem points across the facility including alarms, etc. and provides recommendations for next best actions and the ability to update status for ongoing projects and developing situations.

Demand Drivers for Our Business

In today's business landscape, 'Digital Transformation' is not new or novel anymore; it is a necessary way of doing business in a landscape where access to technology has become democratized and the effects of citizen developers can change entire industries overnight. Synchronoss is positioned to help global leaders stay ahead of ever-changing business dynamics in the TMT and IoT markets. The demand drivers for our business address the needs of enterprise to make effective use of emerging technology to grow their business in new ways, at new speeds and a new cost structure beyond previous business-as-usual ("BAU") paradigms.

These needs underpin our platform, product and solution strategies to provide forward looking solutions to TMT and IoT providers to respond to new, high stakes business challenges. TMT providers need to digitally transform to increase and find new sources of revenue, reduce operational cost and complexity and improve the appeal of their products and services to better compete with new standards set by over-the-top ("OTT") competitors.

Overall Trends in the TMT Market

- Convergence: TMT companies are moving into different spaces (Entertainment, Content, etc.) to pursue new growth.
- Digital Transformation: Customer experience is the key to revenue growth. From Amazon to Alibaba, companies look to digital technology to enhance experiences and cut cost at the same time.
- Regulation: Public distrust in Big Tech is increasing global oversight and government policies to enforce data privacy and identity protection.
- Disintermediation: Opportunity to provide growth-oriented, value-add services has shifted to OTT models.

Low Code

- Just as Content Management Systems ("CMS") forever changed web development, low code technology is changing the building and management of digital experiences. Low Code technology simplifies the creation and management of complex customers experiences with simple, easy to use, "drag and drop" interfaces that replace manual code and script writing. This enables more to be done with fewer resources and opens up customer experience creation and management to non-technical or "citizen" developers.

Messaging as an operating system

- Starting with the advent of the Chinese OTT app, WeChat, messaging has evolved from email, to text, to chat, to a fully immersive interactive environment where consumers can interface with brands as easily as they do with each other. This has created a huge spike in developers for chat bots and other mini programs that exist within messaging apps. This trend has spread to Japan (Line) and the rest of the world (Facebook, WhatsApp, Snapchat). This all immersive messaging is consuming screen time at such a rate that each large messaging platform has the potential to become its own operating system.

Propagation of 5G Network

- Perhaps the biggest growth driver of the next five years will be the advent of the 5G Network and the epoch change in business that comes with it. 5G tops out at 10 gigabits per second ("Gbps"). That means 5G is a hundred times faster than the current 4G technology-at its theoretical maximum speed. Perhaps the real value in 5G isn't the speed but the low latency. The 5G Network was designed around enabling use cases in the IoT marketplace and this network will set the IoT market on its way. Smart Cities are expected to be a major driver and customer of the 5G networks. The amount of data traffic will likely grow faster than the number of connections because of the increase of deployment of video applications on M2M connections and the increased use of applications, such as telemedicine and smart car navigation systems, which require greater bandwidth and lower latency. Moreover, more people are moving into urban environments where IoT and Smart Cities are growing. By 2050, there is expected to be 7.5 billion people living in urban environments, equivalent to the entire world population today. Simply put, cities will be forced to get more efficient causing a greater need for IoT device, ecosystem, network and administrative solutions.

Growth Strategy

Our growth strategy is to establish our platforms as introduce disruptive technology to the TMT and IoT customers and pursue a leadership agenda in strategically select vertical segments of the digital transformation, cloud, advanced messaging and IoT solutions markets. We expect to scale our growth across our platforms and pursue logical extensions of new products and solutions into new markets as it makes sense. We plan to continue to focus our technology and development efforts around helping our customers create new revenue, optimize their cost and operations and innovate the experience of their end customer touch points.

Synchronoss' technologies and business model create a mutual incentive relationship with our Enterprise customers. With the help of our products, platforms and solutions, we help our customers grow in revenue, margin, subscribers, etc. This growth fuels Synchronoss revenue and opens up new vertical opportunities to help our customers expand their growth with additional platforms and solution. The tenants of our growth strategy are:

- **Driving revenue and margin growth:** Our platforms create new premium services for subscription, new monetization of existing channels and new experiences that overperform in sales and other revenue KPIs at lower costs and higher margins.

- **Creating new revenue streams:** Our platforms and solutions help create entirely new revenue streams from existing or new channels and new forms of monetization that were not previously possible, driving recurring SaaS revenue growth.

- **Maximizing value for channel partners:** Our platforms and solutions provide complementary and revenue enhancing technology and new distribution opportunities for channel partners in TMT and IoT markets creating high volume, low cost growth.

- **Maximizing and expanding our customer base:** Our platforms and technologies provide multiple avenues to new growth for our existing customers and partners and give us entry into new customers in the TMT and IoT markets.

By expanding our product and market focus for white label services and back office solutions for Operators, MSOs and OEMs to Digital, IoT and Advanced Messaging solutions for the broader TMT market, we have increased the breadth and depth of opportunities for our technologies and significantly grown our potential customers base. With that comes an increased variety of potential Customer engagements in focused verticals markets, shortened sales cycles and higher overall visibility in the TMT/IoT marketplaces.

Growing Our Global Reach

We have invested significantly in our sales, marketing and operations to expand our historically North American presence and revenue weighting to a global presence especially in the EMEA and APAC markets. Similarly, with our digital platform, we are addressing the issues facing many large, global companies who struggle to create proficient and less costly service distribution across dozens of different countries and regions. This allows us to efficiently sell once and deploy many times inside extremely large companies while delivering impactful global solutions in record time.

Scaling our Partnerships

In 2019 we built a strong partner network around technology companies that have complimentary solutions, ready channels and a strategic overlap in their customers and prospects. This focus extends the scope of our functionality and appeal to new customers with partner technologies, greatly increase the reach of our sales and marketing - increasing the scale and sales velocity of our platforms, products and solutions at a fraction of the cost.

Transition from Licensing to Recurring

Healthy growth for Synchronoss is expected to be realized by the deliberate and systematic shift from perpetual license-based revenue to SaaS recurring revenue models. From a customer standpoint, this will allow us to focus and better serve high value relationships characterized by mutual commitment, collaboration on achieving customer KPIs from each deployment, shared success in transactions and other models. Building our growth model around recurring revenue enables increased predictability, stability and reliability of revenue, predictable cash flow, lower risk, and higher value focus in sales and marketing. Additionally, recurring revenue models help with managing expense and investment relative to the success of platform engagements.

Sales, Partnerships and Marketing

Sales

We sell our platforms, products and services through a direct sales force, our strategic partnerships and, collaboration with our customers to re-sell services to their end customers and subscribers. To date, we have concentrated our sales efforts on a range of select verticals of the TMT and IoT markets including telecommunications companies (CSPs, MSOs) OEMs, technology providers, media companies, government and multi-channel retailers both domestically and internationally. Typically, our sales process involves an initial consultative process that allows our customers to better assess the operating and capital expenditure benefits associated with an optimal activation, provisioning, and cloud-based content management architecture. Our sales teams are well trained in our platforms, products and services and well versed in market trends, demands and conditions that our current and potential customers are facing. This enables them to identify and qualify opportunities that are appropriate for our platforms deployments to benefit these customers. Following each sale, we assign account managers to provide ongoing support and to identify additional sales opportunities. We generate leads from contacts made through trade shows, seminars, conferences, events, analyst relationships, social media, market research, our Web site, customers, strategic partners and our ongoing public relations programs.

Partnerships

We have a dedicated partner outreach organization that functions in tandem with business development within Synchronoss. The Synchronoss Partnership program has three dedicated vectors of focus:

Go To Market/Channels: We are pursuing partnerships with technology companies who supply customers with solutions that complement the Synchronoss product and go to market strategy. These partnerships provide access to Synchronoss platforms, products and solutions create channels of distribution supported through the Synchronoss Channel Enablement Program. This portfolio of partners provide access to new sales funnels and scale to Synchronoss offerings.

Technology Augmentation: We are pursuing partnerships with technology companies with complementary IP in platforms, products and solutions. Synchronoss is pursuing partnerships with a two-way value-add in technologies that supply strategic functionality to our mutual customers. These partnerships can provide ready-made technologies that allow our platforms, products and solutions to participate in new markets without the investment in new technology.

System Integrators: We are pursuing partnerships with system integrators ("SI") and consulting firms in order to expose our platforms, products and solutions to a wider range of customers and supply our SI partners with ready-made IP to fulfill on their custom solutions. These partnerships can provide SI's with turnkey technologies to fulfill vertical lines of solutions in the TMT and IoT space and will formulate the basis of a formal Synchronoss Channel Enablement Program featuring toolkits, documentation, a dedicated extranet and other channel support.

Maintain Technology Leadership: We strive to continue to build upon our technology leadership by continuing to invest in research and development to increase the automation of processes and workflows and develop complementary product modules that leverage our platforms and competitive strengths, thus driving increased interest by making it more economical for customers to use us as a third-party solutions provider. In addition, we believe our close relationships with our Tier 1 customers can continue to provide us with valuable insights into the dynamics that are creating demand for next-generation solutions.

Leverage and Enforce our Intellectual Property: We have a significant repository of granted and filed patents and trademarks, and we expect to use this as a differentiator of our products and services in the marketplace.

Marketing

We focus our marketing efforts on increasing our direct sales pipeline, increasing adoption and revenue yield in our customers' channels and selectively increasing the visibility of Synchronoss and its technologies within our target markets, investors, analysts and the technology trade press. We do this through the following practices and points of emphasis:

Growth Marketing

Our Growth Marketing team is the most cost-effective, influential and direct path to increased revenue for our Operator customers (and by revenue share, Synchronoss). Our Growth Marketing team collaborates with Operator product owners and channel marketers to create product and marketing strategies and campaigns; increasing subscriber awareness and adoption to our white-label Personal Cloud and Advanced Messaging products. We devise strategies based on bundles, channel mixes against targeted audience segments based on standing Operator adoption KPI's for like services. Together we create business and pricing models that are designed to create an order of magnitude increase in revenue yield for the Operator. This shared incentive gives the Operator incentive to collaborate on new growth-oriented marketing strategies with full visibility to real time results allowing us to adjust channel mix, pricing and other variables real time to achieve higher quarter over quarter revenue growth results.

Account Based Marketing ("ABM")

Our product marketing team works closely with our sales organizations to create custom offers that are digitally promoted to highly targeted prospects and account contacts in targeted verticals via email, text and social media. The campaigns use hand-selected third-party marketing technology platforms that locate new prospects and manage communications and response via automated functionality designed to maximize the ability of our direct sales force to manage multi-layered communications to hundreds of contacts within targeted verticals. Our campaigns are optimized to appeal to carefully scored and weighted ideal customer profiles ("ICP") that define the organizations and individuals in that organization best pre-disposed to favorably receive our offer. Our campaigns and content are provided as tools for our direct sales force to interact efficiently with prospects and transition them into our existing pipeline management tools and practices. Each campaign is carefully monitored for increasing effectiveness of engagement and response key performance indicators and provide guidance for the ongoing optimization and refinement of sales driven communications and marketing content. Our ABM tech stack, playbook and sales aides are foundational and can be employed across any of our current and future sales and business development pipelines.

Public Relations

We generate visibility with joint customer and partner releases and announcements, the soliciting of earned media from prominent industry publishers, the release of thought leadership content and other owned media of interest to our target markets. Our team is active in preeminent technology and industry forums such as Cellular Telecommunications Industry Association ("CTIA") and the Global System for Mobile Communications ("GSMA"). We participate regularly and invest heavily in our presence at major events, exhibiting and hosting strategic meetings, conducting product demonstrations, speak at keynotes, panels and other forums including the Consumer Electronics Show ("CES"), Mobile World Congress ("MWC") in Europe, Asia and The United States, and are constantly evaluating our ability to participate in new events, forums and technology communities.

Product Marketing

Our marketing team creates sales materials including presentations, downloadable documents and various multimedia to support our direct sales model.

Social Media Marketing

Our team distributes updates, tweets and posts across a variety of social media on a company and select Synchronoss leaders.

Digital Marketing

Our team maintains our corporate web site and creates digital content to be used in ABM and other means of digital outreach. Additionally, we create targeted Search Engine Optimization ("SEO") profiles for each product and monitor discovery and engagement KPIs, automated responses, campaign landing pages and inbound direct contact forms.

Partnership Marketing

Our team works closely with marketing resources from our strategic partners to create content, participate in joint campaigns, speaking engagements and use of marketing development funds.

Competition

Competition across our markets is incredibly diverse, dynamic and nuanced in an increasingly interconnected landscape of rapidly changing technologies, evolving industry standards, new product introductions and converging spaces and services.

The following categories of competitors feature prominently as viable alternatives to the different platforms we offer in the TMT and IoT markets. Our competitors spend significant resources on developing and marketing products and services - far more than Synchronoss is able to spend. To compete against global platform providers, we are compelled to maximize our natural advantages through the relationships we have with our customers and partners and the unique value we offer them: bottom line increase in revenue and margins.

Cloud Competitors

- OTT Service & Platform Providers - Apple, Google, Dropbox, Box, Microsoft and Amazon all provide personal cloud services closely integrated to their respective technology or service platforms. Each cloud competitor pursues a similar formula towards different economic ends. In almost every case, the level of paid subscriber adoption is relatively low (less than 25%).
  - Apple (iCloud) uses cloud to create continuity in the device experience and creates an incentive for Apple customers to remain on iPhones.
  - Google (Google Photos) uses cloud to create engagement opportunities with personal content and harvests meta-data to create new monetization opportunities within its global network.
  - Drop Box is largely platform independent and does pursue premium revenue. However, they mostly focus on super users who use the cloud for business and pay a much higher average revenue per user ("ARPU") than any other cloud provider.
  - Microsoft (One Drive) uses cloud to help drive the adoption of Office Online across a variety of platforms and devices
  - Amazon (Photos) bundles its cloud into a prime membership and focuses on integration with Alexa

This formula of using cloud to reinforce an existing, dominant revenue stream creates a significant competitive opening for Synchronoss: OTT cloud service providers do not target Operators as their distribution channel and solicit customers at large leveraging captured audiences from their existing sales channels and service bundles. By offering a premium only model, we are able to create value for the lives of Operator subscribers that reinforce existing operator revenue strategies and give the Operator incentive to grow and maintain its paying base. This creates a distinct competitive advantage for Synchronoss to create an effective new revenue channel that offers clear value in daily use to millions of existing subscribers.

- White Label Platform Providers - The field of platform-independent, white label personal cloud providers has consolidated in recent years with Funambol, One Drive and others competing for Operator distribution deals. However, these providers generally target second and third tier regional operators with low-risk, revenue share business models and do not generally pose a real threat to Tier 1 world-wide Operators.

Competitive Advantages for Synchronoss Cloud Platforms

Verizon Wireless' illustrated these market dynamics in the creation of a multi-hundred-million-dollar revenue stream using a premium instantiation of Synchronoss' personal cloud. The success of this premium-only offer validates that cloud trends are equally applicable to Operator subscribers as OTT subscribers. Synchronoss continues to provide the world's largest white label cloud solution for Operators in which they can generate new services revenue (currently on a flat-to-declining trajectory globally) but can extend a branded relationship to an essential service, capture valuable data to provide better experiences and offer a level of security that has not been demonstrated by OTT competitors. As Verizon continues to over-achieve on its business KPIs, it illustrates a proven model for Operators world-wide to capitalize on service growth.

Messaging Competitors:

The emerging RCS marketplace is intensely competitive across the globe. Leading OTT device and OS platform providers, led by Google, Samsung along with prominent online platform providers such as Facebook, WhatsApp, Instagram, WeChat and LINE have created a radically new market for communication and monetization that is turning "messaging" into a new, virtual OS. By inventing new, innovative and immersive messaging experiences in China (WeChat) and Japan (LINE), global platform leaders and social networking giants have moved messaging initiatives to the forefront of their global strategies and platform innovation plans.

Competitive Advantages for Synchronoss Messaging Platforms

Due to our IP in advanced mobile messaging and strong Operator track record and heritage, Synchronoss is well-positioned to take part in the ground floor of the new messaging revenue growth. Synchronoss extended its Operator email contracts in Japan to arm them in their transition to an RCS messaging paradigm. We were selected to provide our RCS/RTC technology and platforms to the first Operator messaging cooperative in Japan, powering their Plus Message offering. Our white label Advanced Messaging Platform offers a comprehensive solution for Operators to take advantage of the onset of RCS messaging:

- Operator Neutrality - Synchronoss has historically managed discrete confidential contracts between competitive Operators world-wide. This puts us in a unique position to play the role of "Switzerland" to Operators who are seeking to band together and create national messaging services to offset their collective loss to OTT Messaging Providers.

- P2P Messaging: Synchronoss' Advanced Messaging platform works with various Messaging as a Platform (MaaP) configurations across Operators and OEMs, providing key messaging management services for RCS capable handsets and clients.

- A2P Commerce: Our Advanced Messaging platform supports native RCS, SMS and Client-driven RCS solutions providing maximum range across devices and operating systems, giving Operators maximum scale for commerce engagement.

- Brand Ecosystem Management: Our Advanced Messaging platform provides an easy-to-use management portal for brands and Operators to connect commerce to subscribers.

- Operator-Grade Scale and Security: Our track record with massive, secure Operator installations, meeting highly regulated SLA requirements put Synchronoss in a position to look after the interests of each individual Operator as well as collectives.

Digital Competitors

- System Integrators - Accenture, Amdocs and others engage our customers in long term contracts for services focused on digital transformation.

- CRM and BPM Providers - Major providers of CRM and other systems of record such as Salesforce, Pega Systems and Vlocity are engaging with our customers in engagements that emulate our Digital Experience Platform.

- Internal IT- Our customers and IT developers and system administrators are engaged in products to upgrade existing systems that would conflict with our Digital Experience and IoT platforms.

Competitive Advantages for Synchronoss Digital Platforms

The impact of "FAANG" (Facebook, Apple, Amazon, Netflix and Google) on the market is easy to see by virtue of the market share, revenue and cultural impact attained by like companies. As companies in the TMT space look to reclaim lost market share, revenue and seek to trim costs to compensate, they must find ways to deliver compelling, Omni-channel customer experiences.

Synchronoss has invested significantly in revitalizing its digital platform to assist TMT companies in not only catching up but actively competing for the revenue, market share and cultural impact they have lost to FAANG companies.

- Omni-Channel Innovation - Synchronoss DXP creates an environment where companies can centrally create and manage Omni-channel experiences - allowing total control of channel user experiences creating a continuous and intelligent pause and resume experience across channels.

- Simple Systems Integration - Synchronoss DXP integrates into any back-office system APIs, extracting mission-critical data and work flows into its Journey Creator environment - using this data to fuel innovative customer experiences into existing channels. This eliminates the need for companies to "rip and replace" their existing systems in order to innovate, create new revenue and reduce costs.

- Easy to Operate Tools - Synchronoss DXP is a low/no-code, object-oriented environment that centrally collects back office data and uses this data to create compelling, intelligent user experiences across various end channels. The drag-n-drop journey creation experience is a simple, intuitive way to allow IT developers to operate faster and create an environment easy enough for business analysts and channel owners to collaborate.

- Cost Efficient creation of FAANG-like Experiences - Synchronoss DXP allows existing systems to support middleware that sits between the back office and channel user experiences to create a centralized command and control center to author user experiences across touch points. This allows companies to author and manage better, more innovative and more effective customer experiences with a fraction of the manpower necessary in a BAU environment. DXP is essential to check all the boxes of digital transformation: new revenue, innovative experiences and reduced costs.

IoT Competitors

IoT Platform and Solutions providers such as Honeywell, Siemens, GE are among just some of the large competitors in the IoT and Smart Buildings market. Most focus on IoT solutions for their systems and equipment but may over time begin looking at aggregation solutions to provide complete building monitoring and management.

Competitive Advantages for Synchronoss IoT Platforms

Synchronoss has been closely involved in enabling Operator IoT offerings supporting the provisioning of Internet capable vehicles and wearables. Our white-label business model is accretive to Operators, allowing them to bring new IoT services to market - adding new revenue and new value to IoT Network packages.

Our Smart Buildings platform uses automation, orchestration and analytics that bring disparate building systems together - creating energy efficiencies, insights and easier points of management for administrators. This creates an easy to sell, easy to use plug and play, end-to-end solution powering IoT use cases that can be deployed quickly and operated easily.

Employees

We believe that our growth and success are attributable in large part to our employees and an experienced management team, many members of which have years of industry experience in building, implementing, marketing and selling transaction management solutions critical to business operations. We intend to continue training our employees, as well as developing and promoting our culture, and believe that these efforts provide us with a sustainable competitive advantage. We offer a work environment that enables employees to make meaningful contributions, as well as incentive programs that are designed to continue to motivate, retain and reward our employees.

As of December 31, 2019, we had 1,659 full-time employees located in India, North America, Europe and Asia Pacific regions. None of our employees are covered by any collective bargaining agreements.

Available Information

Our Web address is www.synchronoss.com. On this Web site, we post the following filings after they are electronically filed with or furnished to the SEC: Form 10-K, Form 10-Q, our current reports on Form 8-K, our proxy statement on Schedule 14A related to our annual stockholders' meeting and any amendment to those reports or statements filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended. All such filings are available on the Investor Relations portion of our Web site free of charge. The contents of our web site are not intended to be incorporated by reference into this Form 10-K or in any other report or document we file.

The reports filed with the SEC by us and by our officers, directors and significant shareholders are available for review on the SEC's website at www.sec.gov.

Synchronoss and Synchronoss Personal Cloud and other trademarks of Synchronoss appearing in this Form 10-K are the property of Synchronoss. Other trademarks or service marks that may appear in this Annual Report are the property of their respective holders. Solely for convenience, the trademarks and trade names in this Annual Report are referred to without the ®, ™ and SM symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

ITEM 1A. *RISK FACTORS*

An investment in our common stock involves a high degree of risk. The following are certain risk factors that could affect our business, financial results and results of operations. You should carefully consider the following risk factors in connection with evaluating the forward-looking statements contained in this Form 10-K because these factors could cause the actual results and conditions to differ materially from those projected in forward-looking statements. The risks that we have highlighted here are not the only ones that we face. If any of the risks actually occur, our business, financial condition or results of operation could be negatively affected. In that case, the trading price of our stock could decline, and our stockholders may lose part or all of their investment.

Risks Related to Our Business and Industry

The terms of our secured revolving credit facility require us to meet certain operating covenants and place restrictions on our operating and financial flexibility. If we raise additional capital through debt financing, the terms of any new debt could further restrict our ability to operate our business.

In October 2019, we entered into a revolving credit facility with Citizens Bank, N.A. that is secured by a lien covering substantially all of our assets, other than our existing real property. The revolving credit facility contains customary covenants that limit the ability of our company and our restricted subsidiaries to, among other things, (1) incur additional indebtedness, (2) pay dividends or make certain other restricted payments, (3) sell assets, (4) make certain investments, and (5) grant liens. These covenants are subject to exceptions and qualifications set forth in the credit agreement. The financial covenants set forth in the credit agreement include a maximum consolidated total leverage ratio and a minimum consolidated fixed charge coverage ratio, each of which will be tested at the end of each fiscal quarter. If we default under the terms of the revolving credit facility or any future debt facility, the lender may accelerate all of our repayment obligations and take control of our pledged assets, potentially requiring us to renegotiate our agreement on terms less favorable to us or to immediately cease operations. Further, if we are liquidated, the lender's right to repayment would be senior to the rights of the holders of our common stock. The lender could declare a default upon the occurrence of any event that they interpret as a material adverse effect as defined under the loan agreement. Any declaration by the lender of an event of default could significantly harm our business and prospects and could cause the price of our common stock to decline. If we raise any additional debt financing, the terms of such additional debt could further restrict our operating and financial flexibility.

Our business may not generate sufficient cash flows from operations or future borrowings from institutional creditors or from other sources which may not be available to us in amounts sufficient to enable us to fund our liquidity needs, including capital expenditure requirements.

We cannot guarantee that we will be able to generate sufficient revenue or obtain enough capital to fund our planned capital expenditures and execute on our business strategy. We may be more vulnerable to adverse economic conditions than our leveraged competitors and thus less able to withstand competitive pressures. A reduction in our ability to generate cash available for investment or debt repayment or to make improvements or respond to events that would enhance profitability may require us to delay, scale back or eliminate some or all of our activities which could have a material adverse effect on our business, results of operations and financial condition.

If we do not meet our revenue forecasts, we may be unable to reduce our expenses in a timely fashion to avoid or minimize harm to our results of operations.

Our revenues are difficult to forecast and are likely to fluctuate significantly from period to period, particularly as we continue to implement our business strategy. We base our operating expense and capital investment budgets on expected sales and revenue trends, and many of our expenses, such as office and equipment leases and personnel costs, will be relatively fixed in the short term and will increase over time as we make investments in our business. Our estimates of sales trends may not correlate with actual revenues in a particular quarter or over a longer period of time. Variations in the rate and timing of conversion of our sales prospects into sales and actual revenues could cause us to plan or budget inaccurately and those variations could adversely affect our financial results. In particular, delays, reductions in amount or cancellation of customers' contracts would adversely affect the overall level and timing of our revenues, and our business, results of operations and financial condition could be harmed. Due to the relatively fixed nature of many of our expenses, we may be unable to adjust spending quickly enough to offset any unexpected revenue shortfall. In the course of our sales to customers, we may encounter difficulty collecting accounts receivable and could be exposed to risks associated with uncollectible accounts receivable. In the event we are unable to collect on our accounts receivable, it could negatively affect our cash flows, operating results and business.

Our Series A Convertible Participating Perpetual Preferred Stock (the "Series A Preferred Stock") contains covenants that may limit our business flexibility.

On February 15, 2018, in accordance with the terms of that certain Securities Purchase Agreement dated as of October 17, 2017 with Silver Private Holdings I, LLC ("Silver"), an affiliate of Siris Capital Group, LLC ("Siris"), we issued to Silver 185,000 shares of our newly issued "Series A Preferred Stock", par value $0.0001 per share, with an initial liquidation preference of $1,000 per share, in exchange for $97.7 million in cash and the transfer from Silver to us of 5,994,667 shares of our common stock held by Silver. In connection with the issuance of the Series A Preferred Stock, we filed a Certificate of Designations with the State of Delaware setting forth the rights, preferences, privileges, qualifications, restrictions and limitations on the Series A Preferred Stock (the "Series A Certificate"). The holders of a majority of the Series A Preferred Stock, voting separately as a class, are entitled at each of our annual meetings of stockholders or at any special meeting called for the purpose of electing directors (or by written consent signed by the holders of a majority of the then-outstanding shares of Series A Preferred Stock in lieu of such a meeting): (i) to nominate and elect two members of our Board of Directors for so long as the Preferred Percentage (as defined in the Series A Certificate) is equal to or greater than 10%; and (ii) to nominate and elect one member of our Board of Directors for so long as the Preferred Percentage is equal to or greater than 5% but less than 10%.

For so long as the holders of shares of our Series A Preferred Stock have the right to nominate at least one director, we are required to obtain the prior approval of Silver prior to taking certain actions, including:

(i) certain dividends, repayments and redemptions;
(ii) any amendment to our certificate of incorporation that adversely effects the rights, preferences, privileges or voting powers of the Series A Preferred Stock;
(iii) issuances of stock ranking senior or equivalent to shares of Series A Preferred Stock (including additional shares of Series A Preferred Stock) in the priority of payment of dividends or in the distribution of assets upon any liquidation, dissolution or winding up of us;
(iv) changes in the size of our Board of Directors;
(v) any amendment, alteration, modification or repeal of the charter of our Nominating and Corporate Governance Committee of the Board of Directors and related documents; and
(vi) any change in our principal business or the entry into any line of business outside of our existing lines of businesses.

In addition, in the event that we are in EBITDA Non-Compliance (as defined in the Series A Certificate) or the undertaking of certain actions would result in Synchronoss exceeding a specified pro forma leverage ratio, then the prior approval of Silver would be required to incur indebtedness (or alter any debt document) in excess of $10.0 million, enter or consummate any transaction where the fair market value exceeds $5.0 million individually or $10.0 million in the aggregate in a fiscal year or authorize or commit to capital expenditures in excess of $25.0 million in a fiscal year.

There is no guarantee that the holders of the Series A Preferred Stock would approve any such restricted action, even where such an action would be in the best interests of our stockholders. Any failure to obtain such approval could harm our business and result in a decrease in the value of our common stock.

Our Series A Preferred Stock has rights, preferences and privileges that are not held by, and are preferential to, the rights of our common stockholders, which could adversely affect our liquidity and financial condition, and may result in the interests of the holders of our Series A Preferred Stock differing from those of our common stockholders.

The holders of our Series A Preferred Stock have the right to receive a liquidation preference entitling them to be paid out of our assets available for distribution to stockholders before any payment may be made to holders of any other class or series of capital stock, an amount equal to the greater of the stated value of such holder's shares of Series A Preferred Stock or the amount that such holder would have been entitled to receive upon our liquidation, dissolution and winding up if all outstanding shares of such series of Series A Preferred Stock had been converted into common stock immediately prior to such liquidation, dissolution or winding up, plus accrued but unpaid dividends.

In addition, dividends on the Series A Preferred Stock accrue and are cumulative at the rate of 14.5% per annum, payable quarterly in arrears in cash or in-kind. The holders of our Series A Preferred Stock also have certain redemption rights, including the right to require us to repurchase all or any portion of the Series A Preferred Stock upon the occurrence of certain events.

These dividend and redemption obligations could impact our liquidity and reduce the amount of cash flows available for working capital, capital expenditures, growth opportunities, acquisitions, and other general corporate purposes. Our obligations to the holders of Series A Preferred Stock, including the requirement that we obtain the consent of the holders of Series A Preferred

Stock prior to incurring additional indebtedness under certain circumstances, could also limit our ability to obtain additional financing or increase our borrowing costs, which could have an adverse effect on our financial condition. The preferential rights could also result in divergent interests between the holders of shares of Series A Preferred Stock and holders of our common stock. The two members of our Board of Directors elected by the Series A Preferred Stock, Frank Baker and Peter Berger, are affiliated with Silver, which holds all outstanding shares of our Series A Preferred Stock. Notwithstanding the fact that all directors are subject to fiduciary duties to us and to applicable law, the interests of the directors elected by the holders of the Series A Preferred may differ from the interests of our security holders as a whole or of our other directors.

If we do not continue to improve our operational, financial and other internal controls and systems to manage our growth and size, our business, results of operations and financial condition could be adversely affected.

Our historic and anticipated growth will continue to place significant demands on our management and other resources and will require us to continue to develop and improve our operational, financial and other internal controls. In particular, our growth will increase the challenges involved in:

- recruiting, training and retaining technical, finance, marketing and management personnel with the knowledge, skills and experience that our business model requires;
- maintaining high levels of customer satisfaction;
- developing and improving our internal administrative infrastructure, particularly our financial, operational, communications and other internal systems;
- preserving our culture, values and entrepreneurial environment; and
- effectively managing our personnel and operations and effectively communicating to our personnel worldwide our core values, strategies and goals.

In addition, the increasing size and scope of our operations increase the possibility that a member of our personnel will engage in unlawful or fraudulent activity, breach our contractual obligations, or otherwise expose us to unacceptable business risks, despite our efforts to train our people and maintain internal controls to prevent such instances. If we do not continue to develop and implement the right processes and tools to manage our enterprise, our business, results of operations and financial condition could be adversely affected.

The success of our business depends on the continued growth in demand for connected devices and the continued availability of high-speed access to the Internet.

The future success of our business depends upon the continued growth in demand for connected devices and business transactions on the Internet, and on our customers having high-speed access to the Internet, as well as the continued maintenance and development of the Internet infrastructure. While we believe the market for connected devices will continue to grow for the foreseeable future, we cannot accurately predict the extent to which demand for connected devices will increase, if at all, and the ability to attract consumers who have historically purchased wireless services and devices through traditional retail stores. If the demand for connected devices were to slow down or decline or the supply of connected devices to our customers is impacted for any reason, such as the novel coronavirus or other public health epidemics or concerns, our business and results of operations may be adversely affected. If for any reason the Internet does not remain a widespread communications medium and commercial platform, the demand for our services would be significantly reduced, which would harm our business, results of operations and financial condition.

To the extent the Internet continues to experience increased numbers of users, frequency of use or bandwidth requirements, the Internet may become congested and be unable to support the demands placed on it, and its performance or reliability may decline. Any future Internet outages or delays could adversely affect our business, results of operation and financial condition.

Our business growth would be impeded if the performance or perception of the Internet was harmed by security problems such as "viruses," "worms" or other malicious programs, reliability issues arising from outages and damage to Internet infrastructure, delays in development or adoption of new standards and protocols to handle increased demands of Internet activity, increased costs, decreased accessibility and quality of service, or increased government regulation and taxation of Internet activity. The Internet has experienced, and is expected to continue to experience, significant user and traffic growth, which has, at times, caused user frustration with slow access and download times. If Internet activity grows faster than Internet infrastructure or if the Internet infrastructure is otherwise unable to support the demands placed on it, or if hosting capacity becomes scarce, the growth of our business and operating results may be adversely affected.

The novel coronavirus outbreak could impact our operations.

The ongoing coronavirus outbreak emanating from China at the beginning of 2020 has resulted in increased travel restrictions, the cancellation or rescheduling of trade shows and other events, and the extended shutdown of certain businesses. The spread of the novel coronavirus throughout the world may also create global economic uncertainty, which may cause partners, suppliers and potential customers to closely monitor their costs and reduce their spending budget. In addition, if the pandemic continues to spread, we may need to limit operations or implement limitations, including work from home policies. The extent to which the coronavirus impacts our results will depend on future developments, which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of the coronavirus, the ultimate geographic spread of the coronavirus, the duration of the outbreak, travel restrictions imposed, business closures or business disruption, and the actions taken throughout the world, including in our markets, to contain the coronavirus or treat its impact. As a result our supply chain, financial condition, revenues, profitability and cash flows could be adversely affected.

Due to the global nature of our operations, political or economic changes or other factors in a specific country or region could harm our operating results and financial condition.

We conduct significant sales and customer support operations in countries around the world. As such, our growth depends in part on our increasing sales into emerging countries. We also depend on, and many of our customers depend on, non-U.S. operations of our contract manufacturers, component suppliers and distribution partners. Emerging countries in the aggregate experienced a decline in orders during fiscal 2019 and certain prior periods. We continue to assess the sustainability of any improvements in these countries and there can be no assurance that our investments in these countries will be successful. Our future results could be materially adversely affected by a variety of political, economic or other factors relating to our operations inside and outside the United States, including impacts from global central bank monetary policy; issues related to the political relationship between the United States and other countries that can affect the willingness of customers in those countries to purchase products from companies headquartered in the United States; the impact of the novel coronavirus or other public health epidemics or concerns on our customer's component suppliers, and the challenging and inconsistent global macroeconomic environment, any or all of which could have a material adverse effect on our operating results and financial condition, including, among others, the following:

- Foreign currency exchange rates;
- Political or social unrest;
- Economic instability or weakness or natural disasters in a specific country or region, including the current economic or health challenges in China and global economic ramifications of Chinese economic difficulties; or instability as a result of Brexit;
- Environmental and trade protection measures and other legal and regulatory requirements, some of which may affect our ability to import our products, to export our products from, or sell our products in various countries;
- Political considerations that affect service provider and government spending patterns;
- Health or similar issues, such as a pandemic or epidemic, including the recent outbreak of a novel strain of coronavirus;
- Difficulties in staffing and managing international operations; or
- Adverse tax consequences, including imposition of withholding or other taxes on our global operations.

Economic, political and market conditions can adversely affect our business, results of operations and financial condition.

Our business is influenced by a range of factors that are beyond our control and that we have no comparative advantage in forecasting. These include but are not limited to general economic and business conditions, the overall demand for cloud-based products and services, general political developments and currency exchange rate fluctuations. Economic uncertainty may exacerbate negative trends in consumer spending and may negatively impact the businesses of certain of our customers, which may cause a reduction in their use of our platforms or increase their likelihood of defaulting on their payment obligations, and therefore cause a reduction in our revenues. These conditions and uncertainty about future economic conditions may make it challenging for us to forecast our operating results, make business decisions and identify the risks that may affect our business, financial conditions and results of operations. In addition, these factors could result in quarterly fluctuations in our business performance. Finally, changes in these conditions may result in a more competitive environment, resulting in possible pricing pressures.

Our business could be affected by acts of war, terrorism, natural disasters and the widespread outbreak of infectious diseases. Current world tensions could escalate, and this could have unpredictable consequences on the world economy and on our business. The ongoing coronavirus outbreak emanating from China at the beginning of 2020 has resulted in increased travel restrictions, the cancellation or rescheduling of trade shows and other events, and the extended shutdown of certain businesses. The spread of the novel coronavirus throughout the world may also create global economic uncertainty, which may cause partners, suppliers and potential customers to closely monitor their costs and reduce their spending budget. In addition, if the pandemic continues to spread, we may need to limit operations or implement limitations, including work from home policies. These or any further political or governmental developments or health concerns in countries could result in social, economic and labor instability. If, as a result of such events, we experience a reduction in demand for our products, platforms or services, or the supply of products or components to our customers, our business, results of operations and financial condition may be materially and adversely affected.

Catastrophic events may disrupt our business.

A natural disaster, telecommunications failure, power outage, cybersecurity attack, war, terrorist attack, health epidemics or pandemics, or other catastrophic event could cause us to suffer system interruptions, reputational harm, delays in product development, lack of products provided to our customers, breaches of data security and loss of critical data. An event of this nature could also prevent us from fulfilling customer orders or maintaining certain service level requirements, particularly in respect of our SaaS and hosted offerings. While we have developed certain disaster recovery plans and maintain backup systems to reduce the potentially adverse effect of these types of events, a catastrophic event that results in the destruction or disruption of any of our data centers or our critical business or information technology systems could severely affect our ability to conduct normal business operations and, as a result, our business, operating results and financial condition could be adversely affected.

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

Our operating results may fluctuate due to a variety of factors, many of which are outside of our control. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Our past results should not be relied on as an indication of our future performance. Non-GAAP financial measures should not be considered in isolation from, or as a substitute for, financial information prepared in accordance with GAAP. In addition, non-GAAP metrics we may disclose, such as EBITDA, and any corresponding trends in such metrics should not be relied on as an indication that our GAAP results, such as income (loss), will be similar or will follow the same trends. If our revenue or operating results fall below the expectations of investors or securities analysts or below any guidance we may provide to the market, the price of our common stock could decline substantially. Our operating results have varied in the past and are expected to continue to do so in the future.

If we fail to compete successfully with existing or new competitors, our business could be harmed.

If we fail to compete successfully with established or new competitors, it could have a material adverse effect on our results of operations and financial condition. The industries in which we operate are highly competitive and fragmented, and we expect competition to increase. We compete with independent providers of information systems and services and with the in-house departments of our OEMs and communications services companies' customers. Rapid technological changes, such as advancements in software integration across multiple and incompatible systems, and economies of scale may make it more economical for CSPs, MSOs or OEMs to develop their own in-house processes and systems, which may render some of our products and services less valuable or, eventually, obsolete. Our competitors include firms that provide comprehensive information systems and managed services solutions, BYOD providers, systems integrators, clearinghouses and service bureaus. Many of our competitors have long operating histories, large customer bases, substantial financial, technical, sales, marketing and other resources and strong name recognition.

Current and potential competitors have established, and may establish in the future, cooperative relationships among themselves or with third parties to increase their ability to address the needs of our current or prospective customers. In addition, our competitors have acquired, and may continue to acquire in the future, companies that may enhance their market offerings. Accordingly, new competitors or alliances among competitors may emerge and rapidly acquire significant market share. As a result, our competitors may be able to adapt more quickly than us to new or emerging technologies and changes in customer requirements and may be able to devote greater resources to the promotion and sale of their products. These relationships and alliances may also result in transaction pricing pressure, which could result in large reductions in the selling prices of our products and services. Our competitors or our customers' in-house solutions may also provide services at a lower cost, significantly increasing pricing pressure on us. We may not be able to offset the effects of this potential pricing pressure. Our failure to adapt to changing market conditions and to compete successfully with established or new competitors may have a material adverse effect on our results of operations and financial condition. In particular, a failure to offset competitive pressures brought about by competitors or in-house solutions developed by our customers could result in a substantial reduction in or the outright termination of our contracts with some of our customers, which would have a significant, negative and material impact on our business, results of operations and financial condition.

The markets in which we market and sell our products and services are highly competitive, and if we do not adapt to rapid technological change, we could lose customers or market share, which could adversely affect our ability to sustain or grow revenue.

The industries we serve are characterized by rapid technological change and frequent new service offerings and are highly competitive with respect to the need for innovation. Significant technological changes could make our technology and services obsolete, less marketable or less competitive. We must adapt to these rapidly changing markets by continually improving the features, functionality, reliability and responsiveness of our products and services, and by developing new features, services and applications to meet changing customer needs and further address the markets we serve. Our ability to take advantage of opportunities in the markets we serve may require us to invest in development and incur other expenses well in advance of our ability to generate revenues from these offerings or services. We may not be able to timely adapt to these challenges or respond successfully or in a cost-effective way. Our failure to do so would adversely affect our ability to compete and retain customers and/or market share and could adversely affect our ability to sustain or grow revenue. In addition, as we expand our service offerings, we may face competition from new and existing competitors. It is also possible that our customers could decide to create, invest in or collaborate in the creation of competitive products that might limit or reduce their need for our products, services and solutions. Further, we may experience delays in the development of one or more features of our offerings, which could materially reduce the potential benefits to us providing these services. In addition, our present or future service offerings may not satisfy the evolving needs of the industry in which we operate. If we are unable to anticipate or respond adequately to these evolving market needs, due to resource, technological or other constraints, our business and results of operations could be harmed. In addition, the arrival of new market entrants could reduce the demand for our services or cause us to reduce our pricing, resulting in a loss of revenue and adversely affecting our business, results of operations and financial condition. Also, the use of internal technologies, developed by our customers or their advisers, could reduce the demand for our services, result in pricing pressures or cause a reduction in our revenue. If we fail to manage these challenges adequately, our business, results of operations and financial condition could be adversely affected.

The success of our business depends on our ability to achieve or sustain market acceptance of our services and solutions at desired pricing levels.

Our competitors and customers may cause us to reduce the prices we charge for our services and solutions. Our current or future competitors may offer our customers services at reduced prices or bundling and pricing services in a manner that may make it difficult for us to compete. Customers with a significant volume of transactions may attempt to use this leverage in pricing negotiations with us. Also, if our prices are too high, current or potential customers may find it economically advantageous to handle certain functions internally instead of using our services. We may not be able to offset the effects of any price reductions by increasing the number of transactions we handle or the number of customers we serve, by generating higher revenue from enhanced services or by reducing our costs. If these or other sources of pricing pressure cause us to reduce the pricing of our service or solutions below desirable levels, our business and results of operations may be adversely affected.

Technology drives our products and services. If we fail to keep pace with technological advances in the industry, or if we pursue technologies that do not become commercially accepted, customers may not buy our products or use our services.

The telecommunications industry uses numerous and varied technologies, and large service providers often invest in several, and sometimes incompatible, technologies. The industry also demands frequent and, at times, significant technology upgrades. Furthermore, enhancing our services revenues requires that we develop and maintain leading tools. We will not have the resources to invest in all existing and potential technologies. As a result, we expect to concentrate our resources on those technologies that we believe have or will achieve substantial customer acceptance and in which we will have appropriate technical expertise. However, existing products often have short product life cycles characterized by declining prices over their lives. In addition, our choices for developing technologies may prove incorrect if customers do not adopt the products that we develop or if those technologies ultimately prove to be unviable. Our revenues and operating results will depend, to a significant extent, on our ability to maintain a product portfolio and service capability that is attractive to our current and future customers; to enhance our existing products; to continue to introduce new products successfully and on a timely basis; and to develop new or enhance existing tools for our services offerings.

The development of new technologies remains a significant risk to us, due to the efforts that we still need to make to achieve technological feasibility, due to rapidly changing customer markets; and due to significant competitive threats.

Our failure to bring these products to market in a timely manner could result in a loss of market share or a lost opportunity to capitalize on new markets for emerging technologies and could have a material adverse impact on our business, operating results and financial condition.

Though acceptance of cloud-based software has advanced in recent years, some businesses may still be hesitant to adopt these types of solutions.

Our cloud-based service strategy may not be successful. We enable our customers to offer their subscribers the ability to backup, restore and share content across multiple devices through a cloud-based environment. Some businesses may still be uncertain as to whether a cloud-based service like ours is appropriate for their business needs. The success of our offerings is dependent upon continued acceptance by and growth in subscribers of cloud-based services in general and there can be no guarantee of the adoption rate by these subscribers. Many organizations have invested substantial personnel and financial resources to integrate traditional enterprise software into their organizations and, therefore, may be reluctant or unwilling to migrate to a cloud-based model for storing, accessing, sharing and managing their content. Because we derive, and expect to continue to derive, a substantial portion of our revenue and cash flows from sales of our cloud-based solutions, our success will depend to a substantial extent on the widespread adoption of cloud computing for companies in general. Our cloud strategy will continue to evolve, and we may not be able to compete effectively, generate significant revenues or maintain profitability. While we believe our expertise, investments in infrastructure, and the breadth of our cloud-based services provides us with a strong foundation to compete, it is uncertain whether our strategies will attract the users or generate the revenue required to be successful. In addition to software development costs, we incur costs to build and maintain infrastructure to support cloud-based services. It is difficult to predict customer adoption rates and demand for our services, the future growth rate and size of the cloud computing market or the entry of competitive services. The expansion of a cloud-based enterprise software market depends on a number of factors, including the cost, performance and perceived value associated with cloud computing, as well as the ability of companies that provide cloud-based services to address security and privacy concerns. If we or other providers of cloud-based services experience security incidents, loss of customer data, disruptions in delivery or other problems, the market for cloud-based services as a whole, including our services, may be negatively affected. If there is a reduction in demand for cloud-based services caused by a lack of customer acceptance, technological challenges, weakening economic conditions, security or privacy concerns, competing technologies and products, decreases in corporate spending or otherwise, we could experience decreased revenue, which could harm our growth rates and adversely affect our business and operating results.

Government regulation of the Internet and e-commerce and of the international exchange of certain information is subject to possible unfavorable changes, and our failure to comply with applicable regulations could harm our business and operating results.

As Internet commerce continues to evolve, increasing regulation by federal, state, local and foreign governments become more likely. For example, in recent years, numerous federal, state, local and foreign laws regarding privacy and the collection, processing, storage, sharing, disclosure, use or protection of personal information and other data have been enacted. The scope of these laws is expanding, they are subject to differing interpretations and may be costly to comply with and may be inconsistent between countries and jurisdictions or conflict with other rules. Further, laws and regulations applying to the solicitation, collection, processing or use of personal or consumer information could affect our customers' ability to use and share data, potentially reducing demand for our products and services. In addition, taxation of products and services provided over the Internet or other charges imposed by government agencies or by private organizations for accessing the Internet may also be imposed. Any regulation imposing greater fees for Internet use or restricting the exchange of information over the Internet could result in reduced growth or a decline in the use of the Internet and could diminish the viability of our Internet-based services, which could harm our business and operating results.

Our business depends substantially on customers renewing and expanding their subscriptions for our services. Any decline in our customer renewals and expansions would harm our future operating results.

We enter into subscription agreements with certain of our customers that are generally one to two years in length. As a result, maintaining the renewal rate of those subscription agreements is critical to our future success. We cannot provide assurance that any of our customer agreements will be renewed, as our customers have no obligation to renew their subscriptions for our services after the expiration of the initial term of their agreements. The loss of any customers that individually or collectively account for a significant amount of our revenues would have a material adverse effect on our results of operations or financial condition. If our renewal rates are lower than anticipated or decline for any reason, or if customers renew on terms less favorable to us, our revenue may decrease, and our profitability and gross margin may be harmed, which would have a material adverse effect on our business, results of operations and financial condition.

If we do not maintain the compatibility of our services with third-party applications that our customers use in their business processes or if we fail to adapt our services to changes in technology or the marketplace, demand for our services could decline.

Our solutions can be used alongside a wide range of other systems such as email and enterprise software systems used by our customers in their businesses. If we do not support the continued integration of our products and services with third-party applications, including through the provision of application programming interfaces that enable data to be transferred readily between our services and third-party applications, demand for our services could decline and we could lose sales or experience declining renewal rates. We will also be required to make our products and services compatible with new or additional third-party applications that are introduced to the markets that we serve and, if we are not successful, we could experience reduced demand for our services. In addition, prospective customers, especially large enterprise customers, may require heavily customized features and functions unique to their business processes. If prospective customers require customized features or functions that we do not offer and that would be difficult for them to develop and integrate within our services, then the market for our products and services may be adversely affected.

We may not currently or in the future appropriately leverage advances in technology to achieve or sustain a competitive advantage in products, services, information and processes. Our customers and users regularly adopt new technologies and industry standards continue to evolve. The introduction of products or services and the emergence of new industry standards can render our existing services obsolete and unmarketable in short periods of time. We expect others to continue to develop and introduce new and enhance existing products and services that will compete with our services. Our future success will depend, in part, on our ability to enhance our current services and to develop and introduce new services that keep pace with technological developments, emerging industry standards and the needs of our customers. We cannot assure that we will be successful in cost-effectively developing, marketing and selling new services or service enhancements that meet these changing demands on a timely basis, that we will not experience difficulties that could delay or prevent the successful development, introduction and marketing of these services, or that our new service and service enhancements will adequately meet the demands of the marketplace and achieve market acceptance. We also cannot assure that the features that we believe will drive purchasing decisions will in fact be the features that our current or potential customers consider most significant.

Our revenue, earnings and profitability are affected by the length of our sales cycle, and a longer sales cycle could adversely affect our results of operations and financial condition.

Our business is directly affected by the length of our sales cycles. Our customers' businesses are relatively complex and their purchase of the types of services that we offer generally involve a significant financial commitment, with attendant delays frequently associated with large financial commitments and procurement procedures within an organization. In addition, as we continue to further penetrate the enterprise and the size and complexity of our sales opportunities continue to expand, we have seen an increase in the average length of time in our sales cycles. The purchase of the types of services that we offer typically also requires coordination and agreement across many departments within a potential customer's organization. Delays associated with such timing factors could have a material adverse effect on our results of operations and financial condition. In periods of economic slowdown our typical sales cycle lengthens, which means that the average time between our initial contact with a prospective customer and the signing of a sales contract increases. The lengthening of our sales cycle could reduce growth in our revenue. In addition, the lengthening of our sales cycle contributes to an increased cost of sales, thereby reducing our profitability.

We traditionally have had substantial customer concentration, with a limited number of customers accounting for a substantial portion of our revenues.

Our top five customers accounted for 69.2% for the year ended December 31, 2019 compared to 69.0% for the year ended December 31, 2018. Of these customers, Verizon accounted for more than 10% of our revenues in 2019, 2018, and 2017. There are inherent risks whenever a large percentage of total revenues are concentrated with a limited number of customers.

It is not possible for us to predict the future level of demand for our services that will be generated by these customers or the future demand for the products and services of these customers in the end-user marketplace. In addition, revenues from these larger customers may fluctuate from time to time based on the commencement and completion of projects, the timing of which may be affected by market conditions or other factors, some of which may be outside of our control. Further, some of our contracts with these larger customers permit them to terminate our services at any time (subject to notice and certain other provisions). If any of our major customers experience declining or delayed sales due to market, economic or competitive conditions, we could be pressured to reduce the prices we charge for our services or we could lose the customer. Any such development could have an adverse effect on our margins and financial position and would negatively affect our revenues and results of operations and/or trading price of our common stock.

Our revenue for a particular period may be difficult to predict, and a shortfall in revenue may harm our operating results.

As a result of a variety of factors discussed in this report, our revenue for a particular quarter is difficult to predict, especially in light of a challenging and inconsistent global macroeconomic environment and related market uncertainty. Our revenue may grow at a slower rate than in past periods or decline as it has in the past on a year-over-year basis. Our ability to meet financial expectations could also be adversely affected if the nonlinear sales pattern seen in some of our past quarters recurs in future periods.

The timing of large orders can also have a significant effect on our business and operating results from quarter to quarter. From time to time, we receive large orders that have a significant effect on our operating results in the period in which the order is recognized as revenue. The timing of such orders is difficult to predict, and the timing of revenue recognition from such orders may affect period to period changes in revenue. As a result, our operating results could vary materially from quarter to quarter based on the receipt of such orders and their ultimate recognition as revenue.

We plan our operating expense levels based primarily on forecasted revenue levels. These expenses and the impact of long-term commitments are relatively fixed in the short term. A shortfall in revenue could lead to operating results being below expectations because we may not be able to quickly reduce these fixed expenses in response to short-term business changes.

Any of the above factors could have a material adverse impact on our operations and financial results.

Because we recognize revenue for certain of our products and services ratably over the term of our customer agreements, downturns or upturns in the value of signed contracts will not be fully and immediately reflected in our operating results.

We offer certain of our products and services primarily through fixed or variable commitment contracts and recognize revenue ratably over the related service period, which typically ranges from twelve to twenty-four months. As a result, some portion of the revenue we report in each quarter is revenue from contracts entered into during prior periods. Consequently, a decline in signed contracts in any quarter will not be fully and immediately reflected in revenue for that quarter but may instead negatively affect our revenue in future quarters. In addition, we may be unable to adjust our cost structure to offset this reduced revenue. Similarly, revenue attributable to an increase in contracts signed in a particular quarter will not be fully and immediately recognized, as revenue from new or renewed contracts is recognized ratably over the applicable service period. Because we incur certain sales costs at the time of sale, we may not recognize revenues from some customers despite incurring considerable expense related to our sales processes. Timing differences of this nature could cause our margins and profitability to fluctuate significantly from quarter to quarter.

Our offerings of new services or products may be subject to complex revenue recognition standards, which could materially affect our financial results.

As we introduce new services or products, revenue recognition could become increasingly complex and require additional analysis and judgment. Additionally, for new contracts with existing customers, we may negotiate and revise previously used terms and conditions of our contracts with these customers and channel partners, which may also cause us to revise our revenue recognition policies. As our arrangements with customers change, we may be required to defer a greater portion of revenue into future periods, which could materially and adversely affect our financial results.

Failure to maintain the confidentiality, integrity and availability of our systems, software and solutions could seriously damage our reputation and affect our ability to retain customers and attract new business.

Maintaining the confidentiality, integrity and availability of our systems, software and solutions is an issue of critical importance for us and for our customers and users who rely on our systems to store and exchange large volumes of information, much of which is proprietary and confidential. There appears to be an increasing number of individuals, governments, groups and computer "hackers" developing and deploying a variety of destructive software programs (such as viruses, worms and other malicious software) that could attack our computer systems or solutions or attempt to infiltrate our systems. We make significant efforts to maintain the confidentiality, integrity and availability of our systems, solutions and source code. Despite significant efforts to create security barriers, it is virtually impossible for us to mitigate this risk entirely because techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not recognized until launched against a target. Like all software solutions, our software is vulnerable to these types of attacks. An attack of this type could disrupt the proper functioning of our software solutions, cause errors in the output of our customers' work, allow unauthorized access to sensitive, proprietary or confidential information of ours or our customers and other destructive outcomes. If an actual or perceived breach of our security were to occur, our reputation could suffer, customers could stop buying our solutions and we could face lawsuits and potential liability, any of which could cause our financial performance to be negatively impacted. Though we maintain professional liability insurance that may be available to provide coverage if a cybersecurity incident were to occur, there can be no assurance that insurance coverage will be available or that available coverage will be sufficient to cover losses and claims related to any cybersecurity incidents we may experience.

There is also a danger of industrial espionage, cyber-attacks, misuse or theft of information or assets (including source code), or damage to assets by people who have gained unauthorized access to our facilities, systems or information, which could lead to the disclosure of portions of our source code or other confidential information, improper usage and distribution of our solutions without compensation, illegal or inappropriate usage of our systems and solutions, jeopardizing of the security of information stored in and transmitted through our computer systems, manipulation and destruction of data, defects in our software and downtime issues. Although we actively employ measures to combat unlicensed copying, access and use of our facilities, systems, software and intellectual property through a variety of techniques, preventing unauthorized use or infringement of our rights is inherently difficult. The occurrence of an event of this nature could adversely affect our financial results or could result in significant claims against us for damages. Further, participating in either a lawsuit to protect against unauthorized access to, usage of or disclosure of any of our solutions or any portion of our source code or the prosecution of an individual in connection with a cybersecurity breach could be costly and time-consuming and could divert management's attention and adversely affect the market's perception of us and our solutions.

A number of core processes, such as software development, sales and marketing, customer service and financial transactions, rely on our IT, infrastructure and applications. Defects or malfunctions in our IT infrastructure and applications could cause our service offerings not to perform as our customers expect, which could harm our reputation and business. In addition, malicious software, sabotage and other cybersecurity breaches of the types described above could cause an outage of our infrastructure, which could lead to a substantial denial of service and ultimately downtimes, recovery costs and customer claims, any of which could have a significant negative impact on our business, financial position, profit and cash flows.

The confidentiality, integrity and availability of our systems could also be jeopardized by a breach of our internal controls and policies by our employees, consultants or subcontractors having access to our systems. If our systems fail or are breached as a result of a third-party attack or an error, violation of internal controls or policies or a breach of contract by an employee, consultant or subcontractor that results in the unauthorized use or disclosure of proprietary or confidential information or customer data (including information about the existence and nature of the projects and transactions our customers are engaged in), we could lose business, suffer irreparable damage to our reputation and incur significant costs and expenses relating to the investigation and possible litigation of claims relating to such event. We could be liable for damages, penalties for violation of applicable laws or regulations and costs for remediation and efforts to prevent future occurrences, any of which liabilities could be significant. There can be no assurance that the limitations of liability in our contracts would be enforceable or adequate or would otherwise protect us from liabilities or damages with respect to any particular claim. We also cannot assure that our existing general liability insurance coverage, coverage for errors and omissions and cyber liability insurance will continue to be available on acceptable terms in sufficient amounts to cover one or more large claims, or that the insurer will not deny coverage as to any future claim. The successful assertion of one or more large claims against us that exceeds our available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, financial condition and results of operations. Furthermore, litigation, regardless of its outcome, could result in a substantial cost to us and divert management's attention from our operations. Any significant claim against us or litigation involving us could have a material adverse effect on our business, financial condition and results of operations.

We have implemented a number of security measures designed to ensure the security of our information, IT resources and other assets. Nonetheless, unauthorized users could gain access to our systems through cyber-attacks and steal, use without authorization and sabotage our intellectual property and confidential data. Any security breach, misuse of our IT systems or theft of our or our customers' intellectual property or data could lead to customer losses, non-renewal of customer agreements, loss of production, recovery costs or litigation brought by customers or business partners, any of which could adversely impact our cash flows and reputation and could have an adverse impact on our disclosure controls and procedures.

Undetected errors or failures found in our products and services may result in loss of or delay in market acceptance of our products and services that could seriously harm our business.

Our products and services may contain undetected errors or scalability limitations at any point in their lives, but particularly when first introduced or as new versions are released. We frequently release new versions of our products and different aspects of our platforms are in various stages of development. Despite testing by us and by current and potential customers, errors may not be found in new products and services until after commencement of commercial availability or use, resulting in a loss of or a delay in market acceptance, damage to our reputation, customer dissatisfaction and reductions in revenues and margins, any of which could seriously harm our business. Additionally, our agreements with customers that attempt to limit our exposure to liability claims may not be enforceable in jurisdictions where we operate, particularly in certain markets outside the United States.

Many of our current and planned products are highly complex and may contain defects or errors that are detected only after deployment in telecommunications networks. If that occurs, our reputation may be harmed.

Our products are highly complex, and we cannot assure customers that our extensive product development, production and integration testing is, or will be, adequate to detect all defects, errors, failures and quality issues that could affect customer satisfaction or result in claims against us. As a result, we might have to replace certain components and/or provide remediation in response to the discovery of defects in products that have been supplied to customers.

The occurrence of any defects, errors, failures or quality issues could result in cancellation of orders, product returns, diversion of our resources, legal actions by customers or customers' end users and other losses to us or to our customers or end users. These occurrences could also result in the loss of or delay in market acceptance of our products, in the loss of sales, or in the need to create provisions, which would harm our business and adversely affect our revenues and profitability.

We collect, process, store, disclose and use personal information and other data, and our actual or perceived failure to protect this information and data could damage our reputation and brand and harm our business and operating results.

We collect, process, store, disclose and use personal information and other data provided by our customers and their end users. We rely on encryption and authentication technology licensed from third parties to effectively secure transmission of this information.

There are numerous federal, state, local and foreign laws regarding privacy and the collection, processing, storage, sharing, disclosure, use or protection of personal information and other data. The scope of these laws is changing, they are subject to differing interpretations and they may be costly to comply with and may be inconsistent between countries and jurisdictions or conflict with other rules.

Numerous jurisdictions are currently considering, or have recently enacted, data protection legislation. For example, on June 28, 2018, California enacted the California Consumer Privacy Act of 2018, which we refer to as the California Privacy Act. The California Privacy Act, which took effect on January 1, 2020 but contains a "lookback" to January 1, 2019, imposes sweeping data protection obligations on many companies doing business in California and provides for substantial fines for non-compliance and, in some cases, a private right of action for consumers who are victims of data breaches involving their unencrypted personal information. As a result of the continuing uncertainty surrounding the manner of enforcement of the California Privacy Act and the rapidly approaching deadline for compliance, we may be required to modify our data processing practices and policies, products and consumer experience in a manner that materially negatively impacts our business, operating results, financial condition and prospects.

Legislation similar to the California Privacy Act has also passed in other states, including Colorado, Maine, Nevada and Utah. The potential effects of these states' legislation are far-reaching and may require us to incur substantial costs and expenses in an effort to comply, and it is unclear whether, and if so how, the United States Congress will respond to these overlapping, state-by-state enactments.

We strive to monitor the changing regulatory environment and to address the new requirements of applicable laws and regulations and other mandatory obligations relating to privacy and data protection. However, it is possible that these obligations may be interpreted and applied in new ways or in a manner that is inconsistent from one jurisdiction to another, that they may conflict with other rules or our practices or that new regulations could be enacted. If we do not properly comply with privacy regulations and contractual obligations that require us to protect confidential information, or if we experience a security breach or network compromise, we could experience adverse consequences, including regulatory sanctions, penalties or fines, increased compliance costs, remedial costs such as providing credit monitoring or other services to affected customers, litigation and damage to our reputation, which in turn could result in decreased revenues and loss of customers, all of which would have a material adverse effect on our business, financial condition and results of operations.

In addition to the increasing technical and financial burdens they impose on our business, the rapid legislative and other legal developments in this field create considerable uncertainties and impose substantial compliance costs and challenges. Any failure or perceived failure by us to comply with our privacy policies, our privacy-related obligations to consumers or other third parties or our privacy-related legal obligations, including those imposed by the California Privacy Act and other state privacy laws, or any compromise of security that results in the unauthorized release or transfer of sensitive information, which may include personally identifiable information or other user data, may result in governmental enforcement actions, litigation or public statements against us by consumer advocacy groups or others. Any of these consequences could cause current or potential customers to lose trust in us, which could have a material adverse effect on our business and prospects. Additionally, if vendors, developers or other third parties that we work with violate applicable laws or our policies, such violations may also put customer or end user information at risk and could in turn harm our reputation, business and operating results.

Compliance with changing data protection and European privacy laws could require us to incur significant costs or experience significant business disruption and failure to comply could result in an adverse impact on our business.

We process personal data of individuals in connection with offering our solutions to customers and their end users in the European Union ("EU") and we also process personal data about our and our affiliates' employees in the EU.

EU Directive 95/46/EC (the "Directive"), which covers the protection of the processing of personal data about individuals and on the free movement of such data, has required European Union member states to implement data protection laws to meet the strict privacy requirements of the Directive. Among other requirements, the Directive has regulated transfers of personal data that is subject to the Directive, ("Personal Data") to countries, outside the European Economic Area, (the "EEA"), that have not been found to provide adequate protection to such Personal Data.

We have undertaken efforts to conform transfers of Personal Data from the EEA based on current regulatory obligations, the guidance of data protection authorities and evolving best practices. Despite these efforts, including due to ongoing legal challenges to the EU's standard contractual clauses there is a possible risk regarding data transfer mechanisms that are available to us.

Effective as of May 25, 2018, the Directive (and member states' implementations thereof) was replaced by the requirements of Regulation (EU) 2016/679, the GDPR. The GDPR re-defines what information is considered to be Personal Data and applies to any company established in the EU, as well as companies outside the EU that collect and use Personal Data in connection with offering goods or services to individuals in the EU or that monitor the behavior of EU residents (for example, through monitoring of online activities). The GDPR increases data protection obligations for data controllers and provides for direct obligations for data processors. The GDPR imposes specific and expanded disclosure obligations about how we may use Personal Data; limitations on how much information we can collect and for how long it can be retained; expanded contract requirements with our processors and sub-processors, as applicable, even for existing relationships; requirements regarding our accountability and transparency related to Personal Data; increased Data Subject rights, and mandatory data breach notification requirements. Given the breadth and depth of changes in these data protection and privacy obligations, our preparations to meet the GDPR's requirements required a significant expenditure of time and resources, including reviewing the technologies, systems and procedures that we currently use against the GDPR's requirements. Our preparations include as applicable: updating our Privacy Notices and Cookie Policy; updating our Data Protection Policy and Security Policy; providing data privacy training to all employees; and negotiating data protection agreements with our applicable customers and suppliers. We have worked with a third party to assist us in undertaking a data protection review, and implementing any remedial changes designed to ensure GDPR compliance.

The GDPR expands the scope of direct liability to both data controllers and data processors. Depending on the nature of the violation, non-compliance could result in fines of up to €20 million or 4% of our total worldwide annual turnover, whichever is higher. Under the GDPR, supervisory data protection authorities can also conduct audits, issue warnings and public censures, and order the temporary or permanent suspension of data transfers and/or data processing activities (that is, our business as it relates to EU data subjects would be shut down). Also, EU data subjects may seek enforcement of their individual rights through a supervisory authority or through a judicial remedy in national court. In addition to this private right of action for individuals, the GDPR also provides that data subjects may claim through the EU equivalent of consumer class actions.

Separate from the GDPR, there are other EU laws and regulations (and member states' implementations thereof) that apply to the protection of consumers and electronic communications and that are also evolving, which may apply to our businesses. For instance, the current European laws that cover the use of cookies and similar technology and marketing online or by electronic means are under reform. A draft of the new ePrivacy Regulation extends the strict opt-in marketing rules (with limited exceptions

for business-to-business communications), alters rules on third-party cookies, web beacons and similar technology and significantly increases penalties.

We may incur substantial expense in attempting to comply with the new data privacy obligations described above and we may be required to make significant changes in our business operations and product and services development, all of which may adversely affect our revenues and our business.

We may also experience hesitancy, reluctance or refusal by European or multi-national customers to continue to use our services due to the potential risk exposure that these customers might face as a result the current or future data protection obligations imposed on them by certain data protection authorities. These customers may also view any alternative approaches to compliance as being too costly, too burdensome, too legally uncertain or otherwise objectionable and therefore decide not to do business with us.

We and our customers are at risk of enforcement actions taken by certain EU data protection authorities for any breaches of applicable data protection legislation. We may find it necessary to establish additional or different physical, technical or administrative procedures or systems to maintain Personal Data originating from the EU in the EEA, which may involve substantial expense and may cause us to need to divert resources from other aspects of our business, all of which may adversely affect our business. As a result, we may be required to make significant changes in our business operations, all of which may adversely affect our revenues and our business overall.

Compromises to our privacy safeguards or disclosure of confidential information could impact our reputation.

Names, addresses, telephone numbers, credit card data and other personal identification information, ("PII") are collected, processed and stored in our systems. Our treatment of this kind of information is subject to contractual restrictions and federal, state and foreign data privacy laws and regulations. We have implemented technical and organizational steps designed to protect against unauthorized access to such information and comply with these laws and regulations. Because of the inherent risks and complexities involved in protecting this information, the steps we have taken to protect PII may not be sufficient to prevent the misappropriation or improper disclosure of such PII. If misappropriation or disclosure of PII were to occur, our business could be harmed through reputational injury, litigation and possible damages claimed by the affected end customers, including in some cases costs related to customer notification and fraud monitoring, or potential fines from regulatory authorities. We may need to incur significant costs or modify our business practices and/or our services in order to comply with these data privacy and protection laws and regulations in the future. Even the mere perception of a security breach or inadvertent disclosure of PII could adversely affect our business and results of operations. In addition, third-party vendors that we engage to perform services for us may unintentionally release PII or otherwise fail to comply with applicable laws and regulations. Our insurance may not cover potential claims of this type or may not be adequate to cover all costs incurred in defense of potential claims or to indemnify us for all liability that may be imposed. Concerns about the security of online transactions and the privacy of PII could deter consumers from transacting business with us on the Internet. The occurrence of any of these events could have an adverse effect on our business, financial position, and results of operations.

Downgrades in our credit ratings may increase our future borrowing costs, limit our ability to raise capital, cause our stock price to decline or reduce analyst coverage, any of which could have a material adverse impact on our business.

Credit rating agencies review their ratings periodically and, therefore, the credit rating assigned to us by each of the rating agencies may be subject to revision at any time. Factors that can affect our credit ratings include changes in our operating performance, the economic environment, our financial position, conditions in and periods of disruption in any of our principal markets and changes in our business strategy. If weak financial market conditions or competitive dynamics cause any of these factors to deteriorate, we could see a reduction in our corporate credit rating. Since investors, analysts and financial institutions often rely on credit ratings to assess a company's creditworthiness and risk profile, make investment decisions and establish threshold requirements for investment guidelines, our ability to raise capital, our access to external financing, our stock price and analyst coverage of our stock could be negatively impacted by a downgrade to our credit rating.

Changes in laws, regulations or governmental policy applicable to our customers or potential customers may decrease the demand for our solutions or increase our costs.

The level of our customers' and potential customers' activity in the business processes our services are used to support is sensitive to many factors beyond our control, including governmental regulation and regulatory policies. Many of our customers and potential customers in the telecommunications and other industries are subject to substantial regulation and may be the subject of further regulation in the future. Accordingly, significant new laws or regulations or changes in, or repeals of, existing laws, regulations or governmental policy may change the way these customers do business and could cause the demand for and sales of our solutions to decrease. Any change in the scope of applicable regulations that either decreases the volume of transactions that our customers or potential customers enter into or otherwise negatively impacts their use of our solutions would have a material adverse effect on our revenues or gross margins, or both. Moreover, complying with increased or changed regulations could cause our operating expenses to increase as we may have to reconfigure our existing services or develop new services to adapt to new regulatory rules and policies, either of which would require additional expense and time. Additionally, the information provided by, or residing in, the software or services we provide to our customers could be deemed relevant to a regulatory investigation or other governmental or private legal proceeding involving our customers, which could result in requests for information from us that could be expensive and time consuming for us to address or harm our reputation since our customers rely on us to protect the confidentiality of their information. These types of changes could adversely affect our business, results of operations and financial condition.

Fraudulent Internet transactions could negatively impact our business.

Our business may be exposed to risks associated with Internet credit card fraud and identity theft that could cause us to incur unexpected expenditures and loss of revenues. Under current credit card practices, a merchant is liable for fraudulent credit card transactions when, as is the case with the transactions we process, that merchant does not obtain a cardholder's signature. Although our customers currently bear the risk for a fraudulent credit card transaction, in the future we may be forced to share some of that risk and the associated costs with our customers. To the extent that technology upgrades or other expenditures are required to prevent credit card fraud and identity theft, we may be required to bear the costs associated with such expenditures. In addition, to the extent that credit card fraud and/or identity theft cause a decline in business transactions over the Internet generally, both the business of our customers and our business could be adversely affected.

Consolidation in the communications industry or the other industries that we serve can reduce the number of actual and potential customers and adversely affect our business.

There has been, and there continues to be, merger, acquisition, alliance and consolidation activity among our customers. Mergers, acquisitions, alliances or consolidations of companies in the communications industry or other industries that we serve, have reduced and may continue to reduce the number of our customers and potential customers for our solutions, resulting in a smaller market for our services, which could have a material adverse impact on our business and results of operations. In addition, it is possible that the larger institutions that result from mergers or consolidations could themselves perform some or all of the services that we currently provide or could provide in the future. Should one or more of our significant customers acquire, consolidate or enter into an alliance with an entity or decide to either use a different service provider or to manage its transactions internally, this could have a negative material impact on our business. Any such consolidations, alliances or decisions to manage transactions internally may cause us to lose customers or require us to reduce prices as a result of enhanced customer leverage, which would have a material adverse effect on our business. We may not be able to offset the effects of any price reductions. We may not be able to expand our customer base to make up any revenue declines if we lose customers or if our transaction volumes decline.

Failures or interruptions of our systems and services could materially harm our revenues, impair our ability to conduct our operations and damage relationships with our customers.

Our success depends on our ability to provide reliable services to our customers and process a high volume of transactions in a timely and effective manner. Although we operate disaster recovery solutions, our network operations are susceptible to damage or interruption from human error, fire, flood, power loss, telecommunications failure, terrorist attacks and similar events. We could also experience failures or interruptions of our systems and services, or other problems in connection with our operations, as a result of, among other things:

- damage to, or failure of, our computer software or hardware or our connections and outsourced service arrangements with third parties;
- errors in the processing of data by our systems;
- computer viruses or software defects;
- physical or electronic break-ins, sabotage, intentional acts of vandalism and similar events;
- fire, cybersecurity attack, terrorist attack or other catastrophic event;
- increased capacity demands or changes in systems requirements of our customers; or
- errors by our employees or third-party service providers.

We rely on various systems and applications to support our internal operations, including our billing, financial reporting and customer contracting functions. The availability of these systems and applications is essential to us and delays, disruptions or performance problems may adversely impact our ability to accurately bill our customers, report financial information and conduct our business. Additionally, we may choose to replace or implement changes to these systems, including substituting traditional

systems with cloud-based solutions, which could be time-consuming and expensive, and which could result in delays in the ongoing operational processes these software solutions support. Further, our cloud-based solutions may experience disruptions and outages that are beyond our control as we rely on third-party vendors to support these solutions and assure their continued availability. We have also acquired a number of companies, products, services and technologies over the last several years. While we make significant efforts to address any IT security issues with respect to our acquisitions, we may still inherit certain risks when we integrate these acquisitions. In addition, our business interruption insurance may be insufficient to compensate us for losses or liabilities that may occur. Any interruptions in our systems or services could damage our reputation and substantially harm our business and results of operations.

The quality of our support and services offerings is important to our customers and if we fail to meet our service level obligations under our service level agreements or otherwise fail to offer quality support and services, we would be subject to penalties and could lose customers.

Our customers generally depend on our service organization to resolve issues relating to the use of our solutions. A high level of support is critical for the successful marketing and sale of our solutions. If we are unable to provide a level of support and service to meet or exceed the expectations of our customers, we could experience:

- loss of customers and market share;
- difficulty attracting or the inability to attract new customers, including in new geographic regions; and
- increased service and support costs and a diversion of resources.

Any of the above results would likely have a material adverse impact on our business, revenue, results of operations, financial condition and reputation.

In addition, we have service level agreements with many of our customers under which we guarantee specified levels of service availability. These arrangements involve the risk that we may not have adequately estimated the level of service we will in fact be able to provide. The importance of high-quality customer support will increase as we expand our business and pursue new enterprise customers. If we fail to meet our service level obligations under these agreements, we would be subject to penalties, which could result in higher than expected costs, decreased revenues and decreased operating margins. We could also lose customers.

The financial and operating difficulties in the telecommunications sector may negatively affect our customers and our company.

The telecommunications sector has at times faced significant challenges resulting from significant changes in technology and consumer behavior, excess capacity, poor operating results and financing difficulties. The sector's financial status has also at times been uncertain and access to debt and equity capital has been seriously limited. The impact of these events on us could include slower collection on accounts receivable, higher bad debt expense, uncertainties due to possible customer bankruptcies, lower pricing on new customer contracts, lower revenues due to lower usage by the end customer and possible consolidation among our customers, which will put our customers and operating performance at risk. In addition, because we operate in the communications sector, we may also be negatively impacted by limited access to debt and equity capital.

Our performance and growth depend on our ability to generate customer referrals and to develop referenceable customer relationships that will enhance our sales and marketing efforts. A failure to accomplish these objectives could materially harm our business.

In our business, we depend on end-users of our solutions to generate customer referrals for our services. We depend in part on members of the communications industry, financial institutions, legal service providers and other third parties who use our services to recommend them to a larger customer base than we can reach through our direct sales and internal marketing efforts. These referrals are an important source of new customers for our services and generally are made without expectation of compensation. We intend to continue to focus our marketing efforts on these referral partners in order to expand our reach and improve the efficiency of our sales efforts.

We also recognize that having respected, well known, market-leading customers who have committed to deploy our solutions within their organizations will support our marketing and sales efforts, as these customers can act as references for us and our product offerings. Our ability to establish and maintain these customer relationships is important to our future profitability. The willingness of these types of customers to provide referrals or serve as anchor or reference customers depends on a number of factors, including the performance, ease of use, reliability, reputation and cost-effectiveness of our services as compared to those offered by our competitors, as well as the internal policies of these customers. We may not be able to cultivate or maintain the strong relationships with customers that are necessary to develop those customer relationships into referenceable accounts.

The loss of any of our significant referral sources, including our anchor customers, or a decline in the number of referrals we receive or anchor customers that we generate could require us to devote substantially more resources to the sales and marketing of our services, which would increase our costs, potentially lead to a decline in our revenue, slow our growth and generally have a material adverse effect on our business, results of operations and financial condition. In addition, the revenue we generate from our referral and anchor relationships may vary from period to period.

We rely in part on strategic relationships with third parties to sell and deliver our solutions. If we are unable to successfully develop and maintain these relationships, our business may be harmed.

In addition to generating customer referrals through third-party users of our solutions, we intend to pursue relationships with other third parties such as technology and content providers and implementation and distribution partners. Our future growth will depend, at least in part, on our ability to enter into and maintain successful strategic relationships with these third parties. Identifying partners and negotiating and documenting relationships with them requires significant time and resources, as does integrating third-party content and technology. Some of the third parties with whom we have strategic relationships have entered and may continue to enter into strategic relationships with our competitors. Further, these third parties may have multiple strategic relationships and may not regard us as significant for their businesses. As a result, they may choose to offer their services on terms that are unfavorable to us, terminate their respective relationships with us, pursue other partnerships or relationships, or attempt to develop or acquire services or solutions that compete with ours. Our relationships with strategic partners could also interfere with our ability to enter into desirable strategic relationships with other potential partners in the future. If we are unsuccessful in establishing or maintaining relationships with strategic partners on favorable economic terms, our ability to compete in the marketplace or to grow our revenue could be impaired, and our business, results of operations and financial condition would suffer. Even if we are successful, we cannot provide assurance that these relationships will result in increased revenue or customer usage of our solutions or that the economic terms of these relationships will not adversely affect our margins.

We are exposed to our customers' credit risk.

We are subject to the credit risk of our customers and customers with liquidity issues may lead to bad debt expense for us. Most of our sales are on an open credit basis, with typical payment terms between 45 and 60 days in the United States and, because of local customs or conditions, longer payment terms in some markets outside the United States. We use various methods to screen potential customers and establish appropriate credit limits, but these methods cannot eliminate all potential bad credit risks and may not prevent us from approving applications that are fraudulently completed. Moreover, businesses that are good credit risks at the time of application may become bad credit risks over time and we may fail to detect this change. We maintain reserves we believe are adequate to cover exposure for doubtful accounts. If we fail to adequately assess and monitor our credit risks, we could experience longer payment cycles, increased collection costs and higher bad debt expense. A decrease in accounts receivable resulting from an increase in bad debt expense could adversely affect our liquidity. Our exposure to credit risks may increase if our customers are adversely affected by a difficult macroeconomic environment, or if there is a continuation or worsening of the economic environment. Although we have programs in place that are designed to monitor and mitigate the associated risk, including monitoring of particular risks in certain geographic areas, there can be no assurance that these programs will be effective in reducing our credit risks or preventing us from incurring additional losses. Future and additional losses, if incurred, could harm our business and have a material adverse effect on our business operating results and financial condition. Additionally, to the degree that the current or future credit markets makes it more difficult for some customers to obtain financing, those customers' ability to pay could be adversely impacted, which in turn could have a material adverse impact on our business, operating results, and financial condition.

Our reliance on third-party providers for communications software, services, hardware and infrastructure exposes us to a variety of risks we cannot control.

Our success depends on software, equipment, network connectivity and infrastructure hosting services supplied by, or leased from, our vendors and customers. In addition, we rely on third-party vendors to perform a substantial portion of our exception handling services. We may not be able to continue to purchase the necessary software, equipment and services from vendors on acceptable terms or at all. If we are unable to maintain current purchasing terms or ensure service availability with these vendors and customers, we may lose customers and experience an increase in costs in seeking alternative supplier services. Further, any changes in our third-party vendors could detract from management's ability to focus on the ongoing operations of our business or could cause delays in the operations of our business.

Our business also depends upon the capacity, reliability and security of the infrastructure owned and managed by third parties, including our vendors and customers that are used by our technology interoperability services, network services, number portability services, call processed services and enterprise solutions. We have no control over the operation, quality or maintenance of a significant portion of that infrastructure and whether those third parties will upgrade or improve their software, equipment and

services to meet our and our customers' evolving requirements. We depend on these companies to maintain the operational integrity of our services. If one or more of these companies is unable or unwilling to supply or expand its levels of services to us in the future, our operations could be severely interrupted. In addition, rapid changes in the communications industry have led to industry consolidation. This consolidation may cause the availability, pricing and quality of the services we use to vary and could lengthen the amount of time it takes to deliver the services that we use.

Any damage to, or failure or capacity limitations of, our systems and our related network could result in interruptions in our service that could cause us to lose revenue, issue credits or refunds or could cause our customers to terminate their subscriptions for our services, in each case adversely affecting our renewal rates. Since our customers use our service for important aspects of their businesses, any errors, defects, disruptions in service or other performance problems could hurt our reputation and may damage our customers' businesses. As a result, we may lose revenue, issue credits or refunds or customers could elect not to renew our services or delay or withhold payments to us. We could also lose future sales or customers may make claims against us, which could result in an increase in our provision for doubtful accounts, an increase in collection cycles for accounts receivable or the expense or risk of litigation.

Additionally, third-party software underlying our services can contain undetected errors or bugs. We may be forced to delay commercial release of our services until any discovered problems are corrected and, in some cases, may need to implement enhancements or modifications to correct errors that we do not detect until after deployment of our services. In addition, problems with the third-party software underlying our services could result in:

- damage to our reputation;
- loss of or delayed revenue;
- loss of customers;
- warranty claims or litigation;
- loss of or delayed market acceptance of our services; or
- unexpected expenses and diversion of resources to remedy errors.

We are participants in several joint ventures, which may subject us to certain risks relating to our ability to perform our obligations under the joint ventures, including funding future joint venture capital requirements.

Entering into joint ventures and alliances entails risks, including difficulties in developing and expanding the business of a newly formed joint venture, funding capital calls for the joint venture, exercising influence over the management and activities of joint venture, quality control concerns regarding joint venture products and services and potential conflicts of interest with the joint venture and our joint venture partner. We cannot guarantee that the joint venture operations will be successful. Any inability to meet our obligations as a joint venture partner under the joint ventures could result in penalties and reduced percentage interest in the joint venture for our company. Also, we could be disadvantaged in the event of disputes and controversies with a joint venture partner, since one of our joint venture partners is a relatively significant customer of our products and services and future product and services of the joint venture.

If we are unable to protect our intellectual property rights, our competitive position could be harmed, or we could be required to incur significant expenses to enforce our rights.

Our success depends to a significant degree upon the protection of our software and other proprietary technology rights. We rely on trade secret, copyright and trademark laws and confidentiality agreements with employees and third parties, all of which offer only limited protection. We also regularly file patent applications to protect inventions arising from our research and development and have obtained a number of patents in the United States and other countries. There can be no assurance that our patent applications will be approved, that any issued patents will adequately protect our intellectual property, or that our patents will not be challenged by third parties. Also, much of our business and many of our solutions rely on key technologies developed or licensed by third or other parties and we may not be able to obtain or continue to obtain licenses and technologies from these third parties at all or on reasonable terms. The steps we have taken to protect our intellectual property may not prevent misappropriation of our proprietary rights or the reverse engineering of our solutions. Legal standards relating to the validity, enforceability and scope of protection of intellectual property rights in other countries are uncertain and may afford little or no effective protection of our proprietary technology. Consequently, we may be unable to prevent our proprietary technology from being exploited abroad, which could require costly efforts to protect our technology. Policing the unauthorized use of our products, trademarks and other proprietary rights is expensive, difficult and, in some cases, impossible. Litigation may be necessary in the future to enforce or defend our intellectual property rights, to protect our trade secrets or to determine the validity and scope of the proprietary rights of others. This type of litigation could result in substantial costs and diversion of management resources, either of which could materially harm our business. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating our intellectual property.

Claims by others that we infringe their proprietary technology could harm our business.

Third parties could claim that our current or future products or technology infringe their proprietary rights. We expect that software developers will increasingly be subject to infringement claims as the number of products and competitors providing software and services to the communications industry increases and overlaps occur. For example, in June 2018, Dropbox, Inc., a public company that provides cloud-based file sharing products, filed a patent infringement lawsuit against us in the United States District Court of Northern California, claiming three counts of patent infringement and seeking injunctive relieve, among other remedies. We do not currently believe that this matter is likely to have a material adverse effect on our consolidated results of operation, cash flows, or our financial position, and we intend to vigorously defend this lawsuit, and believe we have valid defenses to the claims. Any claim of infringement by a third party, even those without merit, could cause us to incur substantial costs defending against the claim, and could distract our management from our business. Furthermore, a party making a claim of this nature, if successful, could secure a judgment that requires us to pay substantial damages. A judgment could also include an injunction or other court order that could prevent us from offering our products or services. Any of these events could seriously harm our business.

We are generally obligated to indemnify our customers if our services infringe the proprietary rights of third parties and certain of our agreements with customers and partners include indemnification provisions under which we have agreed to indemnify the counter-party for losses suffered or incurred as a result of claims of intellectual property infringement and, in some cases, for financial and other damages caused by us to property or persons. Third parties may assert infringement claims against our customers or partners. These claims may require us to initiate or defend protracted and costly litigation on behalf of our customers or partners, regardless of the merits of these claims. If any of these claims succeed, we may be forced to pay damages on behalf of our customers or partners.

If anyone asserts a claim against us relating to proprietary technology or information, while we might seek to license their intellectual property, we might not be able to obtain a license on commercially reasonable terms or on any terms. In addition, any efforts to develop non-infringing technology could be unsuccessful. Our failure to obtain the necessary licenses or other rights or to develop non-infringing technology could prevent us from offering our services and could therefore seriously harm our business.

We may seek to acquire companies or technologies, form joint ventures or make investments in other companies or technologies, which could disrupt our ongoing business, disrupt our management and employees, dilute our stockholders' ownership, increase our debt, and adversely affect our results of operations.

We have made, and in the future intend to form joint ventures, make acquisitions of and investments in companies, technologies or products in existing, related or new markets for us that we believe may enhance our market position or strategic strengths. However, we cannot be sure that any acquisition or investment will ultimately enhance our products or strengthen our competitive position. Acquisitions involve numerous risks, including but not limited to:

- diversion of management's attention from other operational matters;
- inability to identify acquisition candidates on terms acceptable to us or at all, or inability to complete acquisitions as anticipated or at all;
- inability to realize anticipated benefits or commercialize purchased technologies;
- exposure to operational risks, rules and regulations to the extent such activities are located in countries where we have not historically done business;
- unknown, underestimated and/or undisclosed commitments or liabilities;
- incurrence of debt, contingent liabilities or future write-offs of intangible assets or goodwill;
- dilution of ownership of our current stockholders if we issue shares of our common stock;
- higher than expected transaction costs; and
- ineffective integration of operations, technologies, products or employees of the acquired companies.

In addition, acquisitions may disrupt our ongoing operations, increase our expenses and/or harm our results of operations or financial condition. Future acquisitions could also result in potentially dilutive issuances of equity securities, the incurrence of debt (which may reduce our cash available for operations and other uses), an increase in contingent liabilities or an increase in amortization expense related to identifiable assets acquired, each of which could materially harm our business, financial condition and results of operations.

We make significant investments in new products and services that may not be profitable or align with our established company vision.

We intend to continue to make investments to support our business growth, including expenditures to develop new services or enhance our existing services, enhance our operating infrastructure, market and sell our product offerings and acquire complementary businesses and technologies. These endeavors may involve significant risks and uncertainties, including failures to align new initiatives with our established corporate vision and direction, which could lead to a misapplication of our resources. These new investments are inherently risky and may involve distracting management from current operations, create greater than expected liabilities and expenses, provide us with an inadequate return on capital, include other unidentified risks and, ultimately, may generally not be successful. Further, our ability to effectively integrate new services and investments into our business may affect our profitability. Significant delays in new releases or significant problems in creating new products or services could adversely affect our revenue and financial performance.

Interruptions or delays in our service due to problems with our third-party web hosting facilities or other third-party service providers could adversely affect our business.

We rely on third parties for the maintenance of certain of the equipment running our solutions and software at geographically dispersed hosting facilities with third parties. If we are unable to renew, extend or replace our agreements with any of our third-party hosting facilities, we may be unable to arrange for replacement services at a similar cost and in a timely manner, which could cause an interruption in our service. We do not control the operation of these third-party facilities, each of which may be subject to damage or interruption from earthquakes, floods, fires, power loss, telecommunications failures or similar events. These facilities may also be subject to break-ins, sabotage, intentional acts of vandalism or similar misconduct. Despite precautions taken at these facilities, the occurrence of a natural disaster, cessation of operations by our third-party web hosting provider or a third party's decision to close a facility without adequate notice or other unanticipated problems at any facility could result in lengthy interruptions in our service. In addition, the failure by these facilities to provide our required data communications capacity could result in interruptions in our service.

Our expansion into additional international markets may be subject to uncertainties that could increase our costs to comply with regulatory requirements in foreign jurisdictions, disrupt our operations and require increased focus from our management.

Our growth strategy includes the growth of our operations in foreign jurisdictions. International operations and business expansion plans are subject to numerous additional risks, including economic and political risks in foreign jurisdictions in which we operate or seek to operate, potential additional costs due to localization and other geographic specific costs, difficulty in enforcing contracts and collecting receivables through some foreign legal and financial systems, unexpected changes in legal and regulatory requirements, differing technology standards and pace of adoption, fluctuations in currency exchange rates, varying regional and geopolitical business conditions and demands. The difficulties associated with managing a large organization spread throughout various countries and potential tax issues, including restrictions on repatriating earnings and multiple conflicting, changing and complex tax laws and regulations, and the differences in foreign laws and regulations, including foreign tax, data privacy requirements, anti-competition, intellectual property, labor, contract, trade and other laws. Additionally, compliance with international and U.S. laws and regulations that apply to our international operations may increase our cost of doing business in foreign jurisdictions. Violation of these laws and regulations could result in fines, criminal sanctions against us, our officers or our employees, or prohibitions on the conduct of our business. As we continue to expand our business globally, our success will depend, in large part, on our ability to anticipate and effectively manage these and other risks associated with our international operations. However, any of these factors could adversely affect our international operations and, consequently, our operating results.

Fluctuations in foreign currency exchange rates could result in foreign currency transaction losses, which could harm our operating results and financial condition.

We consider the US dollar to be our functional currency. However, given our international operations we currently have, and expect to have in the future, revenue and expenses and related assets and liabilities denominated in foreign currencies. Foreign currency transaction exposure results primarily from transactions with customers or vendors denominated in currencies other than the functional currency of the entity in which we record the transaction. Any fluctuation in the exchange rate of these foreign currencies may positively or negatively affect our business, financial condition and operating results.

We face exposure to movements in foreign currency exchange rates due to the fact that we have non-U.S. dollar denominated revenue worldwide. Weakening of foreign currencies relative to the U.S. dollar adversely affects the U.S. dollar value of our foreign currency denominated revenue and positively affects the U.S. dollar value of our foreign currency denominated expenses. If foreign currencies were to weaken or strengthen relative to the U.S. dollar, we might elect to raise or lower our international pricing, which could potentially impact demand for our services. Alternatively, we might opt not to adjust our international pricing as a result of fluctuations in foreign currency exchange rates, which could potentially have a positive or negative impact on our results of operations and financial condition.

Similarly, our financial performance may be impacted by fluctuations in currency exchange rates when it comes to our non-U.S. dollar denominated expenses. The third-party vendors and suppliers to whom we owe payments for non-U.S. dollar denominated expenses may, or may not, decide to increase or decrease their pricing to reflect fluctuations in foreign currency exchange rates.

If there continues to be volatility in foreign currency exchange rates, we will continue to experience fluctuations in our operating results due to revaluing our assets and liabilities that are not denominated in the functional currency of the entity that recorded the asset or liability. Further, as foreign currency exchange rates change, the translation of our non-U.S. denominated revenue and expenses into U.S. dollars affects the year-over-year comparability of our operating results.

We must recruit and retain our key management and other key personnel and our failure to recruit and retain qualified employees could have a negative impact on our business.

We believe that our success depends in part on the continued contributions of our senior management and other key personnel to generate business and execute programs successfully. In addition, the relationships and reputation that these individuals have established and maintain with our customers and within the industries in which we operate contribute to our ability to maintain good relations with our customers and others within those industries. The loss of any members of senior management or other key personnel could materially impair our ability to identify and secure new contracts and otherwise effectively manage our business. In order to attract and retain executives and other key employees in a competitive marketplace, we must provide a competitive compensation package, including cash- and equity-based compensation. If we do not obtain the stockholder approval needed to continue granting equity compensation in a competitive manner, our ability to attract, retain, and motivate executives and key employees could be weakened. Further, in the technology industry, there is substantial and continuous competition for highly skilled business, product development, technical and other personnel. Competition for qualified personnel at times can be intense and as a result we may not be successful in attracting and retaining the personnel we require, which could have a material adverse effect on our ability to meet our commitments and new product delivery objectives. If we are unable to maintain or expand our direct sales capabilities, we may not be able to generate anticipated revenues. In addition, if we are unable to maintain or expand our product development capabilities, we may not be able to meet our product development goals.

Further, we rely on the expertise and experience of our senior management team. Although we have employment agreements with our executive officers, none of them or any of our other management personnel is obligated to remain employed by us. The loss of services of any key management personnel could lower productive output, interrupt our strategic vision and make it more difficult to pursue our business goals successfully.

Our employee retention and hiring may be adversely impacted by immigration restrictions and related factors.

Competition for skilled personnel is intense in our industry and any failure on our part to hire and retain appropriately skilled employees could harm our business. Our ability to hire and retain skilled employees is impacted, at least in part, by the fact that a portion of our professional workforce in the United States is comprised of foreign nationals who are not United States citizens. In order to be legally allowed to work for us, these individuals generally hold immigrant visas (which may or may not be tied to their employment with us) or green cards, the latter of which makes them permanent residents in the United States.

The ability of these foreign nationals to remain and work in the United States is impacted by a variety of laws and regulations, as well as the processing procedures of various government agencies. Changes in applicable laws, regulations or procedures could adversely affect our ability to hire or retain these skilled employees and could affect our costs of doing business and our ability to deliver services to our customers. In addition, if the laws, rules or procedures governing the ability of foreign nationals to work in the United States were to change or if the number of visas available for foreign nationals permitted to work in the United States were to be reduced, our business could be adversely affected, if, for example, we were unable to hire or no longer able to retain a skilled worker who is a foreign national.

Employing foreign nationals may require significant time and expense and our foreign national employees may choose to leave after we have made this investment. While a foreign national who is working under an immigrant visa tied to his or her employment by us may be less likely to choose to leave our Company than a similarly situated employee who is a United States national or a green card holder (as leaving our employ could mean also having to leave the United States), this may not always be the case. Additionally, many of our foreign national employees hold green cards, which means that they have greater flexibility to leave our Company without facing the risk of also having to leave the United States.

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

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

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 technology support, maintenance, warranties or assurance of title or controls on the origin of the software.

Our inability to raise additional capital or generate the significant capital necessary to expand our operations and invest in new products could reduce our ability to compete and could harm our business.

We intend to continue to make investments to support our business growth and may require additional funds to respond to business challenges, including the need to develop new products and enhancements to our platforms or acquire complementary businesses and technologies. Accordingly, we may need to engage in equity or debt financings to secure additional funds. If we raise additional equity financing, our stockholders may experience significant dilution of their ownership interests and the per share value of our common stock could decline. In addition, the terms of any future issued equity securities could entitle the holders of those equity securities to rights, preferences and privileges superior to those of holders of our common stock. Furthermore, if we engage in debt financing, the holders of debt might have priority over the holders of common stock, and we may be required to accept terms that restrict our ability to incur additional indebtedness, including 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 to pursue business opportunities. We may also be required to take other actions that would otherwise be in the interests of the debt holders and force us to maintain specified liquidity or other ratios, any of which could harm our business, results of operations, and financial condition. If we need additional capital and cannot raise it on acceptable terms, we may not be able to, among other things:

- develop or enhance our products and platforms;
- acquire complementary technologies, products or businesses;
- expand operations, in the United States or internationally; or
- respond to competitive pressures or unanticipated working capital requirements.

If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth and to respond to business challenges could be significantly limited.

We continue to incur significant costs as a result of operating as a public company, and our management is required to devote substantial time to new and ongoing compliance initiatives.

We operate as a public company, and will continue to incur significant legal, accounting and other expenses as we comply with the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act" or "SOX"), the Dodd-Frank Wall Street Reform and Consumer Protection Act and other public company disclosure and corporate governance requirements, as well as any new rules that may subsequently be implemented by the Securities and Exchange Commission and/or Nasdaq, the exchange on which our common stock is listed (Nasdaq: SNCR). These rules impose various requirements on public companies, including requirements related to disclosures, corporate governance and internal controls. We expect that the requirements of these rules and regulations will continue to increase our legal, accounting and financial compliance costs, make some activities more difficult, time consuming and costly and place significant strain on our personnel, systems and resources.

Our management and other personnel will continue to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations increase our legal and financial compliance costs and make some activities more time-consuming and costlier. For example, we expect these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced policy limits and coverage or incur substantial costs to maintain the same or similar coverage. These rules and regulations could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

Changes in, or interpretations of, accounting principles could result in unfavorable accounting charges.

We prepare our consolidated financial statements in conformity with U.S. generally accepted accounting principles ("GAAP"). These principles are subject to interpretation by the SEC and various bodies formed to interpret and create appropriate accounting principles. A change in these principles, or their interpretation, could have a significant effect on our reported results and may even retroactively affect previously reported results. Our accounting principles that recently have been or may be affected by changes in accounting principles are: (i) revenue recognition guidance; (ii) accounting for stock-based compensation; (iii) accounting for income taxes; (iv) accounting for business combinations and goodwill; and (v) accounting for foreign currency translation.

Changes in, or interpretations of, tax rules and regulations, could adversely affect our effective tax rates.

On December 22, 2017, President Trump signed into law the tax legislation commonly known as the "Tax Cuts and Jobs Act" (the "TCJA") that significantly changes the U.S. Internal Revenue Code of 1986, as amended. Subsequent to TCJA, the U.S. Department of Treasury and Internal Revenue Service issued several complex proposed and final regulations, and related guidance, regarding provisions of the Tax Act. However, several aspects of the legislation remain unclear and subject to interpretation. While our current tax accounting is complete based on legislative updates relating to the U.S. TCJA, further interpretive guidance of the U.S TCJA's provisions could result in further adjustments that could have an impact on our future results of operations, cash flows or financial positions. Furthermore, states continue to issue guidance and enact legislation in response to the Tax Act, all of which could have an impact on our income tax expense, assets and liabilities.

Unanticipated changes in our tax rates could affect our future results of operations. Our future effective tax rates could be unfavorably affected by changes in tax laws or the interpretation of tax laws or by changes in the valuation of our deferred tax assets and liabilities. It is possible that future requirements, including the recently proposed implementation of International Financial Reporting Standards ("IFRS") could change our current application of U.S. GAAP, resulting in a material adverse impact on our financial position or results of operations. In addition, we are subject to the continued examination of our income tax returns by the Internal Revenue Service ("IRS"), and other tax authorities. We regularly assess the likelihood of outcomes resulting from these examinations, if any, to determine the adequacy of our provision for income taxes. We believe our estimates to be reasonable, but there can be no assurance that the final determination of any of these examinations will not have an adverse effect on our operating results and financial position.

If we are required to collect sales and use taxes on the services we sell in additional jurisdictions, we may be subject to liability for past sales and our future sales could decrease.

We currently collect sales or use tax on our services in most states. Historically, with a few exceptions, we have not charged or collected value added tax on our services anywhere in the world. We may lose sales or incur significant expenses should tax authorities in other jurisdictions where we do business be successful in imposing sales and use taxes, value added taxes or similar taxes on the services we provide. A successful assertion by one or more tax authorities that we should collect sales or other taxes on the sale of our services could result in substantial tax liabilities for past sales, including interest and penalty charges, and could discourage customers from purchasing our services and otherwise harm our business. Further, we may conclude based on our own review that our services may be subject to sales and use taxes in other areas where we do business. Under these circumstances, we may voluntarily disclose our estimated liability to the respective tax authorities and initiate activities to collect taxes going forward.

It is not clear that our services are subject to sales and use tax in certain jurisdictions. States and certain municipalities in the United States, as well as countries outside the United States, have different rules and regulations governing sales and use taxes. These rules and regulations are subject to varying interpretations that may change over time and, in the future, our services may be subject to such taxes. Although our customer contracts typically provide that our customers are responsible for the payment of all taxes associated with the provision and use of our services, customers may decline to pay back taxes and may refuse responsibility for interest or penalties associated with those taxes. In certain cases, we may elect not to request customers to pay back taxes. If we are required to collect and pay back taxes and associated interest and penalties, and if our customers fail or refuse to reimburse us for all or a portion of these amounts, or if we elect not to seek payment of these amounts, we will incur unplanned expenses that may be substantial. Moreover, imposition of such taxes on our services going forward will effectively increase the cost of our services to our customers and may adversely affect our ability to retain existing customers or gain new customers in jurisdictions in which such taxes are imposed. Any of the foregoing could have a material adverse effect on our business, results of operation or financial condition.

Risks Related to Our Common Stock

Our stock price may continue to experience significant fluctuations and could subject us to litigation.

Our stock price, like that of other technology companies, continues to fluctuate greatly. Our stock price, and demand for our stock, can be affected by many factors, such as unanticipated changes in management, quarterly increases or decreases in our earnings, speculation in the investment community about our financial condition or results of operations and changes in revenue or earnings estimates, announcement of new services, technological developments, alliances, or acquisitions by us. Additionally, the price of our common stock may continue to fluctuate greatly in the future due to factors that are non-company specific, such as the decline in the United States and/or international economies, acts of terror against the United States or other jurisdictions where we conduct business, war or due to a variety of company specific factors, including quarter to quarter variations in our operating results, shortfalls in revenue, gross margin or earnings from levels projected by securities analysts and the other factors discussed in these risk factors. In addition, if the market for technology stocks or the stock market in general experiences uneven investor confidence, the market price of our common stock could decline for reasons unrelated to our business, operating results or financial condition.

Fluctuation in market price and demand for our common stock may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. Causes of volatility in the market price of our stock could subject us to securities class action litigation. We are currently, and may in the future be, the subject of lawsuits that could require us to incur substantial costs defending against those lawsuits and divert the time and attention of our management.

If securities or industry analysts do not publish research or reports or publish unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business. We currently have research coverage by securities and industry analysts, though we do not control these analysts and have no ability to ensure that they will continue to cover our common stock. If one or more of the analysts who covers us downgrades our stock or states a view that our business prospects are reduced, our stock price would likely decline. If one or more of these analysts ceases coverage of our company or fails to regularly publish reports on us, interest in the purchase of our stock could decrease, which could cause our stock price or trading volume, or both, to decline.

The decline in the market price of our securities and the restatement of our previously issued financial results has resulted in private litigation that if results in judgments against us could have a material adverse impact on our results of operations and financial condition.

We are subject to stockholder derivative litigation relating to certain of our previous public disclosures and may result in additional litigation. For additional discussion of this litigation, see Item 3. "Legal Proceedings" contained in this Form 10-K. Our management has been and may be required in the future to devote significant time and attention to this litigation, and this and any additional matters that arise could have a material adverse impact on our results of operations and financial condition as well as on our reputation. While we cannot estimate our potential exposure in these matters at this time, we have already incurred significant expense defending this litigation and expect to continue to need to incur significant expense in the defense. The existence of any litigation may have an adverse effect on our reputation with referral sources and our customers themselves, which could have an adverse effect on our results of operations and financial condition.

The outcome and amount of resources needed to respond to, defend or resolve lawsuits is unpredictable and may remain unknown for long periods of time. Our exposure under these matters may also include our indemnification obligations, to the extent we have any, to current and former officers and directors and, in some cases former underwriters, against losses incurred in connection with these matters, including reimbursement of legal fees and other expenses. Although we maintain insurance for claims of this nature, our insurance coverage does not apply in all circumstances and may be denied or insufficient to cover the costs related to the class action and stockholder derivative lawsuits. In addition, these matters or future lawsuits involving us may increase our insurance premiums, deductibles or co-insurance requirements or otherwise make it more difficult for us to maintain or obtain adequate insurance coverage on acceptable terms, if at all. Moreover, adverse publicity associated with negative developments in pending legal proceedings could decrease customer demand for our services. As a result, the pending lawsuits and any future lawsuits involving us, or our officers or directors, could have a material adverse effect on our business, reputation, financial condition, results of operations, liquidity and the trading price of our common stock.

Other than payment of dividends on our Series A Preferred Stock, we have never paid dividends on our capital stock and we do not anticipate paying any dividends in the foreseeable future. Consequently, any gains from an investment in our common stock will likely depend on whether the price of our common stock increases.

Other than the payment of dividends, either in-kind or in cash, on our Series A Preferred Stock in accordance with the Series A Certificate, we have not paid dividends on any of our classes of capital stock and we currently intend to retain our future earnings, if any, to fund the development and growth of our business, other than the payment of any dividends on our Series A Preferred Stock in accordance with the Series A Certificate. In addition, the terms of our current credit agreement and any future indebtedness that we may incur could preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be a shareholder's sole source of gain for the foreseeable future. Consequently, in the foreseeable future, a shareholder will likely only experience a gain from an investment in our common stock if the price of our common stock increases.

Delaware law and provisions in our restated certificate of incorporation and amended and restated bylaws could make a merger, tender offer or proxy contest difficult, therefore depressing the trading price of our common stock.

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

- authorize the issuance of "blank check" preferred stock that could be issued by our board of directors to thwart a takeover attempt;
- prohibit cumulative voting in the election of directors, which would otherwise allow holders of less than a majority of the stock to elect some directors;
- establish a classified board of directors, as a result of which the successors to the directors whose terms have expired will be elected to serve from the time of election and qualification until the third annual meeting following election;
- require that directors only be removed from office for cause;
- provide that vacancies on the board of directors, including newly created directorships, may be filled only by a majority vote of directors then in office;
- limit who may call special meetings of stockholders;
- prohibit stockholder action by written consent, requiring all actions to be taken at a meeting of the stockholders; and
- establish advance notice requirements for nominating candidates for election to the board of directors or for proposing matters that can be acted upon by stockholders at stockholder meetings.

The affirmative vote of the holders of at least two-thirds of the voting power of all of the then outstanding shares of our capital stock is generally necessary to amend or repeal the above provisions that are contained in our amended and restated certificate of incorporation. Also, absent approval of our board of directors, our amended and restated by-laws may only be amended or repealed by the affirmative vote of the holders of a majority of our shares of capital stock entitled to vote.

In addition, we are subject to the provisions of Section 203 of the Delaware General Corporation Law, which limits business combination transactions with stockholders of 15% or more of our outstanding voting stock that our board of directors has not approved. These provisions and other similar provisions make it more difficult for stockholders or potential acquirers to acquire us without negotiation. These provisions may apply even if some stockholders may consider the transaction beneficial to them.

As a result, these provisions could limit the price that investors are willing to pay in the future for shares of our common stock. These provisions might also discourage a potential acquisition proposal or tender offer, even if the acquisition proposal or tender offer is at a premium over the then current market price for our common stock.

ITEM 1B. *UNRESOLVED STAFF COMMENTS*

None.

ITEM 2. *PROPERTIES*

We lease approximately 120,000 square feet of office space for our corporate headquarters in Bridgewater, New Jersey. We also lease approximately 38,000 square feet of office space in Phoenix, Arizona and 100,000 square foot facility in Bangalore,

India. In addition to the above office space, we lease offices in certain countries including Australia, Bulgaria, France, Ireland, Germany, England, Italy and Japan and in various states in the United States including Colorado and Virginia. Lease terms for our locations expire in the years between 2020 and 2029. We believe that the facilities we now lease are sufficient to meet our needs through at least the next twelve months. However, we may require additional office space after that time or if our current business plans change.

ITEM 3. *LEGAL PROCEEDINGS*

For a discussion of our material pending legal proceedings that could impact our results of operations, financial condition or cash flows see *Note* 19. Legal Matters included in Part II, Item 8. "Notes to Consolidated Financial Statements" of this Annual Report on Form 10-K.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

PART II

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

Market Information

As of December 31, 2019, our common stock was traded and listed on The Nasdaq Global Select Market under the symbol "SNCR."

As of December 31, 2019, there were approximately 53 named holders of record of our common stock as according to our transfer agent. The actual number of stockholders is greater than this number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in street name by banks, brokers and other nominees. On December 31, 2019, the last reported sale price of our common stock as reported on The Nasdaq Global Select Market was $4.75 per share.

Dividend Policy

Common Stock

We have never declared or paid cash dividends on our common equity. We do not anticipate paying any cash dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our Board of Directors and will depend on our financial condition, results of operations, capital requirements, general business conditions and other factors that our Board of Directors may deem relevant. In addition, our ability to pay dividends is currently restricted by the terms of our Certificate of Designations of Series A Convertible Participating Perpetual Preferred Stock and our credit agreement with Citizens Bank, N.A. entered into in October 2019.

Preferred Stock

On February 15, 2018, the Company issued to Silver Private Holdings I, LLC ("Silver"), an affiliate of Siris Capital Group, LLC ("Siris") 185,000 shares of our newly issued Series A Preferred Stock, par value $0.0001 per share. Under the Series A Certificate, the holders of the Series A Preferred Stock are entitled to receive, on each share of Series A Preferred Stock on a quarterly basis, an amount equal to the dividend rate of 14.5% divided by four and multiplied by the then-applicable Liquidation Preference (as defined in the Series A Certificate) per share of Series A Preferred Stock (collectively, the "Preferred Dividends"). The Preferred Dividends are due on January 1, April 1, July 1 and October 1 of each year (each, a "Series A Dividend Payment Date"). The Company may choose to pay the Preferred Dividends in cash or in additional shares of Series A Preferred Stock. In the event we do not declare and pay a dividend in-kind or in cash on any Series A Dividend Payment Date, the unpaid amount of the Preferred Dividend will be added to the Liquidation Preference.

The Company declared and paid the following Preferred Dividends during the first three quarters and declared the following Preferred Dividends in the fourth quarter of fiscal year 2019:

- First Quarter - 7,075 shares of preferred dividends in the form of shares of Series A Preferred Stock
- Second Quarter - 7,332 shares of preferred dividends in the form of shares of Series A Preferred Stock

- Third Quarter - 7,598 shares of preferred dividends in the form of shares of Series A Preferred Stock
- Fourth Quarter - declared 7,873 shares of preferred dividends payable on January 1, 2020

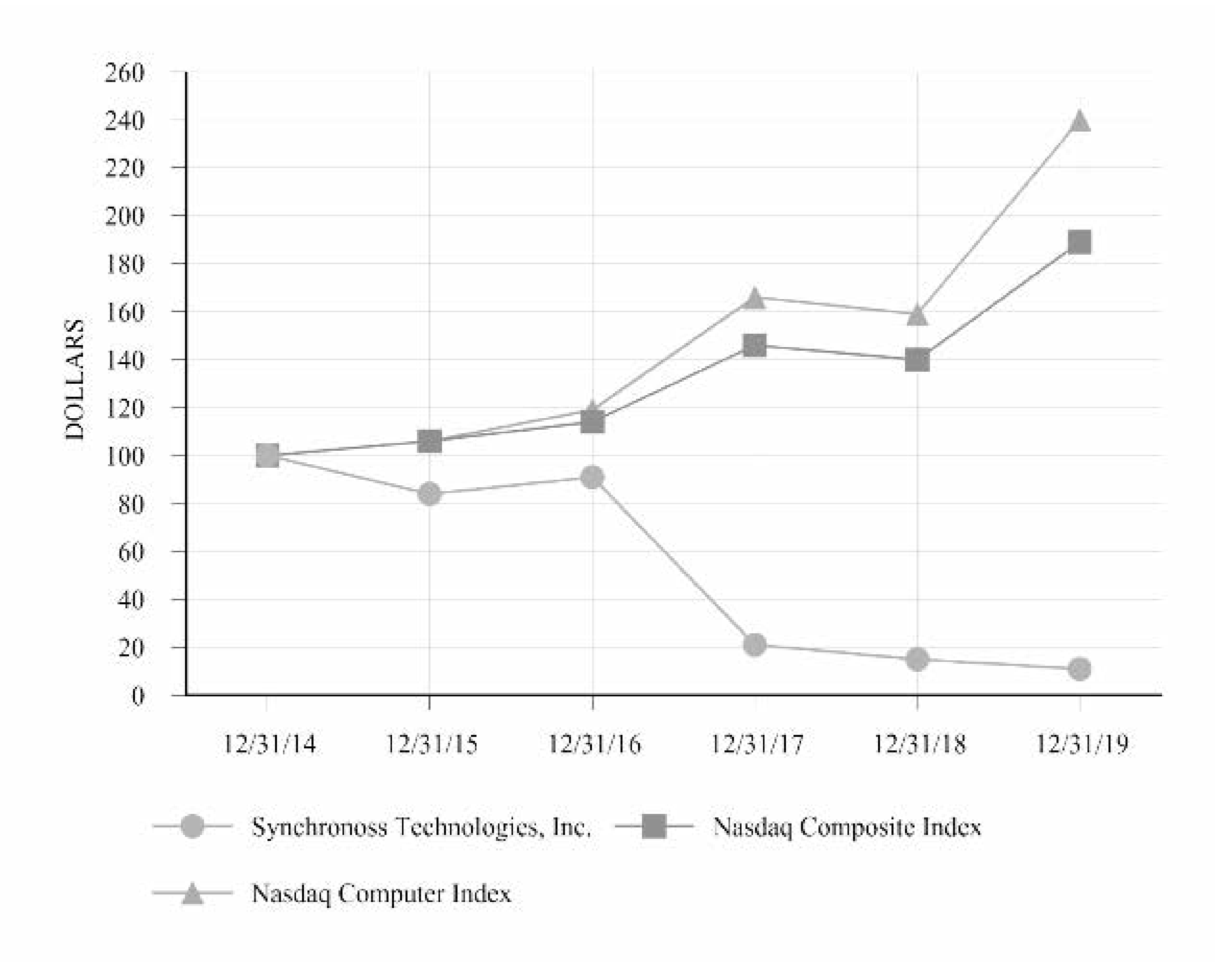
As of December 31, 2019, there were 217,186 shares of Series A Preferred Stock outstanding, including the 195,181 shares of Series A Preferred Stock outstanding as of December 31, 2018 and the issuance of 22,005 shares of Series A Preferred Stock as Preferred Dividends during the year ended December 31, 2019.

Stock Performance Graph

The graph set forth below compares the cumulative total stockholder return on our common stock between December 31, 2014 and December 31, 2019, with the cumulative total return of (i) the Nasdaq Computer Index and (ii) the Nasdaq Composite Index, over the same period. This graph assumes the investment of $100 on December 31, 2014 in our common stock, the Nasdaq Computer Index and the Nasdaq Composite Index, and assumes the reinvestment of dividends, if any. The graph assumes the initial value of our common stock on December 31, 2014 was the closing sales price of $41.86 per share.

The comparisons shown in the graph below are based upon historical data. We caution that the stock price performance shown in the graph below is not necessarily indicative of, nor is it intended to forecast, the potential future performance of our common stock.

Information used in the graph was obtained from Nasdaq, a source believed to be reliable, but we are not responsible for any errors or omissions in such information.



	12/31/14	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19
Synchronoss Technologies, Inc.	$100	$84	$91	$21	$15	$11
Nasdaq Composite Index	$100	$106	$114	$146	$140	$189
Nasdaq Computer Index	$100	$106	$119	$166	$159	$240

ITEM 6. *SELECTED FINANCIAL DATA*

The following selected financial data should be read in conjunction with our consolidated financial statements and related notes and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" and other financial data included elsewhere in this Form 10-K. The selected statements of operations and the selected balance sheet data are derived from our consolidated audited financial statements.

	Year Ended December 31, 2019	2018	2017	2016	2015
	(In thousands, except per share data)				
Statements of Operations Data:					
Net revenues	$ 308,749	$ 325,839	$ 402,361	$ 426,294	$ 372,561
Loss from continuing operations	(107,788)	(164,276)	(129,602)	(122,604)	(37,113)
Net loss from continuing operations	(103,467)	(245,280)	(194,224)	(93,869)	(37,782)
Net loss attributable to noncontrolling interests	1,126	(8,837)	(9,291)	(15,203)	(628)
Net loss from continuing operations attributable to Synchronoss	(136,727)	(262,036)	(184,933)	(78,666)	(37,154)
Basic:					
Continuing operations*	$ (3.36)	$ (6.51)	$ (4.14)	$ (1.81)	$ (0.88)
Diluted:					
Continuing operations*	$ (3.36)	$ (6.51)	$ (4.14)	$ (1.81)	$ (0.88)
Weighted average common shares outstanding:					
Basic	40,694	40,277	44,669	43,551	42,284
Diluted	40,694	40,277	44,669	43,551	42,284

* Excludes Net loss attributable to redeemable noncontrolling interests and Preferred stock dividend

	As of December 31, 2019	2018	2017	2016	2015
	(In thousands)				
Balance Sheet Data:					
Cash, cash equivalents, restricted cash and marketable securities	$ 39,012	$ 144,748	$ 249,236	$ 226,913	$ 233,864
Working capital	(10,499)	50,690	178,493	186,488	265,975
Total assets	532,023	703,255	965,411	1,054,351	931,562
Contingent consideration obligation - long term	—	—	—	—	930
Lease financing obligation - long-term	—	9,494	11,183	12,450	13,391
Long-term convertible debt, net of debt issuance costs	—	—	227,704	226,291	224,878
Redeemable noncontrolling interest	12,500	12,500	25,280	25,280	25,280
Total stockholders' equity	76,077	188,909	463,587	529,797	505,323

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

Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is intended to provide a reader of our financial statements with a narrative from the perspective of our management on our financial condition, results of operations, liquidity and certain other factors that may affect our future results. The MD&A should be read in conjunction with the Financial Statements and Notes to the consolidated financial statements.

Revenues

We generate most of our revenues on a per transaction or subscription basis, which is derived from contracts that extend up to 60 months from execution.

The future success of our business depends on the continued growth of Business-to-Business and Business-to-Business-to-Consumer driving customer transactions, and continued expansion of our platforms into the TMT Market globally through Digital Transformation, Messaging, Cloud and Internet of Things ("IoT") markets. As such, the volume of transactions and our ability to expand our footprint in TMT and globally may result in revenue fluctuations on a quarterly basis.

Most of our revenues are recorded in U.S. dollars but as we continue to expand our footprint with international carriers, we will become subject to currency translation that could affect our future net sales as reported in U.S. dollars.

The Company's top five customers accounted for 69.2%, 69.0% and 73.0% of net revenues for the years ended December 31, 2019, 2018 and 2017, respectively. Contracts with these customers typically run for three to five years. Of these customers, Verizon accounted for more than 10% of the Company's revenues in 2019, 2018, and 2017. The loss of Verizon as a customer would have a material negative impact on our company. However, we believe that the costs incurred and subscriber disruption by Verizon to replace Synchronoss' solutions would be substantial.

Current Trends Affecting Our Results of Operations

Business from our Synchronoss Personal Cloud solution has been driven by the growth in mobile devices globally that are becoming content rich. As these devices replace other traditional devices like PCs, the ability to securely back up content from mobile devices, sync it with other devices and share it with family, friends and business associates have become essential needs and subscriber expectations. Such devices include smartphones, connected cars, personal health and wellness devices and connected home devices. The need for the contents of these devices to be stored in a common cloud are also expected to be drivers of our business in the longer term.

Business from our traditional Synchronoss Messaging business (Email) has been driven by a resurgence in the need for white label secure messaging platforms that favor the Mobile Network Operator's ("MNO") business objectives and are not beholden to the objectives of a sponsoring over-the-top ("OTT") platform. We believe that messaging drives higher subscriber engagement than any other application in the market today and holds the potential to stimulate new revenue from traditional services and third-party brands. OTT global success has driven MNOs to look at opportunities to preempt and compete with the OTTs which has potential opportunity for Synchronoss' future growth to be driven by the need of TMT companies including (and especially) MNOs to embrace Messaging as a Platform ("MaaP"). MaaP will allow TMT and MNO's to converse with subscribers in an efficient, automated way by streamlining the costs and increasing the effectiveness of self-care, as well as yielding cross-sell upselling of service plans, devices, bundles, etc.. The Synchronoss Advanced Messaging Platform provides state of the art RCS-driven features including the ability to support advanced Peer to Peer communications and introduce new revenue streams driven by commerce and advertising via Application-to-Person capabilities.

Companies in the TMT market all face the dilemma of attempting to pivot their businesses to digital execution in order to create experiences that meet the expectations of their subscribers, generate new revenues and streamline costs creating healthier margins at a faster time to market than they have ever operated before. Their challenges feature the lack of skill sets to conceptualize and run day to day digital operations and the lack of resources to integrate their legacy back end systems to enact digital experiences that achieve their business objectives. The growth of Synchronoss Digital Platforms will be driven by the ability to provide TMT companies' desire to obtain digital transformation solutions as quickly as possible while educating them on the ability to operate a digital business efficiently. Our Platform as a Service ("PaaS") model provides a desirable alternative to heavy capital expenditure spending options often tried internally. The ability for our platforms to create low/no code, new customer digital journeys, virtually on the fly, gives TMT Companies the ability to operate new experiences and businesses without heavily investing in development resources.

Synchronoss Advanced Messaging, Cloud and Digital Platforms are poised to bring IoT initiatives to life across MNO and TMT companies creating new use cases that will help stimulate the commercial growth of the robust potential of the IoT market. As new devices and sensors come online in connected cities, Synchronoss, partnering with carriers like AT&T, has technology to unify and harness data from legacy systems; provide analytic insights that fuel automated communications, via our Advanced Messaging Platform between sensors, devices and people; and create a common storage reservoir with our secure Cloud. There is opportunity in many areas of the IoT ecosystem for Synchronoss to support utilizing our Activation, Cloud and Analytics tools.

To support our growth, which we expect to be driven by these favorable industry trends mentioned above, we will leverage modular components from our existing software platforms to build new products. We believe that these opportunities will continue to provide future benefits and position us for future revenue growth. We are also making investments in research and development of new products designed to enable us to grow rapidly in the mobile wireless market. Our purchase of capital assets and equipment may also increase based on aggressive deployment, subscriber growth and promotional offers for free or bundled storage by our major Tier 1 carrier customers.

We continue to expand our platforms into the converging TMT, MNO, Digital and IoT spaces to enable connected devices to do more things across multiple networks, brands and communities. Our initiatives with AT&T, Verizon, Sprint, British Telecom, Softbank and other CSPs continue to grow both with regard to our current business as well as our new product offerings. We are also exploring additional opportunities through merger and acquisition activities to support our customer, product and geographic diversification strategies.

Discussion of the Consolidated Statements of Operations

The following table presents an overview of our results of operations for the years ended December 31, 2019, 2018 and 2017 (in thousands).

	Twelve Months Ended December 31,			2019 vs 2018	2018 vs 2017
	2019	2018	2017	$ Change	$ Change
Net revenues	$ 308,749	$ 325,839	$ 402,361	$ (17,090)	$ (76,522)
Cost of revenues*	150,407	158,802	181,453	(8,395)	(22,651)
Research and development	75,568	79,172	90,850	(3,604)	(11,678)
Selling, general and administrative	112,771	122,112	154,037	(9,341)	(31,925)
Restructuring charges	755	12,375	10,739	(11,620)	1,636
Depreciation and amortization	77,036	117,654	94,884	(40,618)	22,770
Total costs and expenses	416,537	490,115	531,963	(73,578)	(41,848)
Loss from continuing operations	$ (107,788)	$ (164,276)	$ (129,602)	$ 56,488	$ (34,674)

* Cost of revenues excludes depreciation and amortization which are shown separately.

Net revenues decreased $17.1 million to $308.7 million for the year ended December 31, 2019, compared to the same period in 2018. The overall change is due to:

- a $0.1 million increase in **Cloud** revenues due to a decrease in transaction revenue of $3.4 million offset by an increase in subscription revenue of $2.8 million and an increase in professional services revenue of $0.7 million.
- a $45.6 million decrease in **Digital Transformation** revenues is primarily driven by changes to the STIN business that led the Company to conclude that its collection of certain STIN receivables is no longer probable. In accordance with ASC 842, the portion of revenue that is no longer deemed collectible is reversed in the current period against revenue. Accordingly, the Company determined a contingency reserve is required, which was included as a reduction of revenue. The year over year change to STIN revenue was in excess of $34.6 million. The remaining change is primarily driven by a decline in business activity.
- an increase in **Messaging** revenue of $28.4 million primarily due to a growth in advanced messaging in North America as well as the continued delivery of an advanced messaging solution to a customer in the Japanese market.

Net revenues decreased $76.5 million to $325.8 million for the year ended December 31, 2018, compared to the same period in 2017. The overall change is due to:

- a $68.7 million decrease in **Cloud** revenues due to:
  - a change in the business model from a freemium pricing model to an active premium pricing model, resulting in a $63.7 million decrease;
  - a $11.0 million reduction from a decline in business volume related to decisions to sunset certain non-strategic cloud customers; and
  - a $6.0 million increase as a result of the adoption of Topic 606.
- a $17.7 million decrease in **Digital Transformation** revenues due to:
  - a decrease in transaction revenue of $9.3 million resulting from a decline in business volume of $8.3 million and the divestiture of the SpeechCycle business of $1.0 million;
  - a decrease in subscription revenue of $20.3 million resulting from a decline in business volume;
  - a decrease in professional services revenue of $6.0 million;
  - a decrease in license revenue of $3.0 million; and
  - a $20.9 million increase as a result of the adoption of Topic 606.
- an increase in **Messaging** revenue of $9.9 million primarily due to the delivery of an advanced messaging solution to a customer in the Japanese market, an uptick in business volume in our core messaging business and the adoption of Topic 606.

Cost of revenues decreased $8.4 million to $150.4 million for the year ended December 31, 2019, compared to the same period in 2018. The 2019 decrease was primarily due to cost savings initiatives implemented in 2018 and continuing into 2019. These initiatives resulted in a decrease in cost of revenues driven mainly by data center consolidation and operating expense savings.

Cost of revenues decreased $22.7 million to $158.8 million for the year ended December 31, 2018, compared to the same period in 2017. The 2018 decrease was primarily due to cost savings initiatives implemented in 2017 and 2018. These initiatives resulted in a $16.8 million decrease in the use of outside consultants and a $14.9 million reduction in telecommunication and facility costs driven primarily by lower hosting fees, partially offset by an increase in stock-based compensation for new employees in 2018 and increased operating costs related to the honeybee acquisition.

Research and development expense decreased $3.6 million to $75.6 million for the year ended December 31, 2019, compared to the same period in 2018. The decrease in 2019 is primarily due to the realization of our strategic efforts to reduce costs and refocus our resources on key strategic priorities. These efforts resulted in decreased personnel related costs including stock-based compensation expense.

Research and development expense decreased $11.7 million to $79.2 million for the year ended December 31, 2018, compared to the same period in 2017. The decrease in 2018 is primarily due to the realization of our strategic efforts that began in 2016 to reduce costs and refocus our resources on key strategic priorities resulting in the following: (i) $3.5 million in decreased outside consulting fees and (ii) $7.8 million in decreased personnel related costs including stock-based compensation expense.

Selling, general and administrative expense decreased $9.3 million to $112.8 million for the year ended December 31, 2019, compared to the same period in 2018. The 2019 decrease was primarily due to a net reduction in professional services and outside consulting fees incurred and lower telecommunication and facility costs offset by a right of use asset impairment of $6.3 million.

Selling, general and administrative expense decreased $31.9 million to $122.1 million for the year ended December 31, 2018, compared to the same period in 2017. The 2018 decrease was primarily due to $11.7 million in decreased merger and acquisition costs related to Intralinks in the prior year period as well a $21.0 million net reduction in professional services and outside consulting fees, slightly offset by increased stock-based compensation expense for awards granted in 2017.

Restructuring charges were $0.8 million, $12.4 million and $10.7 million for the years ended December 31, 2019, 2018 and 2017 respectively, which primarily related to employment termination costs as a result of the work-force reduction and facility consolidation plans initiated in connection with acquisition and divestiture activities. In the prior year, we commenced separate plans designed to reduce operating costs and align our resources with our key strategic priorities. Material cash outlays for restructuring typically occur in the quarter in which the plan is initiated or in the subsequent quarter.

Depreciation and amortization expense decreased $40.6 million to $77.0 million for the year ended December 31, 2019, compared to the same period in 2018. The 2019 decrease was primarily attributable to the expiration of amortizable acquired assets, a reduction in capital expenditures, and the one-time Zentry, LLC ("Zentry") impairment charge in 2018. These changes were partially offset by the increased amortization of capitalized software.

Depreciation and amortization expense increased $22.8 million to $117.7 million for the year ended December 31, 2018, compared to the same period in 2017. The 2018 increase was primarily attributable to our decision to sunset certain product offerings related to the Company's consolidated joint venture Zentry that resulted in (i) $11.0 million write down of the intangible assets and (ii) $9.1 million write down of goodwill. The remaining increase was primarily attributable to the expiration of amortizable acquired assets, offset by the increased amortization of capitalized software.

Interest income was $1.3 million for the year ended December 31, 2019, compared to $7.8 million for the same period in 2018. The 2019 decrease was primarily due to 2018 interest earned on a paid-in-kind purchase money note (the "PIK Note"), which the Company began deferring effective July 1, 2018 related to PIK Note.

Interest income was $7.8 million for the year ended December 31, 2018 compared to $12.5 million for the same period in 2017. The 2018 decrease was primarily due to lower interest earned on a paid-in-kind purchase money note (the "PIK Note") issued to the Company by Sequential Technology Holdings LLC balance compared to the respective prior year period. The Company began deferring interest income effective July 1, 2018 related to PIK Note.

Interest expense was $1.4 million for the year ended December 31, 2019, compared to $4.9 million for the same period in 2018. The 2019 decrease was primarily due to a decrease in our borrowings outstanding in 2019 after repayments of 2019 Notes and new lease standard (Topic 842) implementation for interest expense presentation which is now reflected in operating expense effective first quarter of 2019.

Interest expense was $4.9 million for the year ended December 31, 2018, compared to $55.8 million for the same period in 2017. The 2018 decrease was primarily due to a decrease in our borrowings outstanding in 2018 after the termination of our $900 million senior secured term loan (the "2017 Term Facility") in the fourth quarter of 2017.

Other expense, net was $7.4 million for the year ended December 31, 2019, compared to $74.9 million the same period in 2018. The change was primarily due to the $84.3 million write down of the PIK note in 2018, partially offset by $5.5 million in income from the sale of intangible assets in 2019.

Other expense was $74.9 million for the year ended December 31, 2018, compared to $17.7 million for the same period in 2017. The 2018 increase was primarily due to the $84.3 million write down of the PIK note, and other net income of $4.5 million in legal settlements and $3.8 million from the remeasurement of a mandatorily redeemable financial instrument, which expired in the first quarter.

Equity method investment loss changed $27.0 million to a loss of $1.6 million for the year ended December 31, 2019, compared to a loss of $28.6 million for the same period in 2018. All equity method investment income (loss) are the result of our 30% equity interest in STIN and vary based on the financial results of the investment company during the respective reporting period.

Equity method investment income (loss) changed $19.5 million to a loss of $28.6 million for the year ended December 31, 2018, compared to a loss of $9.1 million for the same period in 2017. All equity method investment income (loss) are the result of our 30% equity interest in STIN and vary based on the financial results of the investment company during the respective reporting period. In 2018, the Company determined that its investment in STIN was other-than-temporarily impaired due to the deteriorating financial position of the investee. As a result, the Company recorded a non-cash, other-than-temporary impairment of $22.9 million. The remaining change in Equity method investment (losses) for 2018 and 2017 is attributable to our earnings (losses) pickup related to our investment in STIN.

Income tax. The Company recognized approximately $2.2 million in related income tax provision and $17.9 million in related income tax benefit during the year ended December 31, 2019 and 2018, respectively. The effective tax rate was approximately (2.1)% for the year ended December 31, 2019, which was lower than the U.S. federal statutory rate primarily due to pre-tax losses in jurisdictions where full valuation allowances have been recorded and in zero tax rate jurisdictions and permanent differences associated with U.S. Base Erosion and Anti Abuse Tax elections and by certain foreign jurisdictions projecting current income tax expense. The Company's effective tax rate was approximately 6.8% for the year ended December 31, 2018, which was lower than the U.S. federal statutory rate primarily due to the valuation allowance recorded in the fourth quarter of 2017 and the tax benefits recorded discretely in the third quarter of 2018 from the expiration of the statute of limitations for uncertain tax positions.

Liquidity and Capital Resources

As of December 31, 2019, our principal sources of liquidity have been cash provided by operations and proceeds from divestitures. Our cash, cash equivalents, marketable securities and restricted cash balance was $39.0 million at December 31, 2019. We anticipate that our principal uses of cash, cash equivalents, and marketable securities will be to fund the expansion of

our business through both organic growth and the expansion of our customer base. Uses of cash will also include facility and technology expansion, significant integration, capital expenditures, and working capital.

At December 31, 2019, our non-U.S. subsidiaries held approximately $7.2 million of cash and cash equivalents that are available for use by all of our operations around the world. At this time, we believe the funds held by all non-U.S. subsidiaries will be permanently reinvested outside of the U.S. However, if these funds were repatriated to the U.S. or used for U.S. operations, certain amounts could be subject to U.S. tax for the incremental amount in excess of the foreign tax paid. Due to the timing and circumstances of repatriation of these earnings, if any, it is not practical to determine the unrecognized deferred tax liability related to the amount.

We believe that our existing cash, cash equivalents, marketable securities, credit facility, and our ability to manage working capital and expected positive cash flows generated from operations in combination with continued expense reductions will be sufficient to fund our operations for the next twelve months from the date of filing based on our current business plans. Our liquidity plans are subject to a number of risks and uncertainties, including those described in the "Forward-Looking Statements" section of this MD&A and Part I, Item 1A. "Risk Factors", some of which are outside of our control.

Convertible Senior Notes

The Company paid off the remaining carrying amount of the convertible senior notes on August 15, 2019. For further details, see *Note 10. Debt* of the Notes to Consolidated Financial Statements in Item 8 of this Form 10-K.

2019 Credit Agreement

On October 4, 2019, the Company entered into a Credit Agreement with Citizens Bank, N.A., for a $10.0 million Revolving Credit Facility. Borrowings under the Revolving Credit Facility bear interest at a rate equal to, at the Company's option, either (1) the arithmetic average of the LIBOR rate determined by reference to the costs of funds for U.S. dollar deposits for the interest period (one, three or six months (or 12 months if agreed to by all applicable Lenders)) as selected by the Company relevant to such borrowing plus the applicable margin, or (2) a base rate determined by reference to the greatest of the federal funds rate plus 0.50%, the prime commercial lending rate as determined by the Agent, and the daily LIBOR rate plus 1.00%, in each case plus an applicable margin and subject to a floor of 0.00%. In addition, on a quarterly basis, the Company is required to pay each lender under the Revolving Credit Facility a 0.2% commitment fee in respect of commitments under the Revolving Credit Facility, which may be subject to adjustment based on the Company's total leverage ratio. The outstanding balance under the Revolving Credit Facility as of December 31, 2019 is zero.

Share Repurchase Program

There were no share repurchases in 2019.

Shares of Preferred Stock

In accordance with the terms of the Share Purchase Agreement dated as of October 17, 2017 (the "PIPE Purchase Agreement"), with Silver Private Holdings I, LLC, an affiliate of Siris ("Silver"), on February 15, 2018, we issued to Silver 185,000 shares of our newly issued Series A Preferred Stock, par value $0.0001 per share, with an initial liquidation preference of $1,000 per share, in exchange for $97.7 million in cash and the transfer from Silver to us of the 5,994,667 shares of our common stock held by Silver (the "Preferred Transaction"). In connection with the issuance of the Series A Preferred Stock, we (i) filed the Series A Certificate and (ii) entered into an Investor Rights Agreement with Silver setting forth certain registration, governance and preemptive rights of Silver with respect to us (the "Investor Rights Agreement"). Pursuant to the PIPE Purchase Agreement, at the closing, we paid to Siris $5.0 million as a reimbursement of Silver's reasonable costs and expenses incurred in connection with the Preferred Transaction.

Certificate of Designation of the Series A Preferred Stock

The rights, preferences, privileges, qualifications, restrictions and limitations of the shares of Series A Preferred Stock are set forth in the Series A Certificate. Under the Series A Certificate, the holders of the Series A Preferred Stock are entitled to receive Preferred Dividends. The Preferred Dividends are due on each Series A Dividend Payment Date. We may choose to pay the Preferred Dividends in cash or in additional shares of Series A Preferred Stock. In the event we do not declare and pay a dividend in-kind or in cash on any Series A Dividend Payment Date, the unpaid amount of the Preferred Dividend will be added to the Liquidation Preference. In addition, the Series A Preferred Stock participates in dividends declared and paid on shares of our common stock.

Each share of Series A Preferred Stock is convertible, at the option of the holder, into the number of shares of common stock equal to the "Conversion Price" (as that term is defined in the Series A Certificate) multiplied by the then applicable "Conversion Rate" (as that term is defined in the Series A Certificate). Each share of Series A Preferred Stock is initially convertible into 55.5556 shares of common stock, representing an initial "conversion price" of approximately $18.00 per share of common stock. The Conversion Rate is subject to equitable proportionate adjustment in the event of stock splits, recapitalizations and other events set forth in the Series A Certificate.

On and after the fifth anniversary of February 15, 2018, holders of shares of Series A Preferred Stock have the right to cause the Company to redeem each share of Series A Preferred Stock for cash in an amount equal to the sum of the current liquidation preference and any accrued dividends. Each share of Series A Preferred Stock is also redeemable at the option of the holder upon the occurrence of a "Fundamental Change" (as that term is defined in the Series A Certificate) at a specified premium ("Liquidation Value"). In addition, the Company is also permitted to redeem all outstanding shares of the Series A Preferred Stock at any time (i) within the first 30 months of the date of issuance for the sum of the then-applicable Liquidation Preference, accrued but unpaid dividends and a make whole amount (known as "Redemption Value") and (ii) following the 30-month anniversary of the date of issuance for the sum of the then-applicable Liquidation Preference and the accrued but unpaid dividends. As of December 31, 2019, the Liquidation Value and Redemption Value of the Preferred Shares was $243.1 million.

The holders of a majority of the Series A Preferred Stock, voting separately as a class, are entitled at each of our annual meetings of stockholders or at any special meeting called for the purpose of electing directors (or by written consent signed by the holders of a majority of the then-outstanding shares of Series A Preferred Stock in lieu of such a meeting): (i) to nominate and elect two members of our Board of Directors for so long as the Preferred Percentage (as defined in the Series A Certificate) is equal to or greater than 10%; and (ii) to nominate and elect one member of our Board of Directors for so long as the Preferred Percentage is equal to or greater than 5% but less than 10%.

For so long as the holders of shares of Series A Preferred Stock have the right to nominate at least one director, we are required to obtain the prior approval of Silver prior to taking certain actions, including: (i) certain dividends, repayments and redemptions; (ii) any amendment to our certificate of incorporation that adversely effects the rights, preferences, privileges or voting powers of the Series A Preferred Stock; (iii) issuances of stock ranking senior or equivalent to shares of Series A Preferred Stock (including additional shares of Series A Preferred Stock) in the priority of payment of dividends or in the distribution of assets upon any liquidation, dissolution or winding up of us; (iv) changes in the size of our Board of Directors; (v) any amendment, alteration, modification or repeal of the charter of our Nominating and Corporate Governance Committee of the Board of Directors and related documents; and (vi) any change in our principal business or the entry into any line of business outside of our existing lines of businesses. In addition, in the event that we are in EBITDA Non-Compliance (as defined in the Series A Certificate) or the undertaking of certain actions would result in us exceeding a specified pro forma leverage ratio, then the prior approval of Silver would be required to incur indebtedness (or alter any debt document) in excess of $10.0 million, enter or consummate any transaction where the fair market value exceeds $5.0 million individually or $10.0 million in the aggregate in a fiscal year or authorize or commit to capital expenditures in excess of $25.0 million in a fiscal year.

Each holder of Series A Preferred Stock has one vote per share on any matter on which holders of Series A Preferred Stock are entitled to vote separately as a class, whether at a meeting or by written consent. The holders of Series A Preferred Stock are permitted to take any action or consent to any action with respect to such rights without a meeting by delivering a consent in writing or electronic transmission of the holders of the Series A Preferred Stock entitled to cast not less than the minimum number of votes that would be necessary to authorize, take or consent to such action at a meeting of stockholders. In addition to any vote (or action taken by written consent) of the holders of the shares of Series A Preferred Stock as a separate class provided for in the Series A Certificate or by the General Corporation Law of the State of Delaware, the holders of shares of the Series A Preferred Stock are entitled to vote with the holders of shares of common stock (and any other class or series that may similarly be entitled to vote on an as-converted basis with the holders of common stock) on all matters submitted to a vote or to the consent of the stockholders of the Company (including the election of directors) as one class.

Under the Series A Certificate, if Silver and certain of its affiliates have elected to effect a conversion of some or all of their shares of Series A Preferred Stock and if the sum, without duplication, of (i) the aggregate number of shares of our common stock issued to such holders upon such conversion and any shares of our common stock previously issued to such holders upon conversion of Series A Preferred Stock and then held by such holders, plus (ii) the number of shares of our common stock underlying shares of Series A Preferred Stock that would be held at such time by such holders (after giving effect to such conversion), would exceed the 19.9% of the issued and outstanding shares of our voting stock on an as converted basis (the "Conversion Cap"), then such holders would only be entitled to convert such number of shares as would result in the sum of clauses (i) and (ii) (after giving effect to such conversion) being equal to the Conversion Cap (after giving effect to any such limitation on conversion). Any shares of Series A Preferred Stock which a holder has elected to convert but which, by reason of the previous sentence, are not so converted, will be treated as if the holder had not made such election to convert and such shares of Series A Preferred Stock will remain outstanding. Also, under the Series A Certificate, if the sum, without duplication, of (i) the aggregate voting power of the shares previously issued to Silver and certain of its affiliates held by such holders at the record date, plus (ii) the aggregate voting power of the shares of Series A Preferred Stock held by such holders as of such record date, would exceed 19.99% of the total voting power of our outstanding voting stock at such record date, then, with respect to such shares, Silver and certain of its affiliates are only entitled to cast a number of votes equal to 19.99% of such total voting power. The limitation on conversion and voting ceases to apply upon receipt of the requisite approval of holders of our common stock under the applicable listing standards.

Investor Rights Agreement

Concurrently with the closing of the Preferred Transaction, Synchronoss and Silver entered into an Investor Rights Agreement. Under the terms of the Investor Rights Agreement, Silver and Synchronoss have agreed that, effective as of the closing of the Preferred Transaction, the Board of Directors of Synchronoss will consist of ten members. From and after the closing of the Preferred Transaction, so long as the holders of Series A Preferred Stock have the right to nominate a member to the Board of Directors pursuant to the Series A Certificate, the Board of Directors of Synchronoss will consist of (i) two directors nominated and elected by the holders of shares of Series A Preferred Stock; (ii) four directors who meet the independence criteria set forth in the applicable listing standards (each of whom will be initially agreed upon by Synchronoss and Silver); and (iii) four other directors, two of whom shall satisfy the independence criteria of the applicable listing standards and, as of the closing of the Preferred Transaction, one of whom shall be the individual then serving as chief executive officer of Synchronoss and one of whom shall be the current chairman of the Board of Directors of Synchronoss as of the date of execution of the Investors Rights Agreement. Following the closing of the Preferred Transaction, so long as the holders of Series A Preferred Stock have the right to nominate at least one director to the Board of Directors of Synchronoss pursuant to the Series A Certificate, Silver will have the right to designate two members of the Nominating and Corporate Governance Committee of the Board of Directors.

Pursuant to the terms of the Investor Rights Agreement, neither Silver nor its affiliates may transfer any shares of Series A Preferred Stock subject to certain exceptions (including transfers to affiliates that agree to be bound by the terms of the Investor Rights Agreement).

For so long as Silver has the right to appoint a director to the Board of Directors of Synchronoss, without the prior approval by a majority of directors voting who are not appointed by the holders of shares of Series A Preferred Stock, neither Silver nor its affiliates will directly or indirectly purchase or acquire any debt or equity securities of Synchronoss (including equity-linked derivative securities) if such purchase or acquisition would result in Silver's Standstill Percentage (as defined in the Investor Rights Agreement) being in excess of 30%. However, the foregoing standstill restrictions would not prohibit the purchase of shares pursuant to the PIPE Purchase Agreement or the receipt of shares of Series A Preferred Stock issued as Preferred Dividends pursuant to the Series A Certificate, shares of Common Stock received upon conversion of shares of Series A Preferred Stock or receipt of any shares of Series A Preferred Stock, Common Stock or other securities of the Company otherwise paid as dividends or as an increase of the Liquidation Preference (as defined in the Series A Certificate) or distributions thereon. Silver will also have preemptive rights with respect to issuances of securities of Synchronoss in order to maintain its ownership percentage.

Under the terms of the Investor Rights Agreement, Silver will be entitled to (i) three demand registrations, with no more than two demand registrations in any single calendar year and provided that each demand registration must include at least 10% of the shares of Common Stock held by Silver, including shares of Common Stock issuable upon conversion of shares of Series A Preferred Stock and (ii) unlimited piggyback registration rights with respect to primary issuances and all other issuances.

Discussion of Cash Flows

A summary of net cash flows follows (in thousands):

	Twelve Months Ended December 31,			Change	Change
	2019	2018	2017	2019 vs 2018	2018 vs 2017
Net cash provided by (used in):					
Operating activities	$ 32,583	$ (31,369)	$ (18,248)	$ 63,952	$ (13,121)
Investing activities	19,377	(67,282)	98,245	86,659	(165,527)
Financing activities	(121,257)	(35,885)	(35,664)	(85,372)	(221)

Our primary source of cash is receipts from revenue. The primary uses of cash are personnel and related costs, telecommunications and facility costs related primarily to our cost of revenue and general operating expenses including professional service fees, consulting fees, building and equipment maintenance and marketing expense.

Cash flows from operating activities for the year ended December 31, 2019 was a $32.6 million of cash provided by operating activities, as compared to $31.4 million of cash used for operating activities for the same period in 2018. The increase of cash provided by operating activities of $64.0 million was primarily due to favorable changes in cash earnings of $16.1 million, a $20.7 million tax refund and a favorable change in working capital of $27.1 million.

Cash flows from operating activities for the year ended December 31, 2018 was a $31.4 million use of cash, as compared to $18.2 million of cash used by operating activities for the same period in 2017. The increase of cash used in operating activities of $13.1 million was primarily due to favorable changes in cash earnings of $12.2 million and an unfavorable change in working capital of $25.3 million.

Cash flows from investing activities for the year ended December 31, 2019 was $19.4 million of cash provided by investing activities, as compared to $67.3 million in cash used for investing activities during the same period in 2018. The 2019 cash provided from investing activities was driven by the sale of marketable securities offset by our continued investment in capitalized software. The increased spend in 2018 was due primarily to purchase marketable securities and fund the honeybee acquisition.

Cash flows from investing activities for the year ended December 31, 2018 was a use of cash of $67.3 million, as compared to $98.2 million in cash provided by investing activities during the same period in 2017. The decrease of $165.5 million in cash in investing activities was due primarily to (i) cash provided by the divestiture of Intralinks and SpeechCycle in 2017 and (ii) cash used for purchases of marketable securities and the acquisition of Honeybee in 2018.

Cash flows from financing activities for the year ended December 31, 2019 was $121.3 million use of cash, as compared to $35.9 million of cash used by financing activities for the same period in 2018. The cash used for financing activities was mainly attributable to the repayment of the convertible debt in August 2019. The 2019 increase in cash used for financing of $85.4 million was primarily driven by the $86.2 million of proceeds for the issuance of preferred stock in 2018.

Cash flows from financing activities for year ended December 31, 2018 was $35.9 million, as compared to $35.7 million of cash used by financing activities for the same period in 2017. The cash used by financing for 2018 was primarily driven by the $113.7 million partial repayment of the convertible debt offset by $86.2 million of proceeds for the issuance of preferred stock.

Effect of Inflation

Although inflation generally affects us by increasing our cost of labor and equipment, we do not believe that inflation has had any material effect on our results of operations during 2019, 2018 and 2017. We do not expect the current rate of inflation to have a material impact on our business.

Contractual Obligations

Our contractual obligations consist of contingent consideration, operating leases or long-term agreements for office space, automobiles, office equipment and colocation services and contractual commitments under third-party hosting, software licenses and maintenance agreements. The following table summarizes our long-term contractual obligations as of December 31, 2019 (in thousands).

	Payments Due by Period				
	Total	2020	2021-2023	2024-2025	Thereafter
Operating lease obligations	$ 93,075	$ 13,639	$ 35,302	$ 19,806	$ 24,328
Purchase obligations*	30,977	25,275	5,702	—	—
Total	$ 124,052	$ 38,914	$ 41,004	$ 19,806	$ 24,328

* Amount represents obligations associated with colocation agreements and other customer delivery related purchase obligations.

Uncertain Tax Positions

Unrecognized tax positions are $3.3 million at December 31, 2019. We are not able to reasonably estimate when we would make any cash payments required to settle these liabilities, but we do not believe that the ultimate settlement of our obligations will materially affect our liquidity. We do not expect that the balance of unrecognized tax benefits will significantly increase or decrease over the next twelve months.

Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements in accordance with U.S. GAAP requires us to utilize accounting policies and make certain estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingencies as of the date of the financial statements and the reported amounts of revenues and expenses during a fiscal period. The SEC considers an accounting policy to be critical if it is important to a company's financial condition and results of operations, and if it requires significant judgment and estimates on the part of management in its application. We have discussed the selection and development of the critical accounting policies with the Audit Committee, and the Audit Committee has reviewed our related disclosures in this Form 10-K. Although we believe that our judgments and estimates are appropriate, correct and reasonable under the circumstances, actual results may differ from those estimates. If actual results or events differ materially from those contemplated by us in making these estimates, our reported financial condition and results of operations for future periods could be materially affected. See Part I, "Item 1A. Risk Factors" in this Form 10-K for certain matters bearing risks on our future results of operations.

We believe the following to be our critical accounting policies because they are important to the portrayal of our consolidated financial condition and results of operations and they require critical management judgments and estimates about matters that are uncertain.

During the year ended December 31, 2019, the Company made significant changes in its accounting policies over leases, to align with the adoption of Topic 842. These updates are described in detail in *Note 2. Summary of Significant Accounting Policies.* Aside from the adoption of Topic 842, there were no significant changes in our critical accounting policies and estimates discussed in our Form 10-K during the year ended December 31, 2019.

Revenue Recognition and Deferred Revenue

The Company's accounting policies over revenue recognition are described below and in detail in *Note 2. Summary of Significant Accounting Policies.*

The Company generates revenue from the delivery of a range of products, solutions and services for operators, enterprises, OEMs and technology providers. We offer services principally on a Transactional or Subscription basis (SaaS) or in the form of Professional Services or Software Licenses. Revenues are recognized when control of the promised goods or services are transferred to the Company's customers, in an amount that reflects the consideration that the Company expects to receive in exchange for those goods or services. The Company generates all of its revenue from contracts with customers.

Subscription and Transaction revenues consist of revenues derived from the processing of transactions through the Company's service platforms, providing enterprise portal management services on a subscription basis and maintenance agreements on software licenses. The Company generates revenue from Subscription services from monthly active user fees, software as a service ("SaaS") fees, hosting and storage fees, and fees for the related maintenance support for those services. In most cases, the subscription or transaction arrangement is a single performance obligation comprised of a series of distinct services that are substantially the same and that have the same pattern of transfer (i.e., distinct days of service). The Company applies a measure of progress (typically time-based) to any fixed consideration and allocates variable consideration to the distinct periods of service based on usage, under Topic 606 Section 10-25-14(b). When the Company does not allocate variable consideration to distinct periods of service, the total estimated transaction price is recognized ratably over the term of the contract, where the level of service provided to the customer does not vary significantly from one period to another.

Transaction service arrangements include services such as processing equipment orders, new account set-up and activation, number port requests, credit checks and inventory management. Transaction revenues are principally based on a contractual price per transaction and are recognized based on the number of transactions processed during each reporting period. Revenues are recorded based on the total number of transactions processed at the applicable price established in the relevant contract.

Many of the Company's contracts guarantee minimum volume transactions from the customer. In these instances, if the customer's total estimated transaction volume for the period is expected to be less than the contractual amount, the Company records revenues at the minimum guaranteed amount on a straight line based over the period covered by the minimum. Set-up fees for transactional service arrangements are deferred until set up activities are completed and recognized on a straight-line basis over remaining expected customer relationship period. Revenues are presented net of discounts, which are volume level driven.

In accordance with Topic 606 Section 10-50-20, any credits due to customers, which are generally performance driven and based upon system availability or response times to incidents, are determined and accounted for in the period in which the services are provided. The Company recognizes revenues from support and maintenance performance obligations over the service delivery period.

The Company's software licenses typically provide for a perpetual or term right to use the Company's software. The Company has concluded that in most cases its software license is distinct as the customer can benefit from the software on its own. Software revenue is typically recognized when the software is delivered to the customer. Contracts that include software customization or specified upgrades may result in the combination of the customization services with the software license as one performance obligation. The Company does not have a history of returns, or refunds of is software licenses, however, in limited instances, the Company may constrain consideration to high-risk customers, until collection is resolved.

The Company's professional services include software development and customization. The contracts generally include project deliverables specified by each customer. The performance obligations in the agreements are generally combined into one deliverable and generally result in the transfer of control over time. The underlying deliverable is owned and controlled by the customer and does not create an asset with an alternative use to us. The Company recognizes revenue on fixed fee contracts on the proportion of labor hours expended to the total hours expected to complete the contract performance obligation.

Most of the Company's contracts with customers contain multiple performance obligations which generally include either 1) a perpetual software license with support and maintenance and sometimes a hosting agreement or 2) a term SaaS agreement, in many cases these are sold along with professional services. For these contracts, the Company accounts for individual goods and services separately if they are distinct performance obligations. This often requires significant judgment based upon knowledge of the products, the solution provided and the structure of the sales contract. In SaaS agreements, the Company provides a service to the customer which combines the software functionality, maintenance and hosting into a single performance obligation when the customer doesn't have the ability to take possession of the underlying software license. The Company may also sell the same three goods and services in a contract, but there may be three performance obligations, where the customer has the right to take possession of the software license without significant penalty.

The transaction price is allocated to the separate performance obligations on a relative standalone selling price basis. The Company estimates standalone selling prices of software based on observable inputs of past transactions to similarly situated customers. When such observable data is not available for certain software licenses because there is a limited number of transactions or prices are highly variable, the Company will estimate the standalone selling price using the residual approach. Standalone selling prices of services are typically determined based on observable transactions when these services are sold on a standalone basis to similarly situated customers or estimated using a cost-plus margin approach.

Estimating the transaction price of variable consideration including the variable quantity subscription or transaction contracts in a multiple performance obligation arrangement requires significant judgment. The Company generally estimates this variable

consideration at the most likely amount to which the Company expects to be entitled and in certain cases based on the expected value. The Company includes estimated amounts in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. The Company's estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of the Company's anticipated performance and all information (historical, current and forecasted) that is reasonably available to us. The Company reviews and updates these estimates on a quarterly basis.

Allowance for Doubtful Accounts

We maintain an allowance for doubtful accounts for estimated bad debts resulting from the inability of our customers to make required payments. The amount of the allowance account is based on historical experience and our analysis of the accounts receivable balance outstanding. While credit losses have historically been within our expectations and the provisions established, we cannot guarantee that we will continue to experience the same credit losses that we have in the past or that our reserves will be adequate. If the financial condition of one of our customers were to deteriorate, resulting in its inability to make payments, additional allowances may be required which would result in an additional expense in the period that this determination was made.

Allowance for Loan Losses

The Company's allowance for credit losses relates to the related party note receivable and is based on the probable estimated losses that may be incurred. The allowance is based on two basic principles of accounting: (1) ASC Topic 450, "Accounting for Contingencies", which requires that losses be accrued when they are probable of occurring and estimable, and (2) ASC Topic 310, "Accounting by Creditors for Impairment of a Loan", which requires that losses be accrued based on the differences between the value of collateral and the present value of future cash flows.

The allowance for loan losses is established to estimate losses that may occur by recording a provision for loan losses that is charged to earnings in the period known. The allowance is evaluated by management taking into consideration adverse situations that may affect the borrower's ability to repay and the estimated value of any underlying collateral. This evaluation is inherently subjective as it requires estimates that are susceptible to significant revision as more information becomes available. Measured impairment and credit losses are charged against the allowance when management believes to the extent amounts are not collectible.

Stock-Based Compensation

As of December 31, 2019, we maintain eight stock-based compensation plans. We utilize the Black-Scholes pricing model to determine the fair value of stock options on the dates of grant. Restricted stock awards are measured based on the fair market values of the underlying stock on the dates of grant. We recognize stock-based compensation over the requisite service period with an offsetting credit to additional paid-in capital.

For our performance restricted stock awards, we estimate the number of shares the recipient is to receive by applying a probability of achieving the performance goals. The actual number of shares the recipient receives is determined at the end of the performance period based on the results achieved versus goals based on our performance targets, such as revenue and EBITDA. Once the number of awards is determined, the compensation cost is fixed and continues to be recognized using straight line recognition over the requisite service period for each vesting tranche.

During 2017, our Board approved the issuance of performance-based restricted stock to certain executives which are eligible to vest if the volume-weighted average closing price over 20 consecutive trading days equals or exceeds certain stock prices during the specific performance period from July 2017 to July 2019. We utilized the Monte Carlo simulation to estimate the fair value of the restricted stock on its grant date.

Use of a valuation model requires management to make certain assumptions with respect to selected model inputs. Expected volatility was calculated based on our historical information of our stock. The average expected life was determined using historical stock option exercise activity. The risk-free interest rate is based on U.S. Treasury zero-coupon issues with a remaining term equal to the expected life assumed at the date of grant. We have never declared or paid cash dividends on our common equity and do not anticipate paying any cash dividends in the foreseeable future. Forfeitures are accounted for as they occur.

Income Taxes

On December 22, 2017, the U.S. government enacted the Tax Cuts and Jobs Act ("TCJA"). The TCJA made changes to the corporate tax rate, business-related deductions and taxation of foreign earnings, among others, that are generally be effective for taxable years after December 31, 2017. While our accounting for the recorded impact of the TCJA is deemed to be complete as of December 31, 2019, these amounts are based on prevailing regulations and currently available information, and any additional guidance issued by the Internal Revenue Service (IRS) could impact our recorded amounts in future periods. In 2019, the impact of the TCJA was minor due to the losses incurred and the valuation allowance position.

Since we conduct operations on a global basis, our effective tax rate has and will depend upon the geographic distribution of our pre-tax earnings among locations with varying tax rates. We account for the effects of income taxes that result from our activities during the current and preceding years. Under this method, deferred income tax liabilities and assets are based on the difference between the financial statement carrying amounts and the tax basis of assets and liabilities using enacted tax rates in effect in the years in which the differences are expected to reverse or be utilized. The realization of deferred tax assets is contingent upon the generation of future taxable income. A valuation allowance is recorded if it is "more likely than not" that a portion or all of a deferred tax asset will not be realized.

In evaluating our ability to recover our deferred tax assets within the jurisdiction from which they arise, we consider all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax-planning strategies, and results of recent operations. In projecting future taxable income, we begin with historical results and incorporate assumptions including the amount of future state, federal and foreign pretax operating income, the reversal of temporary differences, and the implementation of feasible and prudent tax-planning strategies. These assumptions require significant judgment about the forecasts of future taxable income and are consistent with the plans and estimates we are using to manage the underlying businesses.

We recognize a tax benefit from an uncertain tax position only if it is more likely than not to be sustained upon examination based on the technical merits of the position. The amount of the accrual for which an exposure exists is measured by determining the amount that has a greater than 50 percent likelihood of being realized upon the settlement of the position. Components of the reserve are classified as current or a long-term liability in the Consolidated Balance Sheets based on when we expect each of the items to be settled. We record interest and penalties accrued in relation to uncertain tax benefits as a component of interest expense.

While we believe we have identified all reasonably identifiable exposures and that the reserve we have established for identifiable exposures is appropriate under the circumstances, it is possible that additional exposures exist and that exposures may be settled at amounts different than the amounts reserved. It is also possible that changes in facts and circumstances could cause us to either materially increase or reduce the carrying amount of our tax reserves. In general, tax returns for the year 2016 and thereafter are subject to future examination by tax authorities.

Our policy has been to leave our cumulative unremitted foreign earnings invested indefinitely outside the United States, and we intend to continue this policy. Although the transition tax in the TCJA has removed U.S. federal taxes on distributions to the U.S. on a go forward basis, the Company continues to assert permanent reinvestment of foreign earnings. Due to the timing and circumstances of repatriation of such earnings, if any, it is not practicable to determine the unrecognized deferred tax liability relating to such amounts.

Business Combinations

We account for business combinations in accordance with the acquisition method. The acquisition method of accounting requires that assets acquired, and liabilities assumed and any noncontrolling interest in the acquiree (if any), be recorded at their fair values on the date of a business acquisition. Our consolidated financial statements and results of operations reflect an acquired business from the completion date of the transaction.

The judgments that we make in determining the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact net income in periods following a business combination. We generally use either the income, cost or market approach to aid in our conclusions of such fair values and asset lives. The income approach presumes that the value of an asset can be estimated by the net economic benefit to be received over the life of the asset, discounted to present value. The cost approach presumes that an investor would pay no more for an asset than its replacement or reproduction cost. The market approach estimates value based on what other participants in the market have paid for reasonably similar assets. Although each valuation approach is considered in valuing the assets acquired, the approach ultimately selected is based on the characteristics of the asset and the availability of information.

We record contingent consideration resulting from a business combination at its fair value on the acquisition date. Each reporting period thereafter, we revalue these obligations and record increases or decreases in their fair value as an adjustment to net change in contingent consideration obligation within the Consolidated Statements of Operations. Changes in the fair value of the contingent consideration obligation can result from updates in the achievement of financial or other operational targets and changes to the weighted probability of achieving those future targets. Significant judgment is employed in determining the

appropriateness of these assumptions as of the acquisition date and for each subsequent period. Accordingly, any change in the assumptions described above, could have a material impact on the amount of the net change in contingent consideration obligation that we record in any given period.

Discontinued Operations

Management classifies a disposal transaction as discontinued operation in the consolidated financial statements when it qualifies as a component of the Company, meets the held for sale criteria, is disposed of by sale, or is disposed of other than by sale and it represents a strategic shift that has a major effect on our operations and financial results. Insignificant and non-strategic shifting divestitures are not classified as within discontinued operations.

Investments in Affiliates and Other Entities

In the normal course of business, we enter into various types of investment arrangements, each having unique terms and conditions. These investments may include equity interests held by us in business entities, including general or limited partnerships, contractual ventures, or other forms of equity participation. Management determines whether such investments involve a variable interest entity ("VIE") based on the characteristics of the subject entity. If the entity is determined to be a VIE, then management determines if we are the primary beneficiary of the entity and whether consolidation of the VIE is required. The primary beneficiary consolidating the VIE must normally have both (i) the power to direct the activities of a VIE that most significantly affect the VIE's economic performance and (ii) the obligation to absorb losses of the VIE or the right to receive benefits from the VIE, in either case that could potentially be significant to the VIE. When we are deemed to be the primary beneficiary, the VIE is consolidated and the other party's equity interest in the VIE is accounted for as a noncontrolling interest.

We generally account for investments that we make in VIEs in which we have determined that we do not have a controlling financial interest but have significant influence over and hold at least a 20% ownership interest using the equity method. Any such investment not meeting the parameters to be accounted under the equity method would be accounted for using the cost method unless the investment had a readily determinable fair value, at which it would then be reported.

If an entity fails to meet the characteristics of a VIE, management then evaluates such entity under the voting model. Under the voting model, we would consolidate the entity if it is determined that we, directly or indirectly, have greater than 50% of the voting shares, and determine that other equity holders do not have substantive participating rights.

Goodwill

Goodwill represents the excess of the purchase price over the fair value of assets acquired, including other definite-lived intangible assets. Our policy is to perform an impairment test of goodwill at least annually, and more frequently if events or circumstances occurred that would indicate a reduced fair value in our reporting units could exist. Typically, we perform a qualitative assessment in the fourth quarter of the fiscal year to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying value. As part of this qualitative assessment, we perform a quantitative assessment where necessary in substantiating our qualitative assessment.

During our qualitative assessment we make significant estimates, assumptions, and judgments, around the financial performance of the Company, changes in our share price, and forecasts of earnings, working capital requirements, and cash flows. We consider each reporting unit's historical results and operating trends as well as any strategic difference from our historical results when determining these assumptions.

If we determine that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill, we perform a quantitative goodwill impairment test. Fair value estimates used in the quantitative impairment test are calculated using a combination of the income and market approaches. The income approach is based on the present value of future cash flows of each reporting unit, while the market approach is based on certain multiples of selected guideline public companies or selected guideline transactions. The approaches incorporate a number of market participant assumptions including future growth rates, discount rates, income tax rates and market activity in assessing fair value and are reporting unit specific. If the carrying amount exceeds the reporting unit's fair value, we recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value.

The fair value measurement associated with the quantitative goodwill impairment test is based on significant inputs that are not observable in the market and thus represents a Level 3 measurement. Significant changes in the underlying assumptions used to value goodwill could significantly increase or decrease the fair value estimates used for impairment assessments.

For our 2019 impairment tests, the Company identified one reporting unit, Core. The Company performed a quantitative impairment assessment, as of October 1, 2019, for the Core reporting unit. The amounts below represent the results of our quantitative assessment.

We use the average of our fair values for purposes of our comparison between carrying value and fair value for the quantitative impairment test. The table below depicts the methods employed, assumptions used and percentage fair value in excess of carrying value.

	2019 Impairment Test					
Reporting Unit	Discount Rate	Growth rate range	Terminal Growth Rate	Goodwill	Fair Value Exceeds Carrying Value by	Fair Value method
Core	14.0%	2.0 - 18.0%	2.0%	$ 220,367	72.0%	Income Approach, Market Approach

The 2019 fair value of the reporting unit was estimated using a combination of the income approach, which incorporates the use of the discounted cash flow method, and the market approach, which incorporates the use of earnings and revenue multiples based on market data. We generally applied an equal weighting to the income and market approaches for our analysis when both are applied.

For the income approach, we used projections, which require the use of significant estimates and assumptions specific to the reporting unit as well as those based on general economic conditions. Factors specific to each reporting unit include revenue and cost growth, profit margins, terminal value growth rates, capital expenditures projections, assumed tax rates, discount rates and other assumptions deemed reasonable by management.

For the market approach, we used judgment in identifying the relevant comparable-company market multiples. These estimates and assumptions may vary between each reporting unit depending on the facts and circumstances specific to that unit. If sufficient comparable data is not present, the market approach will not be employed. The discount rate for each reporting unit is influenced by general market conditions as well as factors specific to the reporting unit.

Factors influencing the revenue growth rates include the nature of the services the reporting unit provides for its clients, the maturity of the reporting unit and any known concentrated customer contract renewals. We believe that the estimates and assumptions we made are reasonable, but they are susceptible to change from period to period. Actual results of operations, cash flows and other factors will likely differ from the estimates used in our valuation, and it is possible that differences and changes could be material.

A deterioration in profitability, adverse market conditions, significant client losses, changes in spending levels of our existing clients or a different economic outlook than currently estimated by management could have a significant impact on the estimated fair value of our reporting units and could result in an impairment charge in the future.

Capitalized Software Development Costs

Software development costs are accounted for in accordance with either ASC 985-20, "Software - Costs of Software to be Sold, Leased or Marketed," or ASC 350-40, "Internal-Use Software." Costs associated with the planning and designing phase of software development are classified as research and development costs and are expensed as incurred. The amounts capitalized include external direct costs of services used in developing internal-use software, employee compensation and related expenses of personnel directly associated with the development activities and interest. Once technological feasibility has been determined, a portion of the costs incurred in development, including coding, testing and quality assurance, are capitalized until available for general release to clients.

Amortization is calculated on a solution-by-solution basis and is recognized over the estimated economic life of the software, typically ranging two to three years. Amortization begins when the software is substantially completed for its intended use. Costs incurred during the preliminary and post-implementation stages are expensed as incurred. The amounts capitalized include external direct costs of services used in developing internal-use software, employee compensation and related expenses of personnel directly associated with the development activities and interest. Software development costs are evaluated for recoverability whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable. Unrecoverable costs are reviewed annually and recognized in the period they become unrecoverable, as needed, and are recorded in the Consolidated Statements of Operations as depreciation and amortization expense.

Impairment of Long-Lived Assets

A review of long-lived assets for impairment is performed when events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. If an indication of impairment is present, the Company compares the estimated undiscounted future cash flows to be generated by the asset to the asset's carrying amount. If the undiscounted future cash flows are less than the carrying amount of the asset, the Company records an impairment loss equal to the amount by which the asset's carrying amount exceeds its fair value. The fair value is determined based on valuation techniques such as a comparison to fair values of similar assets or using a discounted cash flow analysis.

This fair value measurement is based on significant inputs that are not observable in the market and thus represents a Level 3 measurement. Significant changes in the underlying assumptions used to value long lived assets could significantly increase or decrease the fair value estimates used for impairment assessments.

Long lived assets that do not have indefinite lives are amortized/depreciated over their useful lives and reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. The Company reevaluates the useful life determinations each year to determine whether events and circumstances warrant a revision to the remaining useful lives.

Recently Issued Accounting Standards

For a discussion of recently issued accounting standards see *Note 2. Summary of Significant Accounting Policies* of the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K.

Off-Balance Sheet Arrangements

We had no off-balance sheet arrangements as of December 31, 2019 and December 31, 2018 that have, or are reasonably likely to have, a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that are material to investors.

ITEM 7A. *QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK*

Market Risk

The following discussion about market risk disclosures involves forward-looking statements. Actual results could differ materially from those projected in the forward-looking statements. We deposit our excess cash in what we believe are high-quality financial instruments, primarily money market funds and certificates of deposit and, we may be exposed to market risks related to changes in interest rates. We do not actively manage the risk of interest rate fluctuations on our marketable securities; however, such risk is mitigated by the relatively short-term nature of these investments. These investments are denominated in United States dollars.

The primary objective of our investment activities is to preserve our capital for the purpose of funding operations, while at the same time maximizing the income, we receive from our investments without significantly increasing risk. To achieve these objectives, our investment policy allows us to maintain a portfolio of cash equivalents and short- and long-term investments in a variety of securities, which could include commercial paper, money market funds and corporate and government debt securities. Our cash, cash equivalents and marketable securities at December 31, 2019 and December 31, 2018 were invested in liquid money market accounts, certificates of deposit and government securities. All market-risk sensitive instruments were entered into for non-trading purposes.

Foreign Currency Exchange Risk

We are exposed to translation risk because certain of our foreign operations utilize the local currency as their functional currency and those financial results must be translated into U.S. dollars. As currency exchange rates fluctuate, translation of the financial statements of foreign businesses into U.S. dollars affects the comparability of financial results between years.

We do not hold any derivative instruments and do not engage in any hedging activities. Although our reporting currency is the U.S. dollar, we may conduct business and incur costs in the local currencies of other countries in which we may operate, make sales and buy materials and services. As a result, we are subject to foreign currency transaction risk. Further, changes in exchange rates between foreign currencies and the U.S. dollar could affect our future net sales, cost of sales and expenses and could result in foreign currency transaction gains or losses.

We cannot accurately predict future exchange rates or the overall impact of future exchange rate fluctuations on our business, results of operations and financial condition. To the extent that our international activities recorded in local currencies increase in the future, our exposure to fluctuations in currency exchange rates will correspondingly increase and hedging activities may be considered if appropriate.

Interest Rate Risk

We are exposed to the risk of interest rate fluctuations on the interest income earned on our cash and cash equivalents, and our revolving credit facility. A hypothetical 100 basis point movement in interest rates applicable to our cash and cash equivalents outstanding at December 31, 2019 would increase interest income by approximately $0.4 million on an annual basis. Borrowings under the revolving credit facility bear interest at a rate equal to, at our option, either (1) the arithmetic average of the LIBOR rate determined by reference to the costs of funds for U.S. dollar deposits for the interest period (one, three or six months (or 12 months if agreed to by all applicable Lenders)) as selected by us relevant to such borrowing plus the applicable margin, or (2) a base rate determined by reference to the greatest of the federal funds rate plus 0.50%, the prime commercial lending rate as determined by the Agent, and the daily LIBOR rate plus 1.00%, in each case plus an applicable margin and subject to a floor of 0.00%. We did not have any borrowings outstanding under the revolving credit facility as of December 31, 2019.

ITEM 8. *FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA*

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Synchronoss Technologies, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Synchronoss Technologies, Inc. (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive (loss) income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and financial statement schedule listed in the Index at Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated March 16, 2020 expressed an unqualified opinion thereon.

Adoption of ASU No. 2014-09

As discussed in Note 2 to the consolidated financial statements, on January 1, 2018 the Company changed its method of accounting for recognizing revenue in 2018 to the adoption of Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606), and the amendments in ASUs 2015-14, 2016-08, 2016-10 and 2016-12.

Adoption of ASU No. 2016-02

As discussed in Note 2 to the consolidated financial statements, the Company changed its method of accounting for leases in 2019 due to the adoption of Accounting Standards Update (ASU) No. 2016-02, Leases and associated amendments (Topic 842) using the modified retrospective method.

Basis for Opinion

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

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

/s/ Ernst & Young LLP
We have served as the Company's auditor since 2001.
Iselin, New Jersey
March 16, 2020

SYNCHRONOSS TECHNOLOGIES, INC.
CONSOLIDATED BALANCE SHEETS (In thousands, except per share data)

	December 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 38,990	$ 103,771
Restricted cash	11	6,089
Marketable securities, current	11	28,230
Accounts receivable, net of allowances for bad debt of $1,864 and $4,599 at December 31, 2019 and December 31, 2018, respectively*	65,863	102,798
Prepaid expenses	33,230	45,058
Other current assets	4,792	8,508
Total current assets	142,897	294,454
Marketable securities, non-current	—	6,658
Property and equipment, net	26,525	67,937
Operating lease right-of-use assets	53,965	—
Goodwill	222,969	224,899
Intangible assets, net	77,613	98,706
Other assets	8,054	8,982
Equity method investment	—	1,619
Total assets	$ 532,023	$ 703,255
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 21,551	$ 13,576
Accrued expenses	65,987	59,545
Deferred revenues, current	65,858	57,101
Short-term convertible debt, net of debt issuance costs	—	113,542
Total current liabilities	153,396	243,764
Lease financing obligation	—	9,494
Operating lease liabilities, non-current	60,976	—
Deferred tax liabilities	1,679	1,347
Deferred revenues, non-current	21,941	59,841
Other non-current liabilities	4,589	10,797
Redeemable noncontrolling interest	12,500	12,500
Commitments and contingencies		
Series A Convertible Participating Perpetual Preferred Stock, $0.0001 par value; 10,000 shares authorized; 217 shares issued and outstanding at December 31, 2019	200,865	176,603
Stockholders' equity:		
Common stock, $0.0001 par value; 100,000 shares authorized, 51,704 and 49,836 shares issued; 44,542 and 42,674 outstanding at December 31, 2019 and December 31, 2018, respectively	5	5
Treasury stock, at cost (7,162 and 7,162 shares at December 31, 2019 and December 31, 2018, respectively)	(82,087)	(82,087)
Additional paid-in capital	525,739	534,673
Accumulated other comprehensive loss	(33,261)	(30,383)
Accumulated deficit	(334,319)	(233,299)
Total stockholders' equity	76,077	188,909
Total liabilities and stockholders' equity	$ 532,023	$ 703,255

* See *Note 5. Investments in Affiliates and Related Transactions* for related party transactions reflected in this account.

See accompanying notes to consolidated financial statements.

SYNCHRONOSS TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Twelve Months Ended December 31,		
	2019	2018	2017
Net revenues	$ 308,749	$ 325,839	$ 402,361
Costs and expenses:			
Cost of revenues*	150,407	158,802	181,453
Research and development	75,568	79,172	90,850
Selling, general and administrative	112,771	122,112	154,037
Restructuring charges	755	12,375	10,739
Depreciation and amortization	77,036	117,654	94,884
Total costs and expenses	416,537	490,115	531,963
Loss from continuing operations	(107,788)	(164,276)	(129,602)
Interest income	1,258	7,770	12,502
Interest expense	(1,355)	(4,911)	(55,771)
Gain (loss) on extinguishment of debt	822	1,760	(29,413)
Other Income (expense), net	7,389	(74,917)	(17,678)
Equity method investment loss	(1,619)	(28,600)	(9,125)
Loss from continuing operations, before taxes	(101,293)	(263,174)	(229,087)
Benefit (provision) for income taxes	(2,174)	17,894	34,863
Net loss from continuing operations	(103,467)	(245,280)	(194,224)
Net income from discontinued operations, net of tax**	—	18,288	75,495
Net loss	(103,467)	(226,992)	(118,729)
Net (income) loss attributable to redeemable noncontrolling interests	(1,126)	8,837	9,291
Preferred stock dividend	(32,134)	(25,593)	—
Net loss attributable to Synchronoss	$ (136,727)	$ (243,748)	$ (109,438)
Earnings per share			
Basic:			
Continuing operations	$ (3.36)	$ (6.51)	$ (4.14)
Discontinued operations**	—	0.46	1.69
	$ (3.36)	$ (6.05)	$ (2.45)
Diluted:			
Continuing operations	$ (3.36)	$ (6.51)	$ (4.14)
Discontinued operations**	—	0.46	1.69
	$ (3.36)	$ (6.05)	$ (2.45)
Weighted-average common shares outstanding:			
Basic	40,694	40,277	44,669
Diluted	40,694	40,277	44,669

* Cost of revenues excludes depreciation and amortization which are shown separately.
** See Note 3. *Acquisitions and Divestitures* for transactions classified as discontinued operations

See accompanying notes to consolidated financial statements.

SYNCHRONOSS TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME
(In thousands)

	Twelve Months Ended December 31,		
	2019	2018	2017
Net loss	$ (103,467)	$ (226,992)	$ (118,729)
Other comprehensive (loss) income, net of tax:			
Foreign currency translation adjustments	(1,768)	(6,152)	17,027
Unrealized loss on available for sale securities	(710)	(37)	18
Net loss on intra-entity foreign currency transactions	(400)	(821)	1,932
Total other comprehensive income (loss)	(2,878)	(7,010)	18,977
Comprehensive loss	(106,345)	(234,002)	(99,752)
Comprehensive (income) loss attributable to redeemable noncontrolling interests	(1,126)	8,837	9,291
Comprehensive loss attributable to Synchronoss	$ (107,471)	$ (225,165)	$ (90,461)

See accompanying notes to consolidated financial statements.

SYNCHRONOSS TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)

	Common Stock		Treasury Stock		Additional	Accumulative Other		Total
	Shares	Amount	Shares	Amount	Paid-In Capital	Comprehensive Income (Loss)	Accumulated deficit	Stockholders' Equity
Balance at December 31, 2016	50,388	$ 5	(5,096)	$ (106,631)	$ 571,153	$ (42,350)	$ 107,620	$ 529,797
Cumulative effect of adjustment to retained earnings (ASU Adoption)	—	—	—	—	—	—	(3,196)	(3,196)
Stock based compensation	—	—	—	—	28,446	—	—	28,446
Issuance of restricted stock	1,565	—	—	—		—	—	—
Issuance of common stock on exercise of options	104	—	—	—	2,460	—	—	2,460
ESPP compensation	—	—	—	—	495	—	—	495
Sale of treasury stock in connection with an employee stock purchase plan	—	—	36	1,047		—	—	1,047
Shares withheld for taxes in connection with issuance of restricted stock	(29)	—	—	—	(442)	—	—	(442)
Fair value of awards assumed on acquisition	—	—	—	—	4,701	—	—	4,701
Other	—	—	—	—	31	—		31
Adjustments to redemption value of noncontrolling interest	—	—	—	—	(9,291)	—	—	(9,291)
Net loss attributable to Synchronoss	—	—	—	—	—	—	(109,438)	(109,438)
Total other comprehensive income (loss)	—	—	—	—		18,977	—	18,977
Balance at December 31, 2017	52,028	$ 5	(5,060)	$ (105,584)	$ 597,553	$ (23,373)	$ (5,014)	$ 463,587

	Common Stock		Treasury Stock		Additional	Accumulative Other		Total
	Shares	Amount	Shares	Amount	Paid-In Capital	Comprehensive Income (Loss)	Accumulated deficit	Stockholders' Equity
Balance at December 31, 2017	52,028	$ 5	(5,060)	$ (105,584)	$ 597,553	$ (23,373)	$ (5,014)	$ 463,587
Stock based compensation	—	—	—	—	27,201	—	—	27,201
Issuance of restricted stock	1,707	—	—	—	—	—	—	—
Preferred stock dividends	—	—	—	—	(24,331)	—	—	(24,331)
Amortization of preferred stock issuance costs	—	—	—	—	(1,262)	—	—	(1,262)
Retirement of treasury stock	(3,893)	—	3,893	68,327	(68,327)	—	—	—
Shares withheld for taxes in connection with issuance of restricted stock	(6)	—	—	—	(76)	—	—	(76)
Treasury shares received in connection with PIPE Purchase Agreement	—	—	(5,995)	(44,830)	—	—	—	(44,830)
Net loss attributable to Synchronoss	—	—	—	—	—	—	(218,155)	(218,155)
Non-controlling interest	—	—	—	—	3,943	—	—	3,943
Total other comprehensive loss	—	—	—	—	—	(7,059)	—	(7,059)
ASC 606 revenue recognition implementation impact	—	—	—	—	—	49	(10,130)	(10,081)
Other	—	—	—	—	(28)	—	—	(28)
Balance at December 31, 2018	49,836	$ 5	(7,162)	$ (82,087)	$ 534,673	$ (30,383)	$ (233,299)	$ 188,909

	Common Stock		Treasury Stock		Additional	Accumulative Other		Total
	Shares	Amount	Shares	Amount	Paid-In Capital	Comprehensive Income (Loss)	Accumulated deficit	Stockholders' Equity
Balance at December 31, 2018	49,836	$ 5	(7,162)	$ (82,087)	$ 534,673	$ (30,383)	$ (233,299)	$ 188,909
Stock based compensation	—	—	—	—	22,050	—	—	22,050
Issuance of restricted stock	1,863	—	—	—	—	—	—	—
Preferred stock dividends declared	—	—	—	—	(29,877)	—	—	(29,877)
Amortization of preferred stock issuance costs	—	—	—		(2,257)			(2,257)
Issuance of common stock on exercise of options	7	—	—	—	39	—	—	39
Shares withheld for taxes in connection with issuance of restricted stock	(2)	—	—	—	(15)	—	—	(15)
ASC 842 Lease implementation Adjustments	—	—	—	—	—	—	3,574	3,574
Net loss attributable to Synchronoss	—	—	—	—	—	—	(104,593)	(104,593)
Non-controlling interest	—	—	—	—	1,126	—	—	1,126
Total other comprehensive income (loss)	—	—	—	—	—	(2,878)	—	(2,878)
Other	—	—	—	—	—	—	(1)	(1)
Balance at December 31, 2019	51,704	$ 5	(7,162)	$ (82,087)	$ 525,739	$ (33,261)	$ (334,319)	$ 76,077

See accompanying notes to consolidated financial statements.

SYNCHRONOSS TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS (In thousands)

	Twelve Months Ended December 31,		
	2019	2018	2017
Operating activities:			
Net loss continuing operations	$ (103,467)	$ (245,280)	$ (194,224)
Net loss from discontinued operations	—	—	75,495
Gain (loss) on Sale of discontinued operations, net of tax	—	18,288	(122,842)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	77,037	97,092	93,924
Goodwill impairment	—	9,100	—
Impairment of long-lived assets and capitalized software	—	11,462	960
Change in fair value of financial instruments	(163)	(3,849)	4,367
Amortization of debt issuance costs	285	1,294	12,771
(Gain) loss on extinguishment of debt	(822)	(1,760)	29,413
Accrued PIK interest	—	(7,037)	(12,090)
Allowance for loan losses	—	84,314	14,562
Loss (earnings) from Equity method investments	1,619	28,600	9,125
(Gain) loss on Disposals of fixed assets	15	277	(4,947)
Discontinued operations non-cash and working capital adjustments*	—	—	48,647
(Gain) loss on Disposals of intangible assets	(5,429)	—	—
Amortization of bond premium	(34)	107	244
Deferred income taxes	357	(12,350)	19,243
Non-cash interest on leased facility	—		1,203
Stock-based compensation	22,287	27,604	22,495
Contingent consideration obligation	—	—	(2,711)
Cumulative adjustment to STI receivable	26,044	—	
ROU Asset Impairment	6,268	—	
Changes in operating assets and liabilities:			
Accounts receivable, net of allowance for doubtful accounts	10,891	(21,521)	29,283
Prepaid expenses and other current assets	18,209	(5,315)	(5,513)
Other assets	1,710	973	3,237
Accounts payable	8,879	6,846	(9,098)
Accrued expenses	2,115	(18,068)	(4,949)
Other liabilities	(4,362)	(4,675)	(3,337)
Deferred revenues	(28,856)	2,529	(23,506)
Net cash provided by (used in) operating activities	32,583	(31,369)	(18,248)
Investing activities:			
Purchases of fixed assets	(8,183)	(11,656)	(12,151)
Purchases of intangible assets and capitalized software	(13,008)	(14,372)	(9,119)
Proceeds from the sale of intangibles	5,429	—	—
Proceeds from the sale of Speechcycle	—	—	13,500
Purchases of marketable securities available for sale	(51,745)	(36,789)	(219)
Maturity of marketable securities available for sale	86,884	4,865	12,371
Proceeds from the sale of discontinued operations	—	—	928,171
Equity investment	—	404	608
Investing activities in discontinued operations*	—	—	(13,721)
Investment in note receivable	—	—	(6,187)
Business acquired, net of cash	—	(9,734)	(815,008)
Net cash provided by (used in) investing activities	19,377	(67,282)	98,245

Financing activities:			
Share-based compensation-related proceeds, net of taxes paid on withholding shares	39	—	2,584
Taxes paid on withholding shares	(15)	—	(442)
Payments on contingent consideration	—	—	(122)
Debt issuance costs related to the Credit Facility	—	—	(3,692)
Debt issuance costs related to long-term debt	—	—	(19,887)
Debt amendment costs related to long-term debt	—	—	(16,776)
Proceeds from issuance of convertible notes	—	—	900,000
Retirement of Convertible Senior Notes & related costs	(113,006)	(113,696)	—
Repayment of long-term debt	—	—	(900,000)
Borrowings on revolving line of credit	2,000	—	
Repayment of revolving line of credit	(2,000)	—	(29,000)
Excess tax benefits from stock option exercises	—	—	17
Proceeds from the sale of treasury stock in connection with an employee stock purchase plan	—	—	1,047
Proceeds from issuance of preferred stock	—	86,220	—
Preferred dividend payment	(7,075)	(7,075)	—
Proceeds from mandatorily redeemable financial instruments	—	—	33,592
Payments on capital obligations	(1,200)	(1,334)	(2,985)
Net cash used in financing activities	(121,257)	(35,885)	(35,664)
Effect of exchange rate changes on cash	(1,562)	(1,729)	(9,641)
Net decrease in cash and cash equivalents	(70,859)	(136,265)	34,692
Cash and cash equivalents, beginning of period	109,860	246,125	211,433
Cash and cash equivalents, end of period	$ 39,001	$ 109,860	$ 246,125
Supplemental disclosures of cash flow information:			
Cash paid for income taxes	$ 3,598	$ 22,549	$ 7,612
Cash refund for income taxes	$ 20,733	$ —	$ —
Cash paid for interest	$ 666	$ 3,258	$ 55,957
Supplemental disclosures of non-cash investing and financing activities:			
Paid in kind dividends on Series A Convertible Participating Perpetual Preferred Stock	$ 22,005	$ 7,075	$ —
Issuance of common stock in connection with Intralinks acquisition	$ —	$ —	$ 4,700
Cash and cash equivalents per Consolidated Balance Sheets	$ 38,990	$ 103,771	$ 156,299
Restricted cash	$ 11	$ 6,089	$ 89,826
Total cash, cash equivalents and restricted cash	$ 39,001	$ 109,860	$ 246,125

* See *Note 5. Investments in Affiliates and Related Transactions* for related party transactions reflected in this account.

See accompanying notes to consolidated financial statements.

1. Description of Business

General

Synchronoss Technologies, Inc. ("Synchronoss" or the "Company") Digital, Cloud, Messaging and IoT platforms help the world's leading companies, including operators, original equipment manufacturers ("OEMs"), and Media and Technology providers to deliver continuously transformative customer experiences that create high value engagement and new monetization opportunities.

The Company currently operates in and markets solutions and services directly through the Company's sales organizations in North America, Europe and Asia-Pacific. The Company's platforms give customers new opportunities in the Telecommunications, Media and Technology ("TMT") space, taking advantage of the rapidly converging services, connected devices, networks and applications.

The Company delivers platforms, products and solutions including:

- Digital experience management (Platform as a Service) - including digital journey creation, and journey design products that use analytics that power digital advisor products for IT and Business Channel Owners
- Cloud sync, backup, storage, device set up, content transfer and content engagement for user generated content
- Advanced, multi-channel messaging peer-to-peer ("P2P") communications and application-to-person ("A2P") commerce solutions
- IoT management technology for Smart Cities, Smart Buildings and more

The Synchronoss Digital Experience Platform ("DXP") is a purpose-built experience management toolset that sits between the customers' end-user facing applications and their existing back end systems, enabling the authoring and management of customer journeys in a cloud-native no/low-code environment. This platform uses products such as Journey Creator, Journey Advisor, CX Baseline and Digital Coach to create a wide variety of insight-driven customer experiences across existing channels (digital and analogue) including creating the ability to pause and resume continuous, intelligent experiences in an omni-channel environment. DXP can be operated by IT professionals and "citizen" developers (business analysts, etc.) enabling the Company's customers to bring more compelling and complex experiences to market in less time with fewer and more diverse resources in a real-time, collaborative environment.

The Synchronoss Personal Cloud Platform™ is a secure and highly scalable white label platform designed to store and sync subscriber's personally created content seamlessly to and from current and new devices. This allows a carrier's customers to protect, engage with and manage their personal content and gives the Company's Operator customers the ability to increase average revenue per user ("ARPU") through a new monthly recurring charge ("MRC") and opportunities to mine valuable data that will give subscribers access to new, beneficial services. Additionally, the Company's Personal Cloud Platform performs an expanding set of value-add services including facilitating an Operator's initial device setup and enhancing visibility and control across disparate devices within subscribers' smart homes.

The Synchronoss Messaging Platform powers hundreds of millions of subscribers' mail boxes worldwide. The Company's Advanced Messaging Product is a powerful, secure and intelligent white label messaging platform that expands capabilities for Operators and TMT companies to offer P2P messaging via Rich Communications Services ("RCS"). Additionally, the Company's Advanced Messaging Product powers commerce and a robust ecosystem for Operators, brands and advertisers to execute Application to Person ("A2P") commerce and data-rich dialogue with subscribers.

The Synchronoss IoT Platform creates an easy to use environment and extensible ecosystem making the management of disparate devices, sensors, data pools and networks easier to manage by IoT administrators and drives the propagation of new IoT applications and monetization models for TMT companies. The Company's IoT platform utilizes Synchronoss platforms (DXP, Cloud, Messaging), products and solutions to make IoT more accessible and actionable for Smart Building facility managers, Smart City planners, Automotive OEMs and TMT ecosystem players.

2. Summary of Significant Accounting Policies

Basis of Presentation and Consolidation

SYNCHRONOSS TECHNOLOGIES, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in tables in thousands, except for per share data or unless otherwise noted)

The consolidated financial statements include the accounts of the Company, its wholly-owned subsidiaries and variable interest entities ("VIE") in which the Company is the primary beneficiary and entities in which the Company has a controlling interest. Investments in less than majority-owned companies in which the Company does not have a controlling interest, but does have significant influence, are accounted for as equity method investments. Investments in less than majority-owned companies in which the Company does not have the ability to exert significant influence over the operating and financial policies of the investee are accounted for using the cost method. All material intercompany transactions and accounts are eliminated in consolidation. Certain prior year amounts have been reclassified to conform to the current year's presentation.

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

Revenue Recognition and Deferred Revenue

The Company generates revenue from the delivery of a range of products, solutions and services principally on a transactional or subscription basis ("SaaS") or in the form of Professional Services or Software Licenses. Revenues are recognized when persuasive evidence of an arrangement exists, delivery has occurred, fees are fixed or determinable and collection is considered probable.

Transactional and Subscription Service Arrangements: Transaction and subscription revenues consist of revenues derived from the processing of transactions through the Company's service platforms, providing enterprise portal management services on a subscription basis and maintenance agreements on software licenses. Transaction service arrangements include services such as processing equipment orders, new account set-up and activation, number port requests, credit checks and inventory management. Subscription services include monthly active user fees, SaaS fees, hosting and storage and the related maintenance support for those services.

Transaction revenues are principally based on a contractual price per transaction and are recognized based on the number of transactions processed during each reporting period. Revenues are recorded based on the total number of transactions processed at the applicable price established in the relevant contract. The total amount of revenue recognized is based primarily on the volume of transactions. Subscription revenues are recorded one of two ways: on a straight-line basis over the life of the contract or on a fixed monthly fee based on a set contracted amount.

Many of the Company's contracts guarantee minimum volume transactions from the customer. In these instances, if the customer's total transaction volume for the period is less than the contractual amount, the Company record revenues at the minimum guaranteed amount. Set-up fees for transactional service arrangements are deferred and recognized on a straight-line basis over the life of the contract since these amounts would not have been paid by the customer without the related transactional service arrangement. Revenues are presented net of discounts, which are volume level driven, or credits, which are performance driven, and are determined in the period in which the volume thresholds are met, or the services are provided.

Professional Service and Software License Arrangements: Professional services include process and workflow consulting services and development services. Professional services when sold with transactional or subscription service arrangements are accounted for separately when the professional services have value to the customer on a standalone basis and there is objective and reliable evidence of fair value of the professional services. When accounted for separately, professional service revenues are recognized as services are performed and all other elements of revenue recognition have been satisfied.

In determining whether professional service revenues can be accounted for separately from transaction or subscription service revenues, the Company considers the following factors for each professional services agreement: availability of the professional services from other vendors, whether objective and reliable evidence of fair value exists of the undelivered elements, the nature of the professional services, the timing of when the professional services contract was signed in comparison to the transaction or subscription service start date and the contractual independence of the transactional or subscription service from the professional services.

If a professional service arrangement were not to qualify for separate accounting, the Company would recognize the professional service revenues ratably over the remaining term of the transaction or subscription agreement.

Multiple Element Arrangements: Revenue from software license arrangements is recognized when the license is delivered to the customers and all of the software revenue recognition criteria are met. When software arrangements include multiple elements, the arrangement consideration is allocated at the inception to all deliverables using the residual method provided the Company has vendor specific objective evidence ("VSOE") on all undelivered elements. The Company determines VSOE for each element based on historical stand-alone sales to third parties.

When transaction or subscription service arrangements, include multiple elements, the arrangement consideration is allocated at the inception of an arrangement to all deliverables using the relative selling price method. The relative selling price method allocates any discount in the arrangement proportionally to each deliverable on the basis of each deliverable's selling price. The selling price used for each deliverable will be based on VSOE if available, third-party evidence ("TPE") if vendor- specific objective evidence is not available or estimated selling price ("ESP") if neither vendor-specific objective evidence nor third-party evidence is available. The objective of ESP is to determine the price at which the Company would transact a sale if the product or service were sold on a stand-alone basis. The Company determines ESP by considering multiple factors including, but not limited to, geographies, market conditions, competitive landscape, internal costs, gross margin objectives, and pricing practices. ESP is generally used for offerings that are not typically sold on a stand-alone basis or for new or highly customized offerings.

While specific and detailed rules and guidelines related to revenue recognition are followed, the Company makes and uses management judgments and estimates in connection with the revenue recognized in any reporting period, particularly in the areas described above, as well as collectability. If management made different estimates or judgments, differences in the timing of the recognition of revenue could occur.

Deferred Revenue

Deferred revenues represent billings to customers for services in advance of the performance of services, with revenues recognized as the services are rendered, and also include the fair value of deferred revenues recorded as a result of acquisitions.

Service Level Standards

Pursuant to certain contracts, the Company is subject to service level standards and to corresponding penalties for failure to meet those standards. All performance-related penalties are reflected as a corresponding reduction of the Company's revenues. These penalties, if applicable, are recorded in the month incurred and were insignificant for the years ended December 31, 2019, 2018 and 2017, respectively.

Cost of Revenues

Cost of services includes all direct materials, direct labor and those indirect costs related to revenues such as indirect labor, materials and supplies and facilities cost, exclusive of depreciation expense.

Research and Development

Software development costs are accounted for in accordance with either ASC 985-20, *"Software - Costs of Software to be Sold, Leased or Marketed,"* or ASC 350-40, *"Internal-Use Software."* Costs associated with the planning and designing phase of software development are classified as research and development costs and are expensed as incurred. The amounts capitalized include external direct costs of services used in developing internal-use software, employee compensation and related expenses of personnel directly associated with the development activities. Once technological feasibility has been determined, a portion of the costs incurred in development, including coding, testing and quality assurance, are capitalized until available for general release to clients.

Amortization is calculated on a solution-by-solution basis and is recognized over the estimated economic life of the software, typically ranging two to three years. Amortization begins when the software is substantially completed for its intended use. Costs

SYNCHRONOSS TECHNOLOGIES, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in tables in thousands, except for per share data or unless otherwise noted)

incurred during the preliminary and post-implementation stages are expensed as incurred. The amounts capitalized include external direct costs of services used in developing internal-use software, employee compensation and related expenses of personnel directly associated with the development activities. Software development costs are evaluated for recoverability whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable. Unrecoverable costs are reviewed annually and recognized in the period they become unrecoverable, as needed, and are recorded in the Consolidated Statements of Operations as depreciation and amortization expense.

The unamortized software development costs and amortization expense were as follows:

	Year ended December 31,		
	2019	2018	2017
Unamortized software development costs	$ 22,240	$ 17,490	$ 11,695
Software development amortization expense	8,258	8,123	3,178

The Company recognized impairment charges to its capitalized software intangible assets, of nil, $0.5 million and $1.0 million for the years ended December 31, 2019, 2018 and 2017, respectively. The Company includes these impairments within the depreciation and amortization in its Consolidated Statements of Operations.

Concentration of Credit Risk

The Company's financial instruments that are exposed to concentration of credit risk consist primarily of cash and cash equivalents, marketable securities and accounts receivable. The Company maintains its cash and cash equivalents at several major financial institutions. The Company has not experienced any realized losses in such accounts and believes it is not exposed to any significant credit risk related to cash, cash equivalents and securities. The Company's cash equivalents and short-term marketable securities consist primarily of money market funds, certificates of deposit, commercial paper, and municipal and corporate bonds. The Company believes that concentration of credit risk with respect to accounts receivable is limited because of the creditworthiness of its major customers.

The Company's top five customers accounted for 69.2%, 69.0% and 73.0% of net revenues for the years ended December 31, 2019, 2018 and 2017, respectively. Contracts with these customers typically run for three to five years. Of these customers, Verizon accounted for more than 10% of the Company's revenues in 2019, 2018, and 2017.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with an original maturity of three months or less at the date of acquisition to be cash equivalents.

Restricted Cash

Restricted cash includes amounts related to various deposits, escrows and other cash collateral that are restricted by contractual obligation. As of December 31, 2019, the restricted cash amounts were primarily attributed to cash held in transit, and operating cash held by the Company's consolidated joint venture Zentry, LLC ("Zentry"), which cannot be used to fulfill the obligations of the Company as a whole.

Accounts Receivable

Accounts receivable include current notes, amounts billed to customers, claims, and unbilled revenue, which consists of amounts recognized as sales but not yet billed. Substantially all amounts of unbilled receivables are expected to be billed and collected in the subsequent year. The Company had unbilled receivable balances of $5.1 million and $4.5 million as of December 31, 2019 and 2018, respectively.

Fair Value of Financial Instruments and Liabilities

The Company includes disclosures of fair value information about financial instruments and liabilities, whether or not recognized on the Consolidated Balance Sheets, for which it is practicable to estimate that value. Due to their short-term nature, the carrying amounts reported in the financial statements approximate the fair value for cash and cash equivalents, marketable securities, accounts receivable and accounts payable.

Derivatives

The Company evaluates convertible instruments, options, warrants or other contracts to determine if those contracts or embedded components of those contracts qualify as derivatives to be separately accounted for under Accounting Standards Codification ("ASC") Topic 815, "Derivatives and Hedging." The result of this accounting treatment is that the fair value of the derivative is marked-to-market each balance sheet date and recorded as a liability. In the event that the fair value is recorded as a liability, the change in fair value is recorded in the Consolidated Statements of Operations as other income (expense). Upon conversion or exercise of a derivative instrument, the instrument is marked to fair value at the conversion date and then that fair value is reclassified to equity. Equity instruments that are initially classified as equity that become subject to reclassification under ASC Topic 815 are reclassified to liabilities at the fair value of the instrument on the reclassification date.

Allowance for Doubtful Accounts

The Company maintains an allowance for estimated losses resulting from the inability of its customers to make required payments. The Company estimates uncollectible amounts based upon historical bad debts, current customer receivable balances, the age of customer receivable balances, the customer's financial condition and current economic trends.

Property and Equipment

Property and equipment and leasehold improvements are stated at cost, net of accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, which range from 3 to 5 years, or the lesser of the related initial term of the lease or useful life for leasehold improvements. Amortization of property and equipment recorded under a capital lease is included with depreciation expense. Expenditures for routine maintenance and repairs are charged against operations, while major replacements, improvements and additions are capitalized.

Noncontrolling Interests and Mandatorily Redeemable Financial Instruments

Noncontrolling interests ("NCI") are evaluated by the Company and are shown as either a liability, temporary equity (shown between liabilities and equity) or as permanent equity depending on the nature of the redeemable features at amounts based on formulas specific to each entity. Generally, mandatorily redeemable NCIs are classified as liabilities and non-mandatorily redeemable NCIs are classified outside of stockholders' equity in the Consolidated Balance Sheets as temporary equity under the caption, redeemable noncontrolling interests, and are measured at their redemption values at the end of each period. If the redemption value is greater than the carrying value, an adjustment is recorded in retained earnings to record the NCI at its redemption value. Redeemable NCIs that are mandatorily redeemable are classified as a liability in the Consolidated Balance Sheets under either other current liabilities or other long-term liabilities, depending on the remaining duration until settlement, and are measured at the amount of cash that would be paid if settlement occurred at the balance sheet date with any change from the prior period recognized as interest expense.

If the noncontrolling interest is not currently redeemable yet probable of becoming redeemable, the Company is required to either (1) accrete changes in the redemption value over the period from the date of issuance to the earliest redemption date of the

instrument using an appropriate methodology, usually the interest method, or (2) recognize changes in the redemption value immediately as they occur and adjust the carrying value of the security to equal the redemption value at the end of each reporting period. The Company has elected to recognize changes in the redemption value immediately as they occur and adjust the carrying value of the noncontrolling interest to the greater of the estimated redemption value, which approximates fair value, at the end of each reporting period or the initial carrying amount.

Net income attributable to NCIs reflects the portion of the net income (loss) of consolidated entities applicable to the NCI stockholders in the accompanying Consolidated Statements of Operations. The net income attributable to NCI is classified in the Consolidated Statements of Operations as part of consolidated net income and deducted from total consolidated net income to arrive at the net income attributable to the Company.

Business Combinations

The Company accounts for business combinations in accordance with the acquisition method. The acquisition method of accounting requires that assets acquired, liabilities assumed and any noncontrolling interest in the acquiree (if any), be recorded at their fair values on the date of a business acquisition. The Company's consolidated financial statements and results of operations reflect an acquired business from the completion date of the transaction.

The judgments that the Company makes in determining the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact net income in periods following a business combination. The Company generally uses either the income, cost or market approach to aid in its conclusions of such fair values and asset lives. The income approach presumes that the value of an asset can be estimated by the net economic benefit to be received over the life of the asset, discounted to present value. The cost approach presumes that an investor would pay no more for an asset than its replacement or reproduction cost. The market approach estimates value based on what other participants in the market have paid for reasonably similar assets. Although each valuation approach is considered in valuing the assets acquired, the approach ultimately selected is based on the characteristics of the asset and the availability of information.

The Company records contingent consideration resulting from a business combination at its fair value on the acquisition date. Each reporting period thereafter, the Company revalues these obligations and records increases or decreases in their fair value as an adjustment to net change in contingent consideration obligation within the Consolidated Statements of Operations. Changes in the fair value of the contingent consideration obligation can result from updates in the achievement of financial or other operational targets and changes to the weighted probability of achieving those future targets. Significant judgment is employed in determining the appropriateness of these assumptions as of the acquisition date and for each subsequent period. Accordingly, any change in the assumptions described above, could have a material impact on the amount of the net change in contingent consideration obligation that the Company records in any given period.

Discontinued Operations

The Company generally classifies a disposal transaction as discontinued operation in the consolidated financial statements when it qualifies as a component of the Company, meets the held for sale criteria, is disposed of by sale, or is disposed of other than by sale and it represents a strategic shift that has a major effect on the Company's operations and financial results. Insignificant and non-strategic shifting divestitures are not classified within discontinued operations.

Investments in Affiliates and Other Entities

In the normal course of business, Synchronoss enters into various types of investment arrangements, each having unique terms and conditions. These investments may include equity interests held by Synchronoss in business entities, including general or limited partnerships, contractual ventures, or other forms of equity participation. Synchronoss determines whether such investments involve a variable interest entity ("VIE") based on the characteristics of the subject entity. If the entity is determined to be a VIE, then management determines if Synchronoss is the primary beneficiary of the entity and whether or not consolidation of the VIE is required. The primary beneficiary consolidating the VIE must normally have both (i) the power to direct the activities of a VIE that most significantly affect the VIE's economic performance and (ii) the obligation to absorb losses of the VIE or the right to receive benefits from the VIE, in either case that could potentially be significant to the VIE. When Synchronoss is deemed to be the primary beneficiary, the VIE is consolidated and the other party's equity interest in the VIE is accounted for as a noncontrolling interest.

The Company generally accounts for investments it makes in VIEs in which it has determined that it does not have a controlling financial interest but has significant influence over and holds at least a 20% ownership interest using the equity method. Any such investment not meeting the parameters to be accounted under the equity method would be accounted for using the cost method unless the investment had a readily determinable fair value, at which it would then be reported.

If an entity fails to meet the characteristics of a VIE, the Company then evaluates such entity under the voting model. Under the voting model, the Company consolidates the entity if they determine that they, directly or indirectly, have greater than 50% of the voting shares, and determine that other equity holders do not have substantive participating rights.

Allowance for Loan Losses

The Company's allowance for credit losses relates to the related party note receivable and is based on the probable estimated losses that may be incurred. The allowance is based on two basic principles of accounting: (1) ASC Topic 450, "Accounting for Contingencies", which requires that losses be accrued when they are probable of occurring and estimable, and (2) ASC Topic 310, "Accounting by Creditors for Impairment of a Loan", which requires that losses be accrued based on the differences between the value of collateral and the present value of future cash flows.

The allowance for loan losses is established to estimate losses that may occur by recording a provision for loan losses that is charged to earnings in the period known. The allowance is evaluated by management taking into consideration adverse situations that may affect the borrower's ability to repay and the estimated value of any underlying collateral. This evaluation is inherently subjective as it requires estimates that are susceptible to significant revision as more information becomes available. Measured impairment and credit losses are charged against the allowance when management believes to the extent amounts are not collectible.

Goodwill

Goodwill represents the excess of the purchase price over the fair value of assets acquired, including other definite-lived intangible assets. Goodwill is reviewed for impairment annually as of October 1st of each year or when an interim triggering event has occurred indicating potential impairment. The Company has concluded that it has two operating segments and one reportable segment because the aggregation criteria and the quantitative threshold test was met. The Company tests for goodwill impairment on each of its reporting units, which is at the operating segment or one level below the operating segment.

During the Company's qualitative assessment, the Company makes significant estimates, assumptions, and judgments, around the financial performance of the Company, changes in share price, and forecasts of earnings, working capital requirements, and cash flows. The Company considers each reporting unit's historical results and operating trends as well as any strategic difference from the Company's historical results when determining these assumptions.

The Company can opt to perform a qualitative assessment to test a reporting unit's goodwill for impairment or the Company can directly perform the quantitative impairment test. If the Company determines that the fair value of a reporting unit is more likely than not to be less than its carrying amount, a quantitative impairment test is performed.

Fair value estimates used in the quantitative impairment test are calculated using a combination of the income and market approaches. The income approach is based on the present value of future cash flows of each reporting unit, while the market approach is based on certain multiples of selected guideline public companies or selected guideline transactions. The approaches incorporate a number of market participant assumptions including future growth rates, discount rates, income tax rates and market activity in assessing fair value and are reporting unit specific. If the carrying amount exceeds the reporting unit's fair value, the Company recognizes an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value.

The fair value measurement associated with the quantitative goodwill impairment test is based on significant inputs that are not observable in the market and thus represents a Level 3 measurement. Significant changes in the underlying assumptions used to value goodwill could significantly increase or decrease the fair value estimates used for impairment assessments.

In order to assess the reasonableness of the estimated fair value of the Company's reporting units, the Company compares the aggregate reporting unit fair value to the Company's market capitalization on an overall basis and calculates an implied control premium (the excess of the sum of the reporting units' fair value over the Company's market capitalization on an overall basis). The Company evaluates the control premium by comparing it to observable control premiums from recent comparable transactions. If the implied control premium is determined to not be reasonable in light of these recent transactions, the Company re-evaluates its reporting unit fair values, which may result in an adjustment to the discount rate and/or other assumptions.

This re-evaluation could result in a change to the estimated fair value for certain or all reporting units. If the fair value of a reporting unit exceeds the carrying amount of the net assets assigned to that reporting unit, goodwill is not impaired.

If the fair value of the reporting unit is less than its carrying amount, goodwill is impaired and the excess of the reporting unit's carrying value over the fair value is recognized as an impairment loss.

The Company recorded a nil, $9.1 million and nil impairment charge on the Zentry joint venture for the years ended December 31, 2019, 2018 and 2017, respectively. For further details, see *Note 7. Goodwill and Intangibles*.

Impairment of Long-Lived Assets

A review of long-lived assets for impairment is performed when events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. If an indication of impairment is present, the Company compares the estimated undiscounted future cash flows to be generated by the asset to the asset's carrying amount. If the undiscounted future cash flows are less than the carrying amount of the asset, the Company records an impairment loss equal to the amount by which the asset's carrying amount exceeds its fair value. The fair value is determined based on valuation techniques such as a comparison to fair values of similar assets or using a discounted cash flow analysis.

This fair value measurement is based on significant inputs that are not observable in the market and thus represents a Level 3 measurement. Significant changes in the underlying assumptions used to value long lived assets could significantly increase or decrease the fair value estimates used for impairment assessments.

Long lived assets that do not have indefinite lives are amortized/depreciated over their useful lives and reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. The Company reevaluates the useful life determinations each year to determine whether events and circumstances warrant a revision to the remaining useful lives.

Income Taxes

On December 22, 2017, the U.S. government enacted TCJA. The TCJA makes changes to the corporate tax rate, business-related deductions and taxation of foreign earnings, among others, that will generally be effective for taxable years beginning after December 31, 2017. While our accounting for the recorded impact of the TCJA is deemed to be complete as of December 31, 2018, these amounts are based on prevailing regulations and currently available information, and any additional guidance issued by the Internal Revenue Service (IRS) could impact our recorded amounts in future periods. In 2018, the impact of the TCJA was minor due to the losses incurred and the valuation allowance position.

Since the Company conducts operations on a global basis, the effective tax rate has, and will depend upon, the geographic distribution of pre-tax earnings among locations with varying tax rates. The Company accounts for the effects of income taxes that result from activities during the current and preceding years. Under this method, deferred income tax liabilities and assets are based on the difference between the financial statement carrying amounts and the tax basis of assets and liabilities using enacted tax rates in effect in the years in which the differences are expected to reverse or be utilized. The realization of deferred tax assets is contingent upon the generation of future taxable income. A valuation allowance is recorded if it is "more likely than not" that a portion or all of a deferred tax asset will not be realized.

In evaluating the Company's ability to recover deferred tax assets within the jurisdiction from which they arise, the Company considers all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax-planning strategies, and results of recent operations. In projecting future taxable income, the Company begins with historical results and incorporate assumptions including the amount of future state, federal and foreign pretax operating income, the reversal of temporary differences, and the implementation of feasible and prudent tax-planning strategies. These assumptions require significant judgment about the forecasts of future taxable income and are consistent with the plans and estimates the Company is using to manage the underlying businesses. In evaluating the objective evidence that historical results provide, the Company considers three years of cumulative operating loss.

The Company recognizes a tax benefit from an uncertain tax position only if it is more likely than not to be sustained upon examination based on the technical merits of the position. The amount of the accrual for which an exposure exists is measured by determining the amount that has a greater than 50 percent likelihood of being realized upon the settlement of the position. Components of the reserve are classified as current or a long-term liability in the Consolidated Balance Sheets based on when the Company expects each of the items to be settled. The Company records interest and penalties accrued in relation to uncertain tax benefits as a component of interest expense.

While the Company believes it has identified all reasonably identifiable exposures and that the reserve it has established for identifiable exposures is appropriate under the circumstances, it is possible that additional exposures exist and that exposures may be settled at amounts different than the amounts reserved. It is also possible that changes in facts and circumstances could cause it to either materially increase or reduce the carrying amount of tax reserves. In general, tax returns for the year 2016 and thereafter are subject to future examination by tax authorities.

The Company's policy has been to leave the cumulative unremitted foreign earnings invested indefinitely outside the United States, and it intends to continue this policy. Although the transition tax in the TCJA has removed U.S. federal taxes on distributions to the U.S. on a go forward, the Company continues to assert permanent reinvestment on foreign earnings. Due to the timing and circumstances of repatriation of such earnings, if any, it is not practicable to determine the unrecognized deferred tax liability relating to such amounts.

Standards issued not yet adopted

Standard	Description	Effect on the financial statements
Update 2019-12 - Income Taxes (Topic 740) Simplifying the Accounting for Income Taxes	The ASU removes the exception to the general principles in ASC 740, Income Taxes, associated with the incremental approach for intra-period tax allocation, accounting for basis differences when there are ownership changes in foreign investments and interim-period income tax accounting for year-to-date losses that exceed anticipated losses. In addition, the ASU improves the application of income tax related guidance and simplifies U.S. GAAP when accounting for franchise taxes that are partially based on income, transactions with government resulting in a step-up in tax basis goodwill, separate financial statements of legal entities not subject to tax, and enacted changes in tax laws in interim periods. Different transition approaches, retrospective, modified retrospective, or prospective, will apply to each income tax simplification provision.	The Company is still evaluating these changes and does not anticipate any material impact on the Company's consolidated financial position or results of operations upon adoption.
Date of adoption: January 1, 2021.		

Foreign Currency

The functional currency of non-U.S. entities is translated into U.S. dollars for balance sheet accounts using the month end rates in effect as of the balance sheet date and average exchange rate for revenue and expense accounts for each respective period. The translation adjustments are deferred as a separate component of stockholders' equity within accumulated other comprehensive income.

Gains or losses resulting from transactions denominated in foreign currencies are included in other income or expense, within the Consolidated Statements of Operations and were as follows:

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(Amounts in tables in thousands, except for per share data or unless otherwise noted)

	Twelve Months Ended December 31,		
	2019	2018	2017
Net gain (loss) on foreign currency translations	$ 31	$ (478)	$ (4,952)

Comprehensive Income (Loss)

Reporting on comprehensive income requires components of other comprehensive income, including unrealized gains or losses on available-for-sale securities, to be included as part of total comprehensive income. Comprehensive income is comprised of net income, translation adjustments and unrealized gains and losses on available-for-sale securities. The components of comprehensive income are included in the Consolidated Statements of Comprehensive Income (Loss).

Basic and Diluted Net Income Attributable to Common Stockholders per Common Share

Basic EPS is computed based upon the weighted average number of common shares outstanding for the year, excluding amounts associated with restricted shares.

Diluted EPS is computed based upon the weighted average number of common shares outstanding for the year plus the potential dilutive effect of common stock equivalents using the treasury stock method and the average market price of the Company's common stock for the year. The potential dilutive effect of common stock includes stock options, convertible debt and unvested restricted stock. The dilutive effects of stock options and restricted stock awards are based on the treasury stock method. The dilutive effect of the assumed conversion of convertible debt is determined using the if-converted method. The after-tax effect of interest expense related to the convertible securities is added back to net income, and the convertible debt is assumed to have been converted into common shares at the beginning of the period.

The Company includes participating securities (Redeemable Convertible Preferred Stock - Participation with Dividends on Common Stock that contain preferred dividend) in the computation of EPS pursuant to the two-class method. The two-class method of computing earnings per share is an allocation method that calculates earnings per share for common stock and participating securities. During periods of net loss, no effect is given to the participating securities because they do not share in the losses of the Company.

Stock-Based Compensation

As of December 31, 2019, the Company maintains eight stock-based compensation plans.

The Company utilizes the Black-Scholes pricing model to determine the fair value of stock options on the dates of grant. Restricted stock awards are measured based on the fair market values of the underlying stock on the dates of grant. The Company recognizes stock-based compensation over the requisite service period with an offsetting credit to additional paid-in capital.

For the Company's performance restricted stock awards, the Company estimates the number of shares the recipient is to receive by applying a probability of achieving the performance goals. The actual number of shares the recipient receives is determined at the end of the performance period based on the results achieved versus goals based on the performance targets, such as revenues and earnings before interest, tax, depreciation and amortization ("EBITDA") after certain adjustments. Once the number of awards is determined, the compensation cost is fixed and continues to be recognized using straight line recognition over the requisite service period for each vesting tranche.

During 2017, the Board approved the issuance of performance-based restricted stock to certain executives which are eligible to vest if the volume-weighted average closing price over 20 consecutive trading days equals or exceeds certain stock prices during the specific performance period from July 2017 to July 2019. The Company utilized the Monte Carlo simulation to estimate the fair value of the restricted stock on its grant date.

Use of a valuation model requires management to make certain assumptions with respect to selected model inputs. Expected volatility was calculated based on historical information of the Company's stock. The average expected life was determined using historical stock option exercise activity. The risk-free interest rate is based on U.S. Treasury zero-coupon issues with a remaining term equal to the expected life assumed at the date of grant. The Company has never declared or paid cash dividends on the common or preferred equity and does not anticipate paying any cash dividends in the foreseeable future. Forfeitures are accounted for as they occur.

(Amounts in tables in thousands, except for per share data or unless otherwise noted)

Recently Issued Accounting Standards

Recent accounting pronouncements adopted

Standard	Description	Effect on the financial statements
Update 2018-07—Compensation—Stock Compensation (Topic 718): Improvements to Non-employee Share-Based Payment Accounting Date of adoption: January 1, 2019.	In June 2018, the Financial Accounting Standards Board ("FASB") issued ASU 2018-07, regarding ASC Topic 718 "Compensation - Stock Compensation," which largely aligns the accounting for share-based compensation for non-employees with employees. The amendments in this ASU are effective for public business entities for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted, but no earlier than an entity's adoption date of Topic 606.	The adoption of this standard did not have a material effect on the Company's consolidated financial statements.
ASU 2018-15 Intangibles - Goodwill and Other - Internal Use Software (Subtopic 350-40): Cloud Computing Arrangements Date of adoption: January 1, 2019.	In August 2018, the FASB issued final guidance requiring a customer in a cloud computing arrangement that is a service contract to follow the internal use software guidance in Accounting Standards Codification ("ASC") 350-402 Intangibles - Goodwill and Other - Internal Use Software (Subtopic 350-40) to determine which implementation costs to capitalize as assets. The amendments in this ASU are effective for fiscal years beginning after December 15, 2019. Early adoption of the amendments is permitted, including adoption in any interim period, for all entities and should be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption.	The adoption of this standard did not have a material effect on the Company's consolidated financial statements.

Revenue

In May 2014, the FASB issued a new accounting standard related to revenue recognition, ASU 2014-09, "Revenue from Contracts with Customers," ("Topic 606"). The new standard supersedes the existing revenue recognition requirements under U.S. GAAP and requires entities to recognize revenue when they transfer control of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. It also requires increased disclosures regarding the nature, amount, timing, and uncertainty of revenues and cash flows arising from contracts with customers.

On January 1, 2018, the Company adopted Topic 606 applying the modified retrospective method to all contracts that were not completed as of January 1, 2018. Results for reporting periods beginning after January 1, 2018 are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported under the accounting standards in effect for the prior period. The Company recorded a net reduction to opening retained earnings of approximately $10.1 million as of January 1, 2018 due to the cumulative impact of adopting Topic 606. The impact to revenues for the year ended December 31, 2018 was an increase of $29.4 million as a result of adopting Topic 606. The impact to costs was not material.

The impact of adoption primarily relates to (1) the delayed pattern of recognition under Topic 606 for certain professional services revenue when such professional services involve the customization of features and functionality for subscription services customers, and (2) the earlier pattern of recognition under Topic 606 for license revenue when the Company provides hosting services for on-premise license customers. In the case of professional services that involve the customization of features and functionality for subscription services, under historic accounting policies the professional services were considered to have standalone value, and as a result were recognized as the services were performed. Under Topic 606, such professional services are not considered to be a distinct performance obligation within the context of the subscription services contract, and as such each month's customization services revenue is recognized over the shorter of the estimated remaining life of the subscription software

(typically three years) or the remaining term of the subscription services contract. In the case of license contracts sold in association with hosting, under historic accounting policies the license revenue was recognized over the hosting term due to the lack of vendor specific objective evidence ("VSOE") of fair value for the hosting services. Under Topic 606, VSOE is no longer required in order separate revenue between the license and the hosting elements, and the license revenue is generally recognized upon delivery of the software based on the relative allocation of the contract price based on the established standalone selling price ("SSP").

Additional impacts of adoption include (1) in certain cases changes in the amount allocated to the various performance obligations in accordance with the relative standalone selling price method required by Topic 606 compared to the amount allocated to the various elements in accordance with the residual method or the relative selling price method, as applicable, under historic accounting policies, (2) the capitalization and subsequent amortization of certain sales commissions as costs to obtain a contract under ASC 340-40, whereas under historic accounting policies all such amounts were expensed as incurred (3) the timing and amount of revenue recognition for certain sales contracts that are considered to involve variable consideration under Topic 606, but were considered to either not be fixed or determinable or to involve contingent revenue features under historic accounting policies, (4) in certain limited cases, the accounting for discounted customer options to purchase future software or services as material rights under Topic 606, as well as (5) the income tax impact of the above items, as applicable.

Changes in accounting policies as a result of adopting Topic 606 and nature of goods

The following is a description of principal activities from which the Company generates revenue. Revenues are recognized when control of the promised goods or services are transferred to the Company's customers, in an amount that reflects the consideration that the Company expects to receive in exchange for those goods or services. The Company generates all of its revenue from contracts with customers.

Subscription and Transaction revenues consist of revenues derived from the processing of transactions through the Company's service platforms, providing enterprise portal management services on a subscription basis and maintenance agreements on software licenses. The Company generates revenue from Subscription services from monthly active user fees, software as a service ("SaaS") fees, hosting and storage fees, and fees for the related maintenance support for those services. In most cases, the subscription or transaction arrangement is a single performance obligation comprised of a series of distinct services that are substantially the same and that have the same pattern of transfer (i.e., distinct days of service). The Company applies a measure of progress (typically time-based) to any fixed consideration and allocates variable consideration to the distinct periods of service based on usage, under Topic 606 Section 10-25-14(b). When the Company does not allocate variable consideration to distinct periods of service, the total estimated transaction price is recognized ratably over the term of the contract, where the level of service provided to the customer does not vary significantly from one period to another.

Transaction service arrangements include services such as processing equipment orders, new account set-up and activation, number port requests, credit checks and inventory management.

Transaction revenues are principally based on a contractual price per transaction and are recognized based on the number of transactions processed during each reporting period. Revenues are recorded based on the total number of transactions processed at the applicable price established in the relevant contract.

Many of the Company's contracts guarantee minimum volume transactions from the customer. In these instances, if the customer's total estimated transaction volume for the period is expected to be less than the contractual amount, the Company records revenues at the minimum guaranteed amount on a straight line based over the period covered by the minimum. Set-up fees for transactional service arrangements are deferred until set up activities are completed and recognized on a straight-line basis over remaining expected customer relationship period. Revenues are presented net of discounts, which are volume level driven.

(Amounts in tables in thousands, except for per share data or unless otherwise noted)

In accordance with Topic 606 Section 10-50-20, any credits due to customers, which are generally performance driven and based upon system availability or response times to incidents, are determined and accounted for in the period in which the services are provided. The Company recognizes revenues from support and maintenance performance obligations over the service delivery period.

The Company's software licenses typically provide for a perpetual or term right to use the Company's software. The Company has concluded that in most cases its software license is distinct as the customer can benefit from the software on its own. Software revenue is typically recognized when the software is delivered to the customer. Contracts that include software customization or specified upgrades may result in the combination of the customization services with the software license as one performance obligation. The Company does not have a history of returns, or refunds of is software licenses, however, in limited instances, the Company may constrain consideration to high-risk customers, until collection is resolved.

The Company's professional services include software development and customization. The contracts generally include project deliverables specified by each customer. The performance obligations in the agreements are generally combined into one deliverable and generally result in the transfer of control over time. The underlying deliverable is owned and controlled by the customer and does not create an asset with an alternative use to us. The Company recognizes revenue on fixed fee contracts on the proportion of labor hours expended to the total hours expected to complete the contract performance obligation.

Most of the Company's contracts with customers contain multiple performance obligations which generally include either 1) a perpetual software license with support and maintenance and sometimes a hosting agreement or 2) a term SaaS agreement, in many cases these are sold along with professional services. For these contracts, the Company accounts for individual goods and services separately if they are distinct performance obligations. This often requires significant judgment based upon knowledge of the products, the solution provided and the structure of the sales contract. In SaaS agreements, the Company provides a service to the customer which combines the software functionality, maintenance and hosting into a single performance obligation when the customer doesn't have the ability to take possession of the underlying software license. The Company may also sell the same three goods and services in a contract, but there may be three performance obligations, where the customer has the right to take possession of the software license without significant penalty.

The transaction price is allocated to the separate performance obligations on a relative standalone selling price basis. The Company estimates standalone selling prices of software based on observable inputs of past transactions to similarly situated customers. When such observable data is not available for certain software licenses because there is a limited number of transactions or prices are highly variable, the Company will estimate the standalone selling price using the residual approach. Standalone selling prices of services are typically determined based on observable transactions when these services are sold on a standalone basis to similarly situated customers or estimated using a cost-plus margin approach.

Estimating the transaction price of variable consideration including the variable quantity subscription or transaction contracts in a multiple performance obligation arrangement requires significant judgment. The Company generally estimates this variable consideration at the most likely amount to which the Company expects to be entitled and in certain cases based on the expected value. The Company includes estimated amounts in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. The Company's estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of the Company's anticipated performance and all information (historical, current and forecasted) that is reasonably available. The Company reviews and update these estimates on a quarterly basis.

The Company's typical performance obligations include the following:

Performance Obligation	When Performance Obligation is Typically Satisfied	When Payment is Typically Due	How Standalone Selling Price is Typically Estimated
Software License			
Software License	Upon shipment or made available for download (point in time)	Within 90 days of delivery	Observable transactions or residual approach when prices are highly variable or uncertain
Software License with significant customization	Over the performance of the customization and installation of the software (over time)	Within 90 days of services being performed	Residual approach
Hosting Services	As hosting services are provided (over time)	Within 90 days of services being provided	Estimated using a cost-plus margin approach
Professional Services			
Consulting	As work is performed (over time)	Within 90 days of services being performed	Observable transactions
Customization	SaaS: Over the remaining term of the SaaS agreement License: Over the performance of the customization and installation of the software (over time)	Within 90 days of services being performed	Observable transactions
Transaction Services	As transaction is processed (over time)	Within 90 days of transaction	Observable transactions
Subscription Services			
Customer Support	Ratably over the course of the support contract (over time)	Within 90 days of the start of the contract period	Observable transactions
SaaS	Over the course of the SaaS service once the system is available for use (over time)	Within 90 days of services being performed	Estimated using a cost-plus margin approach

Disaggregation of revenue

The Company disaggregates revenue from contracts with customers into the nature of the products and services and geographical regions. The Company's geographic regions are the Americas, Europe, the Middle East and Africa ("EMEA"), and Asia Pacific ("APAC"). The majority of the Company's revenue is from the Technology, Media and Telecom (collectively, "TMT") sector.

	Twelve Months Ended December 31, 2019				Twelve Months Ended December 31, 2018			
	Cloud	Digital	Messaging	Total	Cloud	Digital	Messaging	Total
Geography								
Americas	$ 155,076	$ 46,765	$ 30,342	$ 232,183	$ 153,649	$ 86,422	$ 9,603	$ 249,674
APAC	—	3,658	45,403	49,061	—	5,954	35,397	41,351
EMEA	7,620	3,379	16,506	27,505	8,921	7,018	18,875	34,814
Total	$ 162,696	$ 53,802	$ 92,251	$ 308,749	$ 162,570	$ 99,394	$ 63,875	$ 325,839
Service Line								
Professional Services	$ 14,939	$ 16,576	$ 30,923	$ 62,438	$ 14,232	$ 18,383	$ 11,539	$ 44,154
Transaction Services	5,606	6,690	—	12,296	9,025	9,706	—	18,731
Subscription Services	141,941	27,577	37,785	207,303	139,100	67,623	33,071	239,794
License	210	2,959	23,543	26,712	213	3,682	19,265	23,160
Total	$ 162,696	$ 53,802	$ 92,251	$ 308,749	$ 162,570	$ 99,394	$ 63,875	$ 325,839

* During the period, changes to the STIN business led the Company to conclude that its collection of certain STIN receivables is no longer probable. The Company has updated its collectability assessment in accordance with ASC 842 and concluded that a contingency reserve is required, which included a reduction of digital revenue in America in the amount $26.0 million. For further details, see *Note 5. Investments in Affiliates and Related Transactions* of the Notes to Consolidated Financial Statements of this Form 10-K.

Trade Accounts Receivable and Contract balances

The Company classifies its right to consideration in exchange for deliverables as either a receivable or a contract asset. A receivable is a right to consideration that is unconditional (i.e. only the passage of time is required before payment is due). For example, the Company recognizes a receivable for revenues related to its time and materials and transaction or volume-based contracts. The Company presents such receivables in Trade accounts receivable, net in its consolidated statements of financial position at their net estimated realizable value. The Company maintains an allowance for doubtful accounts to provide for the estimated amount of receivables that may not be collected. The allowance is based upon an assessment of customer creditworthiness, historical payment experience, the age of outstanding receivables and other applicable factors.

A contract asset is a right to consideration that is conditional upon factors other than the passage of time. For example, the Company would record a contract asset if its records revenue on a professional services engagement but are not entitled to bill until the Company achieves specified milestones. Contract asset balance at December 31, 2019 is $5.3 million.

Amounts collected in advance of services being provided are accounted for as contract liabilities, which are presented as deferred revenue on the accompanying balance sheet and are realized with the associated revenue recognized under the contract. Nearly all of the Company's contract liabilities balance is related to services revenue, primarily subscription services contracts.

The Company’s contract assets and liabilities are reported in a net position on a customer basis at the end of each reporting period.

Significant changes in the contract liabilities balance (current and noncurrent) during the period are as follows (in thousands):

	Contract Liabilities*	
Balance - January 1, 2019	$	116,942
Revenue recognized in the period		(295,817)
Amounts billed but not recognized as revenue		266,674
Balance - December 31, 2019	$	87,799

* Comprised of Deferred Revenue

Revenues recognized during the year ended December 31, 2019 for performance obligations satisfied or partially satisfied in previous periods were immaterial.

Contract acquisition costs

In connection with the adoption of Topic 606 and the related cost accounting guidance under Accounting Standards Codification (“ASC”) 340, the Company is required to capitalize certain contract acquisition costs consisting primarily of commissions and bonuses paid when contracts are signed. The Company adopted Topic 606 on January 1, 2018 and capitalized $0.7 million in contract acquisition costs related to contracts that were not completed. For contracts that have a duration of less than one year, the Company follows a Topic 606 practical expedient and expenses these costs over the estimated customer life, because it does not pay commissions upon renewals that are commensurate with the initial contract. During the year ended December 31, 2019, the amount of amortization was $0.2 million and there was no impairment loss in relation to costs capitalized.

Contract Fulfillment Costs

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Under ASC 340-40, the Company evaluates whether or not it should capitalize the costs of fulfilling a contract. Such costs would be capitalized when they are not within the scope of other standards and: (1) are directly related to a contract; (2) generate or enhance resources that will be used to satisfy performance obligations; and (3) are expected to be recovered. As of December 31, 2019, the Company had $5.1 million of capitalized contract fulfillment costs.

Transaction price allocated to the remaining performance obligations

Topic 606 requires that the Company disclose the aggregate amount of transaction price that is allocated to performance obligations that have not yet been satisfied as of December 31, 2019. The Company has elected not to disclose transaction price allocated to remaining performance obligations for:

1. Contracts with an original duration of one year or less, including contracts that can be terminated for convenience without a substantive penalty;
2. Contracts for which the Company recognizes revenues based on the right to invoice for services performed;
3. Variable consideration allocated entirely to a wholly unsatisfied performance obligation or to a wholly unsatisfied promise to transfer a distinct good or service that forms part of a single performance obligation in accordance with Topic 606 Section 10-25-14(b), for which the criteria in Topic 606 Section 10-32-40 have been met. This applies to a limited number of situations where the Company is dependent upon data from a third party or where fees are highly variable.

Many of the Company’s performance obligations meet one or more of these exemptions. Specifically, the Company has excluded the following from the Company’s remaining performance obligations, all of which will be resolved in the period in which amounts are known:

- consideration for future transactions, above any contractual minimums
- consideration for success-based transactions contingent on third-party data
- credits for failure to meet future service level requirements

As of December 31, 2019, the aggregate amount of transaction price allocated to remaining performance obligations, other than those meeting the exclusion criteria above, was $215.2 million, of which approximately 87.5% is expected to be recognized as revenues within 2 years, and the remainder thereafter.

Estimates of revenue expected to be recognized in future periods also exclude unexercised customer options to purchase services that do not represent material rights to the customer. Customer options that do not represent a material right are only accounted for in accordance with Topic 606 when the customer exercises its option to purchase additional goods or services.

Leases

The Company adopted Accounting Standards Codification Topic 842, Leases (ASC 842) on January 1, 2019. ASC 842 applies to a number of arrangements to which the Company is party whereby the Company acts as a lessee.

Whenever the Company enters into a new arrangement, it must determine, at the inception date, whether the arrangement contains a lease. This determination generally depends on whether the arrangement conveys to the Company the right to control the use of an explicitly or implicitly identified fixed asset for a period of time in exchange for consideration. Control of an underlying asset is conveyed to the Company if the Company obtains the rights to direct the use of and to obtain substantially all of the economic benefits from using the underlying asset.

If a lease exists, the Company must then determine the separate lease and non-lease components of the arrangement. Each right to use an underlying asset conveyed by a lease arrangement should generally be considered a separate lease component if it both: (i) can benefit the Company without depending on other resources not readily available to the Company and (ii) does not significantly affect and is not significantly affected by other rights of use conveyed by the lease. Aspects of a lease arrangement that transfer other goods or services to the Company but do not meet the definition of lease components are considered non-lease components. The consideration owed by the Company pursuant to a lease arrangement is generally allocated to each lease and non-lease component for accounting purposes. However, the Company has elected to not separate lease and non-lease components.

Each lease component is accounted for separately from other lease components, but together with the associated non-lease components.

For each lease, the Company must then determine:

- The lease term - The lease term is the period of the lease not cancellable by the Company, together with periods covered by: (i) renewal options the Company is reasonably certain to exercise or that are controlled by the lessor and (ii) termination options the Company is reasonably certain not to exercise.

- The present value of lease payments is calculated based on:

  – Lease payments - Lease payments include certain fixed and variable payments, less lease incentives, together with amounts probable of being owed by the Company under residual value guarantees and, if reasonably certain of being paid, the cost of certain renewal options and early termination penalties set forth in the lease arrangement. Lease payments exclude consideration that is: (i) not related to the transfer of goods and services to the Company and (ii) allocated to the non-lease components in a lease arrangement, except for the classes of assets where the Company has elected to not separate lease and non-lease components.

  – Discount rate - The discount rate must be determined based on information available to the Company upon the commencement of a lease. Lessees are required to use the rate implicit in the lease whenever such rate is readily available; however, as the implicit rate in the Company's leases is generally not readily determinable, the Company generally uses the hypothetical incremental borrowing rate it would have to pay to borrow an amount equal to the lease payments, on a collateralized basis, over a timeframe similar to the lease term.

- Lease classification - In making the determination of whether a lease is an operating lease or a finance lease, the Company considers the lease term in relation to the economic life of the leased asset, the present value of lease payments in relation to the fair value of the leased asset and certain other factors, including the lessee's and lessor's rights, obligations and economic incentives over the term of the lease.

Generally, upon the commencement of a lease, the Company will record a lease liability and a right-of-use (ROU) asset. However, the Company has elected, for certain classes of underlying assets with initial lease terms of twelve months or less (known as short-term leases), to not recognize a lease liability or ROU asset. Lease liabilities are initially recorded at lease commencement as the present value of future lease payments. ROU assets are initially recorded at lease commencement as the initial amount of the lease liability, together with the following, if applicable: (i) initial direct costs and (ii) lease payments made, net of lease incentives received, prior to lease commencement.

Over the lease term, the Company generally increases it lease liabilities using the effective interest method and decreases its lease liabilities for lease payments made. The Company generally amortizes its ROU assets over the shorter of the estimated useful life and the lease term and assesses its ROU assets for impairment, similar to other long-lived assets.

For finance leases, amortization expense and interest expense are recognized separately in the Consolidated Statements of Operations, with amortization expense generally recorded on a straight-line basis and interest expense recorded using the effective interest method. For operating leases, a single lease cost is generally recognized in the Consolidated Statements of Operations on a straight-line basis over the lease term. Lease costs for short-term leases not recognized in the Consolidated Balance Sheets are recognized in the Consolidated Statements of Operations on a straight-line basis over the lease term. Variable lease costs not initially included in the lease liability and ROU asset impairment charges are expensed as incurred.

In February 2016, the FASB issued ASU No. 2016-02, “Leases (Topic 842)” (ASU 2016-02). In July 2018, the FASB issued ASU No. 2018-10, “Codification Improvements to Topic 842, Leases” (ASU 2018-10), which provides narrow amendments to clarify how to apply certain aspects of the new lease standard, and ASU No. 2018-11, “Leases (Topic 842) - Targeted Improvements” (ASU 2018-11), which addresses implementation issues related to the new lease standard. These and certain other lease-related ASUs have generally been codified in ASC 842. ASC 842 supersedes the lease accounting requirements in Accounting Standards Codification Topic 840, Leases (ASC 840), and requires lessees to, among other things, recognize a lease liability, which

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represents the discounted obligation to make future minimum lease payments, and a corresponding right-of-use asset on the balance sheet for most leases.

The Company adopted ASC 842 on January 1, 2019 for leases that existed on that date. The Company has elected to apply the provisions of ASC 842 modified retrospectively at January 1, 2019 through a cumulative-effect adjustment. Prior period results continue to be presented under ASC 840 based on the accounting standards originally in effect for such periods.

The Company has elected certain practical expedients permitted under the transition guidance within ASC 842 to leases that commenced before January 1, 2019, including the package of practical expedients. Due to the Company's election of the package of practical expedients, the Company has carried forward certain historical conclusions for expired or existing contracts, including conclusions relating to initial direct costs and to the existence and classification of leases.

As of January 1, 2019, as a result of adopting ASC 842, the Company recorded a net decrease of $3.6 million to its Accumulated deficit.

The adoption of ASC 842 did not have a material effect on the Company's Loss from continuing operations or Net loss, or the related per-share amounts, during the year ended December 31, 2019.

Standards issued not yet adopted

Standard	Description	Effect on the financial statements
Update 2018-17-Consolidation (Topic 810): Targeted Improvements to Related Party Guidance for Variable Interest Entities Date of adoption: January 1, 2020.	The update is intended to improve general purpose financial reporting by considering indirect interests held through related parties in common control arrangements on a proportional basis for determining whether fees paid to decision makers and service providers are variable interests. The amendments in ASU 2018-17 will be effective for fiscal years beginning after December 15, 2019, with early adoption permitted.	The Company is currently evaluating the impact of the adoption of this ASU but does not expect that the pending adoption of this ASU will have a material effect on its consolidated financial statements.
ASU 2016-13, ASU 2019-4 Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments Date of adoption: January 1, 2020.	In June 2016, the FASB issued ASU 2016-13 which replaces the incurred loss impairment methodology in current U.S. GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The ASU is effective for public companies in annual periods beginning after December 15, 2019, and interim periods within those years. Early adoption is permitted beginning after December 15, 2018 and interim periods within those years.	The Company is currently evaluating the impact of the adoption of this ASU but does not expect that the pending adoption of this ASU will have a material effect on its consolidated financial statements.

Segment and Geographic Information

The Company’s chief operating decision-maker is the Principal Executive Officer, who reviews financial information presented on a consolidated basis for purposes of making operating decisions. However, in assessing financial performance and allocating resources, the Company considers the markets in which it operates. The Company has determined that it currently operates in two business segments: (i) providing cloud solutions and software-based activation for connected devices globally and (ii) enterprise solutions. Given the size of the Company’s enterprise segment, and the Company’s shift in focus toward the telecommunications, media and technology (“TMT”) market, the Company concluded that it has one reportable segment. Although the Company operates in North America, Europe and Asia-Pacific a majority of the Company’s revenue and long-lived assets are in the U.S.

(Amounts in tables in thousands, except for per share data or unless otherwise noted)

Revenues by geography are based on the billing addresses of the Company's customers. The following tables set forth revenues and property and equipment, net by geographic area:

	Year Ended December 31,		
	2019	2018	2017
Revenues:			
Domestic	$ 232,183	$ 249,674	$ 334,970
Foreign	76,566	76,165	67,391
Total	$ 308,749	$ 325,839	$ 402,361

	Year Ended December 31,	
	2019	2018
Property and equipment, net:		
Domestic	$ 19,278	$ 59,054
Foreign	7,247	8,883
Total	$ 26,525	$ 67,937

3. Acquisitions and Divestitures

2018 Transactions

<u>Acquisition</u>

Honeybee

In May 2018, the Company completed the acquisition of the honeybee software business ("honeybee"), a provider of digital solutions targeted at optimizing the customer experience from Dixons Carphone plc which offers a digital transformation platform that makes it easier for companies to design and launch omni-channel customer journeys. Consideration paid by the Company consisted of approximately $9.7 million in cash at the time of closing and deferred consideration of $8.7 million to be paid over the next three years.

Customers of the honeybee platform, such as mobile operators and other communication service providers, can rapidly create and adapt digital sales processes for contact centers, retail stores, and online channels. This helps reduce complexity for the end-user as well as internal employees, while delivering a single customer experience at all touch-points and improved business outcomes such as reduced cost and increased revenue. The acquisition did not have a material impact on the Company's Consolidated Statements of Operations.

<u>Divestitures</u>

SNCR, LLC

On November 16, 2015, the Company formed a venture with Goldman Sachs ("Goldman"), referred to as SNCR, LLC in order to develop and deploy the Synchronoss Secure Mobility Suite, which would include integration of Synchronoss Workspace platform with Goldman's internally developed mobile security intellectual property to help provide a safe, secure mobile device environment that also effectively supports bring your own device ("BYOD").

During the fourth quarter of 2017, the Company entered into a termination agreement with Goldman to terminate the venture, and provide a perpetual, irrevocable license of the venture's intellectual property for use in Goldman's back-office. As part of the agreement, the Company was relieved of any future obligations to support Goldman's use of the software. The venture formally ended in the first quarter of 2018 resulting in the elimination of the Company's associated noncontrolling interest balance and an increase to additional paid in capital balance of $12.8 million on the Company's Consolidated Balance Sheet.

2017 Transactions

Intralinks

<u>Acquisition</u>

On January 19, 2017, the Company purchased all outstanding shares of Intralinks Holdings, Inc. ("Intralinks"). In connection with the acquisition, the Company entered into a $900.0 million senior secured term loan (the "2017 Term Facility"), as of the date of acquisition. Intralinks is a global technology provider of Software as a service ("SaaS") solutions for secure enterprise content collaboration within and among organizations. Intralinks' cloud-based solutions enable organizations to securely manage, control, track, search, exchange and collaborate on sensitive information inside and outside the firewall. The total purchase price consideration consisted of the repayment of existing Intralinks indebtedness, and non-cash consideration for services rendered on unvested Intralinks equity awards that were converted into the Company equity awards on the acquisition date. The acquisition was primarily funded from the proceeds of the $900.0 million credit agreement as of the date of acquisition (See *Note 10. Debt* for further discussion regarding the credit agreement). The goodwill recorded in connection with this acquisition was primarily attributed to operating synergies and other benefits expected to result from the combined operations and the assembled workforce acquired. The goodwill acquired is not deductible for tax purposes.

<u>Divestitures</u>

On June 23, 2017, the Company received a non-binding indication of interest from Siris Capital Group, LLC ("Siris") to acquire the Company. In light of the indication of interest, the Company's Board of Directors decided to explore a broad range of strategic alternatives that would have the potential to unlock shareholder value. In October 2017, the Company concluded its review of strategic alternatives and determined that the best approach for the Company to achieve its goal of maximizing shareholder value was to focus on its core Telecommunication, Media and Technology ("TMT") business, divest non-core assets and improve the Company's balance sheet strength, cash position and potential profitability. Under the terms of certain definitive agreements, investment funds affiliated with Siris acquired all of the stock of the Company's wholly-owned subsidiary, Intralinks for consideration of cash and an option to investment in convertible preferred equity of the Company.

Subject to the terms and conditions set forth in the Share Purchase Agreement, dated as of October 17, 2017 (the "Share Purchase Agreement"), among Synchronoss, Intralinks and Impala Private Holdings II, LLC, an affiliate of Siris ("Impala"), a related party, due to its significant interest in the Company's common stock. Impala agreed to acquire from the Company the issued and outstanding shares of common stock of Intralinks for approximately $977.3 million in cash plus a potential contingent payment of up to $25.0 million, subject to an adjustment for cash, debt and working capital (the "Intralinks Transaction"). The total amount of funds used to complete the Intralinks Transaction and related transactions and pay related fees and expenses was approximately $1.0 billion, which was funded through a combination of equity and debt financing obtained by Impala.

Under the terms of the Share Purchase Agreement, the Company also provided Siris with a Siris Put Right ("Siris Put Right"), which would allow Silver to put shares held at the time, to Synchronoss at price of $14.56 per share, or $87.3 million in the aggregate. The Company determined that the Call option on the issuance of preferred and the Siris Put Right, together, represented one mandatorily redeemable financial instrument with a fair value of $33.6 million, which reduced the gain on sale of Intralinks.

At the closing of the Intralinks Transaction on November 14, 2017, Impala acquired all of the issued and outstanding shares of Intralinks for approximately $991.0 million in cash, subject to post-closing adjustments for changes in cash, debt and working capital. If, in the future, Impala receives net cash proceeds in excess of $440.0 million from any sale of equity or assets of Intralinks, or a dividend or distribution in respect of the shares of Intralinks, then Impala is required to pay the Company up to an additional $25.0 million in cash or publicly traded securities. Immediately following the consummation of the Intralinks Transaction, the Company paid to Impala $5.0 million as partial reimbursement of the out-of-pocket fees and expenses incurred by Impala, Siris and their respective affiliates in connection with the execution of the Share Purchase Agreement and the Intralinks Transaction. Amounts reimbursed were recorded as a reduction in the gain on sale.

(Amounts in tables in thousands, except for per share data or unless otherwise noted)

In accordance with the terms of the Share Purchase Agreement dated as of October 17, 2017 (the "PIPE Purchase Agreement"), with Silver Private Holdings I, LLC, an affiliate of Siris ("Silver"), on February 15, 2018, the Company issued to Silver 185,000 shares of its newly issued Series A Convertible Participating Perpetual Preferred Stock (the "Series A Preferred Stock"), par value $0.0001 per share, with an initial liquidation preference of $1,000 per share, in exchange for $97.7 million in cash and the transfer from Silver to us of the 5,994,667 shares of our common stock held by Silver (the "Preferred Transaction"). In connection with the issuance of the Series A Preferred Stock, we (i) filed a Certificate of Designation with the State of Delaware setting forth the rights, preferences, privileges, qualifications, restrictions and limitations on the Series A Preferred Stock (the "Series A Certificate") and (ii) entered into an Investor Rights Agreement with Silver setting forth certain registration, governance and preemptive rights of Silver with respect to us (the "Investor Rights Agreement"). See *Note 12. Capital Structure for f*urther discussion.

The following is a summary of the operating results of Intralinks during the year ended December 31, 2017, which have been reflected within income from discontinued operations, net of tax:

	2017
Net revenues	$ 213,178
Costs and expenses:	
Cost of services	35,393
Research and development	19,148
Selling, general and administrative	114,737
Restructuring	15,995
Depreciation and amortization	41,780
Total costs and expenses	227,053
Other income, net	1,448
Loss from discontinued operations	(12,427)
Gain on sale of discontinued operations	122,842
Income from discontinued operations before taxes	110,415
Provision for income taxes	(34,920)
Discontinued operations, net of taxes	$ 75,495

The pre-tax gain on sale of Intralinks included in the Consolidated Statement of Operations was $122.8 million for the year ended December 31, 2017.

The Company signed a Transition Service Agreement ("TSA") to provide accounting, tax, legal, payroll and IT services for up to six months after the divestiture. Amounts earned under the agreement were reflected as a reduction in Selling, general and administrative expenses in the statement of operations.

SpeechCycle

On February 1, 2017, the Company completed a divestiture of its SpeechCycle business, to an unrelated third party, for consideration of $13.5 million.

As part of the divestiture, the Company entered into a one-year transition services agreement with the acquirer to support various indirect activities such as customer software support, technical support services and maintenance and support services. These services were terminated during the first quarter of 2018. The Company recorded a pre-tax gain of $4.9 million as a result of the divestiture which is included in other income (expense), net in the Consolidated Statement of Operations.

Acquisition-Related Costs

Total acquisition-related costs recognized during the year ended December 31, 2019, 2018, and 2017 including transaction costs such as legal, accounting, valuation and other professional services, were nil, $0.1 million and $13.0 million, respectively, and are included in selling, general and administrative expense in the Consolidated Statements of Operations.

4. Fair Value Measurements

In accordance with accounting principles generally accepted in the United States, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A three-level hierarchy prioritizes the inputs used to measure fair value as follows:

- Level 1 - Observable inputs - quoted prices in active markets for identical assets and liabilities;
- Level 2 - Observable inputs other than the quoted prices in active markets for identical assets and liabilities includes quoted prices for similar instruments, quoted prices for identical or similar instruments in inactive markets, and amounts derived from valuation models where all significant inputs are observable in active markets; and
- Level 3 - Unobservable inputs - includes amounts derived from valuation models where one or more significant inputs are unobservable and require the Company to develop relevant assumptions.

The following is a summary of assets, liabilities and redeemable noncontrolling interests and their related classifications under the fair value hierarchy:

	December 31, 2019			
	Total	(Level 1)	(Level 2)	(Level 3)
Assets				
Cash, cash equivalents and restricted cash [1]	$ 39,001	$ 39,001	$ —	$ —
Marketable securities-short term [2]	11	—	11	—
Marketable securities-long term [2]	—	—	—	—
Total assets	$ 39,012	$ 39,001	$ 11	$ —
Liabilities				
Total liabilities	$ —	$ —	$ —	$ —
Temporary equity				
Redeemable noncontrolling interests [3]	$ 12,500	$ —	$ —	$ 12,500
Total temporary equity	$ 12,500	$ —	$ —	$ 12,500

	December 31, 2018			
	Total	(Level 1)	(Level 2)	(Level 3)
Assets				
Cash, cash equivalents and restricted cash [1]	$ 109,860	$ 109,860	$ —	$ —
Marketable securities-short term [2]	28,230	—	28,230	—
Marketable securities-long term [2]	6,658	—	6,658	—
Total assets	$ 144,748	$ 109,860	$ 34,888	$ —
Liabilities				
Total liabilities	$ —	$ —	$ —	$ —
Temporary Equity				
Redeemable noncontrolling interests [3]	$ 12,500	$ —	$ —	$ 12,500
Total temporary equity	$ 12,500	$ —	$ —	$ 12,500

(1) Cash equivalents primarily included money market funds.
(2) Marketable securities are comprised of municipal bonds, certificates of deposit. corporate bonds, treasury bonds, and mutual funds.

(3) Put arrangements held by the noncontrolling interests in certain of the Company's joint ventures.

Marketable Securities

The Company utilizes the market approach to measure fair value for its financial assets. The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets. The Company's marketable securities investments classified as Level 2 primarily utilize broker quotes in a non-active market for valuation of these securities. No transfers of assets between Level 1, Level 2 and Level 3 of the fair value measurement hierarchy occurred during the year ended December 31, 2019.

For marketable debt securities, unrealized gains and losses are reported as a component of accumulated other comprehensive income in stockholders' equity. The cost of securities sold is based on the specific identification method. The Company evaluates investments with unrealized losses to determine if the losses are other than temporary. The Company has determined that the gross unrealized losses at December 31, 2019 and 2018 are temporary. In making this determination, the Company considered the financial condition, credit ratings and near-term prospects of the issuers, the underlying collateral of the investments, and the magnitude of the losses as compared to the cost and the length of time the investments have been in an unrealized loss position. Additionally, while the Company classifies the securities as available for sale, the Company does not currently intend to sell such investments and it is more likely than not to recover the carrying value prior to being required to sell such investments.

The marketable equity securities are mutual funds measured at fair value and classified within Level 2 in the fair value hierarchy. Unrealized gains and losses related to the Company's marketable equity securities were recognized in other income (expense), net.

The estimated fair value of investments in marketable debt securities were immaterial and as follows at December 31, 2019 and 2018, respectively:

	December 31, 2018			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Marketable securities - debt:				
Certificates of deposit	$ 3,776	$ —	$ (16)	$ 3,760
Corporate bonds	402	—	(1)	401
Municipal bonds	10,913	—	(32)	10,881
Treasury bonds	15,685	—	—	15,685
Total	$ 30,776	$ —	$ (49)	$ 30,727

At December 31, 2019 and December 31, 2018, the aggregate related fair value of investment with unrealized losses was approximately nil and $14.9 million respectively.

At December 31, 2019, the estimated fair value of investments in marketable equity securities, were as follows:

Balance at December 31, 2018	$ 4,161
Mutual funds purchases	51,744
Mutual funds sales	(55,895)
Realized gains (losses)	1
Balance at December 31, 2019	$ 11

Redeemable Noncontrolling Interests

The redeemable noncontrolling interests recorded at fair value are put arrangements held by the noncontrolling interests in certain of the Company's joint ventures. The Company recognizes changes in the redemption value immediately as they occur and adjusts the carrying value of the noncontrolling interest to the greater of the estimated redemption value, which approximates fair value, at the end of each reporting period or the initial carrying amount.

The fair value of the redeemable noncontrolling interests was estimated by applying an income approach using a discounted cash flow analysis. This fair value measurement is based on significant inputs that are not observable in the market and thus represents a Level 3 measurement. Significant changes in the underlying assumptions used to value the redeemable noncontrolling interests could significantly increase or decrease the fair value estimates recorded in the Consolidated Balance Sheets.

The changes in fair value of the Company's Level 3 redeemable noncontrolling interests during the year ended December 31, 2019 were as follows:

Balance at December 31, 2018	$ 12,500
Fair value adjustment	(1,126)
Net income attributable to redeemable noncontrolling interests	1,126
Balance at December 31, 2019	$ 12,500

5. Investments in Affiliates and Related Transactions

Sequential Technology International, LLC

In connection with the divestiture of the exception handling business of the Company, Synchronoss entered into a three-year Cloud Telephony and Support services agreement to grant Sequential Technology International, LLC ("STIN") access to certain Synchronoss software and private branch exchange systems to facilitate exception handling operations required to support STIN customers.

For the year ended December 31, 2019 and 2018, the Company recognized $(6.9) million and $25.7 million, respectively, in revenue related to Cloud Telephony and Support services, and nil and $2.1 million, respectively, in revenue related to all other services.

Changes to the STIN business led the Company to conclude that its collection of certain STIN receivables is no longer probable as of December 31, 2019. In accordance with ASC 842, the portion of revenue that is no longer deemed collectible is reversed in the current period against revenue. Accordingly, the Company determined a contingency reserve is required, which included a reduction of revenue in the amount $26.0 million in the third quarter of 2019. The impacts of this change are reflected in the STIN affiliate revenue and accounts receivable.

The STIN affiliate accounts receivable balances in the Consolidated Balance Sheet as of December 31, 2019 and December 31, 2018, were $8.1 million and $27.5 million, respectively. These amounts principally included revenues generated from the Cloud and Telephony Support Services agreement and pass-through of vendor expenses incurred during the transition and assignment of vendor contracts.

(Amounts in tables in thousands, except for per share data or unless otherwise noted)

6. Property and Equipment

Property and equipment consist of the following:

	December 31,	
	2019	2018
Computer hardware	$ 214,880	$ 246,373
Computer software	64,509	64,530
Construction in-progress	—	651
Furniture and fixtures	9,546	9,408
Building	—	8,808
Leasehold improvements	25,768	23,602
	314,703	353,372
Less: Accumulated depreciation	(288,178)	(285,435)
	$ 26,525	$ 67,937

Depreciation expense was approximately $43.5 million, $55.8 million and $57.0 million for 2019, 2018, and 2017, respectively. Amortization of property and equipment recorded under capital leases are included in depreciation expense.

The Company capitalized $3.4 million related to cloud computing arrangements. The Company estimated the useful life for the cloud computing arrangements is 5 years.

7. Goodwill and Intangibles

Goodwill

The Company records goodwill which represents the excess of the purchase price over the fair value of assets acquired, including other definite-lived intangible assets. Goodwill is reviewed annually for impairment or upon the occurrence of events or changes in circumstances that would more likely than not reduce the fair value of the reporting unit below its carrying amount.

The following table shows the adjustments to goodwill during 2019 and 2018:

Balance at December 31, 2017	$ 237,303
Acquisitions	2,156
Impairment	(9,100)
Translation adjustments	(5,460)
Balance at December 31, 2018	$ 224,899
Acquisitions	—
Impairment	—
Translation adjustments	(1,930)
Balance at December 31, 2019	$ 222,969

When performing its annual impairment test, the Company compares the fair value of each reporting unit to its carrying amount with the fair values derived from the market approach the income approach. Under the market approach, the Company estimates fair value based on market multiples of revenue and earnings derived from comparable publicly-traded companies with similar operating and investment characteristics as the reporting unit. The Company weights the fair value derived from the market approach depending on the level of comparability of these publicly-traded companies to the reporting unit. When market comparables are not meaningful or not available, the Company estimates the fair value of a reporting unit using only the income approach. Under

the income approach, the Company estimates the fair value of a reporting unit based on the present value of estimated future cash flows. The Company bases cash flow projections on management's estimates of revenue growth rates and operating margins, taking into consideration industry and market conditions. The Company bases the discount rate on the weighted-average cost of capital adjusted for the relevant risk associated with business-specific characteristics and the uncertainty related to the reporting unit's ability to execute on the projected cash flows.

In order to assess the reasonableness of the estimated fair value of the Company's reporting units, the Company compares the aggregate reporting unit fair value to the Company's market capitalization on an overall basis and calculates an implied control premium (the excess of the sum of the reporting units' fair value over the Company's market capitalization on an overall basis). The Company evaluates the control premium by comparing it to observable control premiums from recent comparable transactions. If the implied control premium is determined to not be reasonable in light of these recent transactions, the Company re-evaluates its reporting unit fair values, which may result in an adjustment to the discount rate and/or other assumptions. This re-evaluation could result in a change to the estimated fair value for certain or all reporting units. If the fair value of a reporting unit exceeds the carrying amount of the net assets assigned to that reporting unit, goodwill is not impaired.

If the fair value of the reporting unit is less than its carrying amount, goodwill is impaired and the excess of the reporting unit's carrying value over the fair value is recognized as an impairment loss.

For the years ended December 31, 2019, 2018, and 2017 the Company recognized goodwill impairment charges of nil, $9.1 million, and nil, respectively. The Company recorded a $9.1 million impairment charge on the Zentry joint venture in 2018 as a result of various business changes to Zentry, which ultimately led the Company to sunset certain Zentry product offerings. The Company evaluated the impact of these business changes and determined that the future cash flows generated by the assets were not sufficient to support its recoverability and accordingly, the Company recognized an impairment charge for Zentry's outstanding goodwill.

Other Intangible Assets

The Company's intangible assets with definite lives consist primarily of technology, capitalized software, trade names, and customer lists and relationships. These intangible assets are being amortized on the straight-line method over the estimated useful lives of the assets. Amortization expense related to intangible assets for the years ended December 31, 2019, 2018 and 2017 was $33.5 million, $41.3 million and $36.9 million, respectively.

The Company recognized impairment charges to its intangible assets of $0.0 million, $11.0 million and $1.0 million for the years ended December 31, 2019, 2018 and 2017 respectively. The Company includes these impairments within depreciation and amortization in its Consolidated Statements of Operations. The 2018 impairment charge was incurred to the outstanding Zentry intangible assets for the same reasons discussed above.

As of December 31, 2019, the Company had $6.4 million of capitalized software costs that are currently in the development stage. Amortization of these costs will begin once the software projects are complete and ready for their intended use.

The Company's intangible assets consist of the following:

	December 31, 2019		
	Cost	Accumulated Amortization	Net
Technology	$ 99,832	$ (83,608)	$ 16,224
Customer lists and relationships	125,308	(86,555)	38,753
Capitalized software and patents	46,222	(23,586)	22,636
Trade name	2,450	(2,450)	—
	$ 273,812	$ (196,199)	$ 77,613

	December 31, 2018		
	Cost	Accumulated Amortization	Net
Technology	$ 100,896	$ (73,271)	$ 27,625
Customer lists and relationships	127,755	(75,123)	52,632
Capitalized software and patents	33,710	(15,261)	18,449
Trade name	2,546	(2,546)	—
	$ 264,907	$ (166,201)	$ 98,706

Estimated future amortization expense of its intangible assets for the next five years is as follows:

Year ending December 31,	
2020	$ 24,691
2021	17,047
2022	12,606
2023	5,749
2024	5,151
Thereafter	5,973
Total *	$ 71,217

* As of December 31, 2019, the Company had $6.4 million of capitalized software costs that are currently in the development stage. Amortization of these costs will begin once the software projects are complete and ready for their intended use.

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8. Accrued Expenses

Accrued expenses consist of the following:

	December 31,	
	2019	2018
Accrued compensation and benefits	$ 26,507	$ 26,840
Accrued professional service fees	7,248	8,177
Accrued telecommunications	2,493	1,758
Accrued income taxes payable	4,063	1,394
Accrued preferred dividend	7,873	7,075
Accrued other	17,803	14,301
Total	$ 65,987	$ 59,545

9. Leases

The Company has entered into contracts with third parties to lease a variety of assets, including certain real estate, equipment, automobiles and other assets. The Company's leases frequently allow for lease payments that could vary based on factors such as inflation or the degree of utilization of the underlying asset. For example, certain of the Company's real estate leases could require us to make payments that vary based on common area maintenance charges, insurance and other charges. The Company's lease agreements do not contain any material residual value guarantees or material restrictive covenants.

The Company is party to certain sublease arrangements, primarily related to the Company's real estate leases, where it acts as the lessee and intermediate lessor. The Company does not have material sublease arrangements.

The following table presents information about the Company's ROU assets and lease liabilities at December 31, 2019 (in thousands):

ROU assets:	
Non-current operating lease ROU assets	$ 53,965
Operating lease liabilities:	
Current operating lease liabilities*	$ 8,473
Non-current operating lease liabilities	60,976
Total operating lease liabilities	$ 69,449

* Amounts are included in Accrued Expenses on Consolidated Balance Sheets.

The following table presents information about lease expense and sublease income for the year ended December 31, 2019 (in thousands):

	Twelve Months Ended
Operating lease cost*	$ 13,034
Other lease costs and income:	
Variable lease costs* (1)	7,374
Sublease income*	(1,297)
Total net lease cost	$ 19,111

* Amounts are included in Cost of revenues, Selling, general and administrative and/or Research and development based on the function that the underlying leased asset supports which are reflected in the Consolidated Statements of Operations.

(1) During the third quarter, the Company executed an agreement enabling the Company to achieve data center consolidation moving forward. The Company recorded a $6.2 million ROU asset impairment based on forecasted future cash flows for those data centers impacted by the agreement.

The following table provides the undiscounted amount of future cash flows included in the Company's lease liabilities at December 31, 2019 for each of the five years subsequent to December 31, 2019 and thereafter, as well as a reconciliation of such undiscounted cash flows to the Company's lease liabilities at December 31, 2019 (in thousands):

	Operating Leases
2020	$ 13,639
2021	12,932
2022	12,330
2023	10,040
2024	10,139
Thereafter	33,995
Total future lease payments	93,075
Less: amount representing interest	(23,626)
Present value of future lease payments (lease liability)	$ 69,449

The following table provides the weighted-average remaining lease term and weighted-average discount rates for the Company's leases as of December 31, 2019:

Operating Leases:	
Weighted-average remaining lease term (years), weighted based on lease liability balances	7.63
Weighted-average discount rate (percentages), weighted based on the remaining balance of lease payments	8.0%

The following table provides certain cash flow and supplemental noncash information related to the Company's lease liabilities for the year ended December 31, 2019 (in thousands):

Operating Leases:	
Cash paid for amounts included in the measurement of lease liabilities	$ 12,427
Lease liabilities arising from obtaining right-of-use assets	895

10. Debt

2019 Revolving Credit Facility

On October 4, 2019, the Company entered into a Credit Agreement with Citizens Bank, N.A., for a $10.0 million Revolving Credit Facility. Borrowings under the Revolving Credit Facility bear interest at a rate equal to, at the Company's option, either (1) the arithmetic average of the LIBOR rate determined by reference to the costs of funds for U.S. dollar deposits for the interest period (one, three or six months (or 12 months if agreed to by all applicable Lenders)) as selected by the Company relevant to such borrowing plus the applicable margin, or (2) a base rate determined by reference to the greatest of the federal funds rate plus 0.50%, the prime commercial lending rate as determined by the Agent, and the daily LIBOR rate plus 1.00%, in each case plus an applicable margin and subject to a floor of 0.00%. In addition, on a quarterly basis, the Company is required to pay each lender under the Revolving Credit Facility a 0.2% commitment fee in respect of commitments under the Revolving Credit Facility, which may be subject to adjustment based on the Company's total leverage ratio. The outstanding balance under the Revolving Credit Facility as of December 31, 2019 is zero.

The outstanding debt balance is nil at December 31, 2019 and the balance at December 31, 2018 was as follows:

	December 31, 2018
Convertible Senior Notes	$ 113,980
Amended Credit Agreement	—
Total debt, principal amount	113,980
Unamortized debt issuance cost (1)	(438)
Total debt, carrying value	$ 113,542
Total short-term debt, carrying value	$ 113,542
Total long-term debt, carrying value	$ —

(1) Unamortized debt issuance cost is related to Convertible Senior Notes.

Convertible Senior Notes

On August 12, 2014, the Company issued $230.0 million aggregate principal amount of its 0.75% Convertible Senior Notes due in 2019 (the "2019 Notes"). The 2019 Notes were paid at maturity on August 15, 2019. The 2019 Notes bore an interest rate of 0.75% per annum payable semi-annually in arrears on February 15 and August 15 of each year. The Company accounted for the $230.0 million face value of the debt as a liability and capitalized approximately $7.1 million of financing fees, related to the issuance which are presented net of the face value of the 2019 Notes on the Consolidated Balance Sheets.

The 2019 Notes were senior, unsecured obligations of the Company, and were convertible into shares of its common stock based on a conversion rate of 18.8072 shares per $1,000 principal amount of 2019 Notes which is equivalent to an initial conversion price of approximately $53.17 per share. The 2019 Notes were convertible at the note holders' option prior to their maturity and if specified corporate transactions occur. The issue price of the 2019 Notes was equal to their face amount. As of the maturity date, none of the 2019 Notes were converted to common stock.

Holders of the 2019 Notes who converted their notes in connection with a qualifying fundamental change, as defined in the related indenture, may be entitled to a make-whole premium in the form of an increase in the conversion rate. Additionally, following the occurrence of a fundamental change, holders may require that the Company repurchase some or all of the 2019 Notes for cash at a repurchase price equal to 100% of the principal amount of the notes being repurchased, plus accrued and unpaid interest, if any. As of the maturity date of the 2019 Notes, none of these conditions existed.

Included in the definition of a fundamental change is whether the Company's common stock ceases to be listed or quoted on Nasdaq. In May 2018, trading of the Company's common stock was suspended on Nasdaq, however, it was not delisted. On September 26, 2018, the Company received notice, that the Nasdaq Listing Qualifications Staff (the "Staff") approved the listing of its common stock on Nasdaq. The result of this approval caused the suspension of trading in Company's common stock on The Nasdaq Stock Market to be lifted. On November 2, 2018, the Company retired approximately $116.0 million of the 2019 Notes as part of a settlement agreement entered into on November 1, 2018, among the Company, Indaba Capital Fund, L.P and Westwood Management Corp. related to the BNY Action and, as a result the parties filed a stipulation of dismissal of the BNY Action. For additional information regarding this litigation, see Item 3. "Legal Proceedings" contained in this Form 10-K.

The 2019 Notes were the Company's direct senior unsecured obligations and rank equal in right of payment to all of the Company's existing and future unsecured and unsubordinated indebtedness.

During the years ended December 31, 2019, 2018 and 2017, interest expense for the Company's 2019 Notes related to the contractual interest coupon was $0.4 million, $1.6 million, and $1.7 million respectively.

The Company is required to meet all SEC filing requirements and deadlines to be compliant with the 2019 Notes. In the event that the Company does not meet the filing requirements, the Company will be in default under the 2019 Notes unless it elects to pay the noteholders additional interest of 0.25% up to 180 days from the date of the notice of default and 0.50% thereafter up to 360 days. The Company may agree to pay additional interest to the holders by notifying holders and the trustee within 90 days from the notice of default. If the Company decides to pay the additional interest but has not remedied its failure to meet all SEC filing requirements within 360 days from the notice of default, it will be in default. If the Company fails to elect to pay the additional interest, it will be in default if it does not remedy its failure to meet all SEC filing requirements within the 90 days from the notice of default.

The Company received a notice of default from holders of more than 25% of the outstanding principal amount of the 2019 Notes on October 13, 2017. In accordance with the terms of the 2019 Notes, the Company elected to begin paying additional interest starting January 11, 2018 (the 90th day following the Company's receipt of the notice of default). As a result of the Company regaining compliance with its SEC filing requirements, the Company was no longer required to pay the additional interest as of July 9, 2018. The Company was required to record a derivative related to this contingent interest as a liability and expense in its financial statements due to the late filings of the Company's quarterly reports on Form 10-Q in 2017. At December 31, 2018, the recorded contingent interest derivative liability within accrued expenses was zero as a result of Company regaining compliance with its SEC filing requirements.

2019 Notes Notice

On June 13, 2018, The Bank of New York Mellon, in its capacity as trustee (the "Trustee") under the indenture dated as of August 12, 2014 (the "Indenture") governing for the 2019 Notes, filed a verified complaint with the Court of Chancery of the State of Delaware, captioned The Bank of New York Mellon, as Indenture Trustee v. Synchronoss Technologies, Inc. (the "BNY Action"). The BNY Action complaint alleges that a "Fundamental Change" has occurred under the Indenture as a result of the Company's Common Stock ceasing to be listed or quoted on Nasdaq and that an event of default under the Indenture has occurred as a result of the Company's failure to provide a notice of such Fundamental Change which, if true, following notice from holders of more than 25% of the outstanding principal under the Notes would trigger the acceleration of the principal and interest outstanding under the 2019 Notes, which otherwise mature on August 15, 2019. On November 2018, the parties filed a stipulation of dismissal of the BNY Action. For further details, see *Note 18. Legal Matters.*

On November 2, 2018, the Company retired $116.0 million of 2019 Notes as a part of settlement agreement entered into on November 1, 2018, among the Company, Indaba Capital Fund, L.P. ("Indaba") and Westwood Management Corp. ("Westwood") related to the BNY Action. For further details see *Note 18. Legal Matters*. At December 31, 2019, the carrying amount of the liability was zero and the outstanding principal of the 2019 Notes was zero.

2017 Credit Agreement

On January 19, 2017, the Company entered into a credit agreement with the lending institutions from time to time parties thereto and Goldman Sachs as administrative agent, collateral agent, swingline lender and a letter of credit issuer (as amended from time to time, the "2017 Credit Agreement") which was comprised of a $900.0 million term credit facility with a maturity date of January 19, 2024 (the "2017 Term Facility") and a revolving credit facility of up to $200.0 million (the "Revolving Facility") with a maturity date of January 19, 2022. Obligations under the 2017 Credit Agreement were guaranteed by certain of the Company's subsidiaries and secured by substantially all of the Company's and its subsidiaries' assets.

The 2017 Term Facility amortized at 1% per annum in equal quarterly installments with the balance payable on the maturity date. The Revolving Facility included borrowing capacity available for letters of credit and for borrowings on same-day notice under swingline loans and borrowing thereunder could be used for working capital needs and other general corporate purposes.

The 2017 Term Facility initially bore interest at a rate equal to, at the Company's option, the adjusted LIBOR rate for an applicable interest period or an alternate base rate, in each case, plus an applicable margin of 2.75% or 1.75%, respectively. The Revolving Facility initially bore an interest at a rate equal to, at the Company's option, the adjusted LIBOR rate or an alternate base rate, in each case, plus an applicable margin of 2.50% or 1.50%, respectively, subject to step-downs based on the Company's

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ratio of first lien secured debt to adjusted EBITDA, as defined in the 2017 Credit Agreement. The Company paid a commitment fee in the range of 0.25% to 0.375% on the unused balance of the Revolving Facility. Interest was payable quarterly under the 2017 Credit Agreement.

Subject to certain customary exceptions, the 2017 Term Facility was subject to mandatory prepayments in amounts equal to: (1) 100% of the net cash proceeds from any non-ordinary course sale or other disposition of assets (including as a result of casualty or condemnation) by Synchronoss or its subsidiaries subject to customary reinvestment provisions and certain other exceptions; (2) 100% of the net cash proceeds from incurrences of debt (other than permitted debt); and (3) a customary annual excess cash flow sweep at levels based on the Company's applicable ratio of first lien secured debt to adjusted EBITDA, as defined in the 2017 Credit Agreement.

The 2017 Credit Agreement contained a number of customary affirmative and negative covenants and events of default, which, among other things, restricted the Synchronoss' and its subsidiaries' ability to incur debt, allow liens on assets, make investments, pay dividends or prepay certain other debt. The 2017 Credit Agreement also required Synchronoss to comply with certain financial maintenance covenants, including a total gross leverage ratio and an interest charge coverage ratio.

Certain of the lenders under the 2017 Credit Agreement, or their affiliates, provided, and may in the future from time to time provide, certain commercial and investment banking, financial advisory and other services in the ordinary course of business for the registrant and its affiliates, for which they have in the past and may in the future receive customary fees and commissions.

As a result of the Company's restatement, it was unable to comply with covenants requiring the timely delivery of audited financial statements and interim financial information. The Company obtained waivers to extend the dates by which the Company was required to deliver such financial information to June 30, 2017.

<u>Waiver Agreement to 2017 Credit Agreement</u>

On June 30, 2017, the Company, the Lenders and the Administrative Agent entered into a Limited Waiver to Credit Agreement (the "Waiver Agreement") pursuant to which the Lenders agreed, subject to the limitations contained in the Waiver Agreement, to temporarily waive (the "Limited Waiver") the anticipated event of default (the "Anticipated Event of Default") resulting from the Company's failure to deliver its first quarter 2017 financial statements, together with related items required under the 2017 Credit Agreement on or prior to June 30, 2017. In the absence of the Limited Waiver, after the occurrence of the Anticipated Event of Default the Lenders would be permitted to exercise their rights and remedies available to them under the 2017 Credit Facility with respect to an event of default. The Limited Waiver was designed to give the Company and the Lenders additional time to negotiate in good faith and document certain amendments to the 2017 Credit Facility.

As consideration for the Limited Waiver, the Company agreed to pay a consent fee to each Lender who consented to the Waiver Agreement in an amount equal to 0.15% of the aggregate principal amount of such consenting Lender's revolving credit commitments and term loans outstanding under the 2017 Credit Agreement, which amount was credited against any consent fee that was required to be paid in connection with any subsequent waiver of the Anticipated Event of Default or related amendment of the 2017 Credit Agreement. In addition, the Company paid the reasonable fees and expenses of counsel and other costs and expenses requested by the Administrative Agent on behalf of the Lenders and certain other fees as set forth in the Waiver Agreement.

<u>First Amendment to 2017 Credit Agreement</u>

On July 19, 2017, the Company entered into a first amendment and limited waiver to the 2017 Credit Agreement (the "First Amendment"). Pursuant to the First Amendment, the lenders and administrative agent agreed to extend the time period for delivery by the Company of its quarterly financial statements for the quarters ended March 31, 2017 and June 30, 2017 (the "2017 Quarterly Financial Statements") and to waive the default and event of default arising from the Company's failure to deliver the 2017 Quarterly Financial Statements within the timeframe originally required by the 2017 Credit Agreement (or, at the Company's election, November 16, 2017, if prior to October 17, 2017 the Company pays a fee to the Lenders equal to 25 basis points on the aggregate principal amount of revolving commitments and terms loans outstanding).

The First Amendment effected various other changes to the terms of the Credit Agreement, including reducing revolving credit commitments from $200.0 million to $100.0 million (with a sub-limit on usage of $50.0 million until the earliest date by which the Company has delivered the 2017 Quarterly Financial Statements, the restated financial statements for the fiscal years ended

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December 31, 2016 and 2015 (and the respective quarterly periods) and certain information with respect to disclosing and remedying any material weaknesses in the Company's internal control structure related to financial reporting.)

Under the First Amendment, the Company was required to maintain a first lien secured net leverage ratio of no more than (x) 5.50 to 1 for any period ending from September 30, 2017 through March 31, 2019; (y) 5.00 to 1 for any period ending June 30, 2019 through December 31, 2019; and (z) 4.25 to 1 for any period ending March 31, 2020 and thereafter. The Company was also required to maintain a minimum interest coverage ratio of no less than 2.00 to 1.

Until the earlier of (A) the later of (i) December 15, 2017 and (ii) in the event that, prior to December 15, 2017, the Company has publicly announced a strategic transaction, or merger, business combination, acquisition or divestiture that would result in a change of control or a requirement to prepay the loans and terminate commitments under the Amended Credit Agreement, the date on which such transaction is consummated or abandoned (the "Initial Period End Date") and (B) June 15, 2018, term loans under the Amended Credit Agreement bear interest at a rate equal to, at the Company's option, the adjusted LIBOR rate for an applicable interest period or an alternate base rate (subject to a floor of 1.00% and 2.00%, respectively), in each case, plus an applicable margin of 4.50% or 3.50%, respectively. Thereafter, the applicable margins increase to 5.75% and 4.75%, respectively, if the Company's first lien secured net leverage ratio is less than or equal to 5.00 to 1, and to 6.75% and 5.75%, respectively, if the Company's first lien secured net leverage ratio is greater than 5.00 to 1. The foregoing applicable margins are subject to a retroactive increase of 0.25% each if the Restated Financial Statements show an amount of net revenue for any fiscal year ended December 31, 2015, December 31, 2016 and, if applicable, December 31, 2014 that varies by greater than 15% of the net revenue set forth on Consolidated Balance Sheets and related Consolidated Statements of Operations of the Company for such fiscal year that had originally been filed with the Securities and Exchange Commission.

Until the Initial Period End Date, revolving loans under the Amended Credit Agreement bear interest at a rate equal to, at Company's option, the adjusted LIBOR rate or an alternate base rate (subject to a floor of 1.00% and 2.00%, respectively), in each case, plus an applicable margin of 4.50% or 3.50%, respectively. Thereafter, the applicable margins will be subject to step-downs based on the Company's first lien secured net leverage ratio.

Until the Initial Period End Date, term loans under the Amended Credit Agreement are subject to a prepayment premium of 1.00% solely if prepaid with proceeds of a repricing transaction. Thereafter, the term loans will be subject to (x) a 2.00% prepayment premium for any voluntary prepayments (including upon a change of control) made through the one-year anniversary of the Initial Period End Date and (y) a 1.00% prepayment premium for any voluntary prepayments (including upon a change of control) made after the one-year anniversary of the Initial Period End Date and prior to the second anniversary thereof.

The Amendment also effected various other changes to the baskets and exceptions under the negative covenants of the Credit Agreement.

The Company's effective interest rate on the term loans was approximately 4.08% prior to the First Amendment and ranged from 5.74% to 5.76% from July 19, 2017 through November 2017. During 2017, the Company paid approximately $16.8 million in fees related to obtaining waivers, amendments, and consents in relation to the 2017 Credit Agreement as a result of the delay in the delivery of the 2017 Quarterly Financial Statements. These costs were recognized within the Interest expense line of the Consolidated Statements of Operations until the debt was repaid in the fourth quarter of 2017. The remaining balance was recognized within the Extinguishment of debt line item of the Consolidated Statements of Operations.

Repayment of 2017 Credit Agreement

In connection with the consummation of the Intralinks divestiture (See *Note 3. Acquisitions and Divestitures*), the Company utilized a portion of the proceeds from the Intralinks divestiture to repay all outstanding obligations under the 2017 Credit Agreement. In connection therewith, the Company delivered all notices and took all other actions to facilitate and cause the termination of the 2017 Credit Agreement, the repayment in full of all obligations then outstanding thereunder and the release of any security interests in connection therewith, effective as of November 14, 2017. The aggregate payoff amount was approximately $897.5 million and included all accrued interest, fees and prepayment penalties associated therewith. The Company incurred approximately $29.4 million of a loss on the extinguishment of the 2017 Credit Agreement for the year ended December 31, 2017.

Amended Credit Facility

On July 7, 2016, the Company entered into an Amended Credit Facility with Wells Fargo Bank, National Association, as administrative agent and several lenders party thereto (the "Amended Credit Facility"). The Amended Credit Facility, was permitted to be used for general corporate purposes, was a $250.0 million unsecured revolving line of credit that was set to mature on July 7, 2021, subject to terms and conditions set forth therein. The Company paid a commitment fee in the range of 15 to 30 basis points on the unused balance of the revolving credit facility under the Amended Credit Facility. Synchronoss had the right to request an increase in the aggregate principal amount of the Amended Credit Facility up to $350.0 million. Interest on the borrowings ranged from 1.94% to 2.03%.

On January 19, 2017, the Company repaid all outstanding obligations under the Amended Credit Facility with Wells Fargo Bank and the several lenders party thereto. The aggregate payoff amount was $29.0 million and included all accrued interest and associated prepayment penalties.

Interest expense

The following table summarizes the Company's interest expense:

	Twelve Months Ended December 31,		
	2019	2018	2017
Amended Credit Facility			
Amortization of debt issuance costs	$ —	$ —	$ 748
Commitment fee	—	—	25
Interest on borrowings	—	—	24
2017 Term Facility			
Amortization of debt issuance costs	—	—	2,915
Interest on borrowings	—	—	35,327
Contingent Interest Derivative	—	—	2,489
Amendment fees paid to third parties	—	—	5,716
Revolving Facility			
Amortization of debt issuance costs	—	—	646
Commitment fee	—	—	494
Amendment fees paid to third parties	—	—	1,662
Convertible Senior Notes			
Amortization of debt issuance costs	$ 285	$ 1,294	1,413
Interest on borrowings	363	1,578	1,725
Additional interest on default	—	191	193
2019 Revolving Credit Facility	—	—	—
Amortization of debt issuance costs	8	—	—
Commitment fee	5	—	—
Interest on borrowings	3	—	—
Capital leases	—	964	971
Other	691	884	1,423
Total	$ 1,355	$ 4,911	$ 55,771

11. Accumulated Other Comprehensive (Loss) / Income

The changes in accumulated other comprehensive (loss) income during the years ended December 31, were as follows:

	Balance at December 31, 2018	Other comprehensive loss	Tax effect	Balance at December 31, 2019
Foreign currency	$ (26,436)	$ (1,768)	$ —	$ (28,204)
Unrealized loss on intra-entity foreign currency transactions	(3,906)	(579)	179	(4,306)
Unrealized holding losses on marketable debt securities	(41)	(710)	—	(751)
Total	$ (30,383)	$ (3,057)	$ 179	$ (33,261)

	Balance at December 31, 2017	Other comprehensive loss	Tax effect	Balance at December 31, 2018
Foreign currency	$ (20,284)	$ (6,152)	$ —	$ (26,436)
Unrealized loss on intra-entity foreign currency transactions	(3,085)	(1,263)	442	(3,906)
Unrealized holding losses on marketable debt securities	(4)	(37)	—	(41)
Total	$ (23,373)	$ (7,452)	$ 442	$ (30,383)

	Balance at December 31, 2016	Other comprehensive income	Tax effect	Balance at December 31, 2017
Foreign currency	$ (37,311)	$ 17,027	$ —	$ (20,284)
Unrealized income (loss) on intra-entity foreign currency transactions	(5,017)	3,322	(1,390)	(3,085)
Unrealized holding gains (losses) on marketable debt securities	(22)	28	(10)	(4)
Total	$ (42,350)	$ 20,377	$ (1,400)	$ (23,373)

12. Capital Structure

As of December 31, 2019, the Company's authorized capital stock was 110 million shares of stock with a par value of $0.0001, of which 100 million shares were designated as common stock and 10 million shares were designated as preferred stock. There were no significant changes to Company's authorized capital stock and preferred stock during the year ended December 31, 2019.

Common Stock

Each holder of common stock is entitled to vote on all matters and is entitled to one vote for each share held. Dividends on common stock will be paid when, and if, declared by the Company's Board of Directors. No dividends have ever been declared or paid by the Company.

Treasury Stock

On February 4, 2016, the Company announced that the Board of Directors approved a share repurchase program under which the Company may repurchase up to $100.0 million of its outstanding common stock for 12 to 18 months following the announcement. In 2016, the Company repurchased approximately 1.3 million shares of the Company's common stock under this program for an aggregate repurchase price of $40.0 million. There were no share repurchases subsequent to 2016. In 2018, in connection with execution of the Share Purchase Agreement, the Company received 5,994,667 shares of Synchronoss common stock, which have been recorded as Treasury shares as of December 31, 2019. Additionally, in 2018 the Company retired 3.9 million shares of Common Stock that were previously repurchased in prior years. Any related additional paid in capital and par values were removed from the Common Stock numbers.

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Preferred Stock

The Board of Directors is authorized to issue preferred shares and has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences of preferred stock.

In accordance with the terms of the Share Purchase Agreement dated as of October 17, 2017 (the "PIPE Purchase Agreement"), with Silver Private Holdings I, LLC, an affiliate of Siris ("Silver"), on February 15, 2018, the Company issued to Silver 185,000 shares of its newly issued Series A Convertible Participating Perpetual Preferred Stock (the "Series A Preferred Stock"), par value $0.0001 per share, with an initial liquidation preference of $1,000 per share, in exchange for $97.7 million in cash and the transfer from Silver to the Company of the 5,994,667 shares of the Company's common stock held by Silver (the "Preferred Transaction").

As of December 31, 2019, there were 217,186 shares of Series A Preferred Stock outstanding, including the initial issuance of 185,000 shares of Series A Preferred Stock and the issuance of 32,186 shares of Series A Preferred Stock as dividends.

In accordance with the terms of the PIPE Purchase Agreement with Silver on February 15, 2018, Silver exercised its option to complete the Preferred Transaction. In connection with the issuance of the Series A Preferred Stock, the Company (i) filed the certificate of designations to its certificate of incorporation to establish the rights, preferences, privileges, qualifications, restrictions and limitations of the Series A Preferred Stock (the "Series A Certificate") and (ii) entered into the Investor Rights Agreement setting forth certain registration, governance and preemptive rights of Silver with respect to Synchronoss. Pursuant to the PIPE Purchase Agreement, at the closing, the Company paid to Siris $5.0 million as a reimbursement of Silver's reasonable costs and expenses incurred in connection with the Preferred Transaction. In connection with execution of the Preferred Transaction, Silver delivered 5,994,667 shares of Synchronoss common stock, which have been recorded as Treasury shares as of December 31, 2019.

Certificate of Designation of the Series A Preferred Stock

The rights, preferences, privileges, qualifications, restrictions and limitations of the shares of Series A Preferred Stock are set forth in the Series A Certificate. Under the Series A Certificate, the holders of the Series A Preferred Stock are entitled to receive, on each share of Series A Preferred Stock on a quarterly basis, an amount equal to the dividend rate of 14.5% divided by four and multiplied by the then-applicable Liquidation Preference (as defined in the Series A Certificate) per share of Series A Preferred Stock (collectively, the "Preferred Dividends"). The Preferred Dividends are due on January 1, April 1, July 1 and October 1 of each year (each, a "Series A Dividend Payment Date"). The Company may choose to pay the Preferred Dividends in cash or in additional shares of Series A Preferred Stock. In the event the Company does not declare and pay a dividend in-kind or in cash on any Series A Dividend Payment Date, the unpaid amount of the Preferred Dividend will be added to the Liquidation Preference. In addition, the Series A Preferred Stock participates in dividends declared and paid on shares of the Company's common stock.

Each share of Series A Preferred Stock is convertible, at the option of the holder, into the number of shares of common stock equal to the "Conversion Price" (as that term is defined in the Series A Certificate) multiplied by the then applicable "Conversion Rate" (as that term is defined in the Series A Certificate). Each share of Series A Preferred Stock is initially convertible into 55.5556 shares of common stock, representing an initial "conversion price" of approximately $18.00 per share of common stock. The Conversion Rate is subject to equitable proportionate adjustment in the event of stock splits, recapitalizations and other events set forth in the Series A Certificate.

On and after the fifth anniversary of February 15, 2018, holders of shares of Series A Preferred Stock have the right to cause the Company to redeem each share of Series A Preferred Stock for cash in an amount equal to the sum of the current liquidation preference and any accrued dividends. Each share of Series A Preferred Stock is also redeemable at the option of the holder upon the occurrence of a "Fundamental Change" (as that term is defined in the Series A Certificate) at a specified premium ("Liquidation Value"). In addition, the Company is also permitted to redeem all outstanding shares of the Series A Preferred Stock at any time (i) within the first 30 months of the date of issuance for the sum of the then-applicable Liquidation Preference, accrued but unpaid dividends and a make whole amount (known as "Redemption Value") and (ii) following the 30-month anniversary of the date of issuance for the sum of the then-applicable Liquidation Preference and the accrued but unpaid dividends. As of December 31, 2019, the Liquidation Value and Redemption Value of the Preferred Shares was $243.1 million.

The holders of a majority of the Series A Preferred Stock, voting separately as a class, are entitled at each of the Company's annual meetings of stockholders or at any special meeting called for the purpose of electing directors (or by written consent signed by the holders of a majority of the then-outstanding shares of Series A Preferred Stock in lieu of such a meeting): (i) to nominate and elect two members of the Company's Board of Directors for so long as the Preferred Percentage (as defined in the Series A Certificate) is equal to or greater than 10%; and (ii) to nominate and elect one member of the Company's Board of Directors for so long as the Preferred Percentage is equal to or greater than 5% but less than 10%.

For so long as the holders of shares of Series A Preferred Stock have the right to nominate at least one director, the Company is required to obtain the prior approval of Silver prior to taking certain actions, including: (i) certain dividends, repayments and redemptions; (ii) any amendment to the Company's certificate of incorporation that adversely effects the rights, preferences, privileges or voting powers of the Series A Preferred Stock; (iii) issuances of stock ranking senior or equivalent to shares of Series A Preferred Stock (including additional shares of Series A Preferred Stock) in the priority of payment of dividends or in the distribution of assets upon any liquidation, dissolution or winding up of the Company; (iv) changes in the size of the Company's Board of Directors; (v) any amendment, alteration, modification or repeal of the charter of the Company's Nominating and Corporate Governance Committee of the Board of Directors and related documents; and (vi) any change in the Company's principal business or the entry into any line of business outside of the Company's existing lines of businesses. In addition, in the event that the Company is in EBITDA Non-Compliance (as defined in the Series A Certificate) or the undertaking of certain actions would result in the Company exceeding a specified pro forma leverage ratio, then the prior approval of Silver would be required to incur indebtedness (or alter any debt document) in excess of $10.0 million, enter or consummate any transaction where the fair market value exceeds $5.0 million individually or $10.0 million in the aggregate in a fiscal year or authorize or commit to capital expenditures in excess of $25.0 million in a fiscal year.

Each holder of Series A Preferred Stock has one vote per share on any matter on which holders of Series A Preferred Stock are entitled to vote separately as a class, whether at a meeting or by written consent. The holders of Series A Preferred Stock are permitted to take any action or consent to any action with respect to such rights without a meeting by delivering a consent in writing or electronic transmission of the holders of the Series A Preferred Stock entitled to cast not less than the minimum number of votes that would be necessary to authorize, take or consent to such action at a meeting of stockholders. In addition to any vote (or action taken by written consent) of the holders of the shares of Series A Preferred Stock as a separate class provided for in the Series A Certificate or by the General Corporation Law of the State of Delaware, the holders of shares of the Series A Preferred Stock are entitled to vote with the holders of shares of common stock (and any other class or series that may similarly be entitled to vote on an as-converted basis with the holders of common stock) on all matters submitted to a vote or to the consent of the stockholders of the Company (including the election of directors) as one class.

Under the Series A Certificate, if Silver and certain of its affiliates have elected to effect a conversion of some or all of their shares of Series A Preferred Stock and if the sum, without duplication, of (i) the aggregate number of shares of the Company's common stock issued to such holders upon such conversion and any shares of the Company's common stock previously issued to such holders upon conversion of Series A Preferred Stock and then held by such holders, plus (ii) the number of shares of the Company's common stock underlying shares of Series A Preferred Stock that would be held at such time by such holders (after giving effect to such conversion), would exceed the 19.9% of the issued and outstanding shares of the Company's voting stock on an as converted basis (the "Conversion Cap"), then such holders would only be entitled to convert such number of shares as would result in the sum of clauses (i) and (ii) (after giving effect to such conversion) being equal to the Conversion Cap (after giving effect to any such limitation on conversion). Any shares of Series A Preferred Stock which a holder has elected to convert but which, by reason of the previous sentence, are not so converted, will be treated as if the holder had not made such election to convert and such shares of Series A Preferred Stock will remain outstanding. Also, under the Series A Certificate, if the sum, without duplication, of (i) the aggregate voting power of the shares previously issued to Silver and certain of its affiliates held by such holders at the record date, plus (ii) the aggregate voting power of the shares of Series A Preferred Stock held by such holders as of such record date, would exceed 19.99% of the total voting power of the Company's outstanding voting stock at such record date, then, with respect to such shares, Silver and certain of its affiliates are only entitled to cast a number of votes equal to 19.99% of such total voting power. The limitation on conversion and voting ceases to apply upon receipt of the requisite approval of holders of the Company's common stock under the applicable listing standards.

Investor Rights Agreement

Concurrently with the closing of the Preferred Transaction, Synchronoss and Silver entered into an Investor Rights Agreement. Under the terms of the Investor Rights Agreement, Silver and Synchronoss have agreed that, effective as of the closing of the Preferred Transaction, the Board of Directors of Synchronoss will consist of ten members. From and after the closing of the

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Preferred Transaction, so long as the holders of Series A Preferred Stock have the right to nominate a member to the Board of Directors pursuant to the Series A Certificate, the Board of Directors of Synchronoss will consist of (i) two directors nominated and elected by the holders of shares of Series A Preferred Stock; (ii) four directors who meet the independence criteria set forth in the applicable listing standards (each of whom will be initially agreed upon by Synchronoss and Silver); and (iii) four other directors, two of whom shall satisfy the independence criteria of the applicable listing standards and, as of the closing of the Preferred Transaction, one of whom shall be the individual then serving as chief executive officer of Synchronoss and one of whom shall be the current chairman of the Board of Directors of Synchronoss as of the date of execution of the Investors Rights Agreement. Following the closing of the Preferred Transaction, so long as the holders of Series A Preferred Stock have the right to nominate at least one director to the Board of Directors of Synchronoss pursuant to the Series A Certificate, Silver will have the right to designate two members of the Nominating and Corporate Governance Committee of the Board of Directors.

Pursuant to the terms of the Investor Rights Agreement, neither Silver nor its affiliates may transfer any shares of Series A Preferred Stock subject to certain exceptions (including transfers to affiliates that agree to be bound by the terms of the Investor Rights Agreement).

For so long as Silver has the right to appoint a director to the Board of Directors of Synchronoss, without the prior approval by a majority of directors voting who are not appointed by the holders of shares of Series A Preferred Stock, neither Silver nor its affiliates will directly or indirectly purchase or acquire any debt or equity securities of Synchronoss (including equity-linked derivative securities) if such purchase or acquisition would result in Silver's Standstill Percentage (as defined in the Investor Rights Agreement) being in excess of 30%. However, the foregoing standstill restrictions would not prohibit the purchase of shares pursuant to the PIPE Purchase Agreement or the receipt of shares of Series A Preferred Stock issued as Preferred Dividends pursuant to the Series A Certificate, shares of Common Stock received upon conversion of shares of Series A Preferred Stock or receipt of any shares of Series A Preferred Stock, Common Stock or other securities of the Company otherwise paid as dividends or as an increase of the Liquidation Preference (as defined in the Series A Certificate) or distributions thereon. Silver will also have preemptive rights with respect to issuances of securities of Synchronoss to maintain its ownership percentage.

Under the terms of the Investor Rights Agreement, Silver will be entitled to (i) three demand registrations, with no more than two demand registrations in any single calendar year and provided that each demand registration must include at least 10% of the shares of Common Stock held by Silver, including shares of Common Stock issuable upon conversion of shares of Series A Preferred Stock and (ii) unlimited piggyback registration rights with respect to primary issuances and all other issuances.

A summary of the Company's Series A Convertible Participating Perpetual Preferred Stock balance at December 31, 2019 and changes during the year ended December 31, 2019, are presented below:

	Preferred Stock	
	Shares	Amount
Balance at December 31, 2018	195	$ 176,603
Issuance of preferred stock	22	—
Initial discount and issuance costs related to preferred stock	—	—
Amortization of preferred stock issuance costs	—	2,257
Issuance of preferred PIK dividend	—	22,005
Balance at December 31, 2019	217	$ 200,865

Registration Rights

There were no significant changes to the Company's registration rights during the year ended December 31, 2019.

13. Stock Plans

In March 2015, the Company adopted the 2015 Equity Incentive Plan (the "2015 Plan"). The 2015 Plan replaces the Company's prior 2000 Equity Incentive Plan (the "2000 Plan") and the 2006 Equity Incentive Plan (the "2006 Plan") (collectively, the "Plans"). Beginning March 2015, all awards were granted under the 2015 Plan. In addition, any awards that were previously granted under any prior Plans that terminate without issuance of shares, shall be eligible for issuance under the 2015 Plan.

Under the 2015 Plan, the Company may grant to its employees, outside directors and consultants awards in the form of non-qualified stock options, shares of restricted stock, stock units, or stock appreciation rights and performance shares. The Company's Board of Directors administers the Plan and is responsible for determining the individuals to be granted options or shares, the number of options or shares each individual will receive, the price per share and the exercise period of each option.

During 2017, the Company's Board of Directors approved the issuance of market-based restricted stock to certain executives which are eligible to vest if the volume-weighted average closing price over 20 consecutive trading days equals or exceeds certain stock prices during the specific performance period from July 2017 to July 2019. The Company utilized the Monte Carlo simulation to estimate the fair value of the restricted stock on its grant date.

In connection with the appointment a new Chief Executive Officer in November 2017, the Company entered into an employment agreement which provided for the grant of restricted stock awards, stock options and performance stock awards. These awards were approved by the Compensation Committee of Synchronoss' Board of Directors and granted as an inducement equity award outside the 2015 Plan in accordance with the Nasdaq Listing Rule 5635(c)(4) (the "Inducement Rule").

On December 15, 2017, the Compensation Committee adopted the 2017 New Hire Equity Incentive Plan ("2017 New Hire Plan"), which is intended to be exempt from the stockholder approval requirements under the "inducement grant exception" provided by the Inducement Rule. The Committee authorized the issuance of up to 1.5 million Common Shares to new hires, with the purpose of promoting the long-term success of the Company and the creation of stockholder value by (a) providing for the attraction and retention of new employees with exceptional qualifications, (b) encouraging new employees to focus on critical long-range objectives, and (c) linking new employees directly to stockholder interests through increased stock ownership. As required by the Inducement Rule, the Company issues a press release promptly upon issuing shares to new employees pursuant to the 2017 New Hire Plan.

There were no significant changes to the Company's Stock Plans during the year ended December 31, 2019. As of December 31, 2019, there were 1.8 million shares available for the grant or award under the Company's 2015 Plan and 0.3 million shares available for the grant or award under the Company's 2017 New Hire equity incentive Plan.

The Company's performance cash awards granted to executives under the Long Term Incentive ("LTI") Plans have been accounted for as liability awards, due to the Company's intent and the ability to settle such awards in cash upon vesting and has reflected such awards in accrued expenses. As of December 31, 2019, the liability for such awards is approximately $0.6 million.

Stock-Based Compensation

The following table summarizes stock-based compensation expense related to all of the Company's stock awards included by operating expense categories, as follows:

	Twelve Months Ended December 31,		
	2019	2018	2017
Cost of revenues	$ 2,929	$ 4,370	$ 4,602
Research and development	4,227	6,055	6,030
Selling, general and administrative	15,094	17,179	11,863
Total stock-based compensation expense	$ 22,250	$ 27,604	$ 22,495

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The following table summarizes stock-based compensation expense related to all of the Company's stock awards included by award types, as follows:

	Twelve Months Ended December 31,		
	2019	2018	2017
Stock options	$ 7,348	$ 7,368	$ 6,311
Restricted stock awards	14,775	20,216	15,802
Employee Stock Purchase Plan	—	—	382
Performance Based Cash Units	127	20	—
Total stock-based compensation before taxes	22,250	27,604	22,495
Tax benefit	$ 3,455	$ 5,387	$ 3,921

The total stock-based compensation cost related to unvested equity awards as of December 31, 2019 was approximately $30.8 million. The expense is expected to be recognized over a weighted-average period of approximately 1.9 years.

The total stock-based compensation cost related to unvested performance-based cash units as of December 31, 2019 was approximately $0.3 million. The expense is expected to be recognized over a weighted-average period of approximately 1.6 years.

In June 2019, two of Synchronoss board members decided not to stand re-election at the 2019 Annual Shareholder Meeting. The Company accelerated the vesting of certain unvested restricted stock awards and stock options for these board members at their termination date. The Company accounted for the acceleration of these grants as a Type I modification under ASC Topic 718 and recorded a one-time expense of $0.3 million.

As part of the work force reduction driven by corporate restructuring initiated in 2016, the Company terminated certain employees in 2017 and accelerated the vesting of certain unvested restricted stock awards and stock options for these employees. The Company accounted for the acceleration of these awards as a result of the restructuring termination as a Type III modification under ASC Topic 718 and recorded a one-time expense of $1.1 million.

In July 2017, the Company modified the terms of performance-based restricted stock awards granted to certain employees in 2015 and 2016 to modify the performance period as the performance targets for 2017 established previously were not considered probable due to the changes in the business driven by significant acquisitions and divestitures by the Company. The modification of the performance-based shares was considered a Type III modification under ASC Topic 718, and as a result, the Company reversed all previously recorded expense for these awards and recorded the new compensation expense over the new requisite service period as a result of the modification. The total incremental compensation expense resulting from these modifications was $2.0 million.

Replacement Awards

On January 19, 2017, certain equity awards granted under the Intralinks Holdings, Inc. 2010 Equity Incentive Plan and the Intralinks Holdings, Inc. 2007 Stock Option and Grant Plan (together, the "Intralinks Plans") were assumed by the Company's 2015 Equity Incentive Plan (the "2015 Plan"). The assumed awards are subject to the vesting and service conditions of the 2015 Plan. Subsequently, these were accelerated as part of the Intralinks Transaction.

Among the equity awards assumed were restricted stock units subject to market-based performance targets in order for them to vest. Vesting is subject to continued service requirements through the vesting date. The grant date fair value for such unvested restricted stock units was estimated using a Monte Carlo simulation that incorporates option-pricing inputs covering the period from the grant date through the end of the performance period. Stock-based compensation expense for such unvested restricted stock units is recognized on a straight-line basis over the vesting period, regardless of whether the market condition is satisfied. All of these awards were canceled during 2017 pursuant to termination of related employees.

Stock Options

Options that were granted under the Company's 2000, 2006 and 2015 Plans generally vest 25% on the first-year anniversary of the date of grant plus an additional 1/48th for each month of continuous service thereafter.

Options that were granted under the Company's 2010 Plan generally vest 50% on the second-year anniversary and an additional 1/48th for each month of continuous service thereafter.

Incentive options that were granted under the 2000 and 2006 Plans generally vest 25% on the first-year anniversary on the date of grant and an additional 1/48th for each month of continuous service thereafter.

There were no significant changes to the Company's Stock Option Plans during the year ended December 31, 2019.

The Company uses the Black-Scholes option pricing model for determining the estimated fair value for stock options. The weighted-average assumptions used in the Black-Scholes option pricing model are as follows:

	Twelve Months Ended December 31,		
	2019	2018	2017
Expected stock price volatility	69.6%	65.5%	57.0%
Risk-free interest rate	1.9%	2.6%	1.8%
Expected life of options (in years)	4.34	4.13	4.08
Expected dividend yield	0.0%	0.0%	0.0%
Weighted-average fair value (grant date) of the options	$ 3.82	$ 4.91	$ 6.30

The following table summarizes information about stock options outstanding as of December 31, 2019:

Options	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at December 31, 2018	4,254	$ 17.93		
Options Granted	1,249	7.05		
Options Exercised	(7)	5.48		
Options Cancelled	(574)	23.51		
Outstanding at December 31, 2019	4,922	$ 14.54	4.78	$ 5.56
Vested at December 31, 2019	1,792	$ 23.54	3.59	$ 1.23
Exercisable at December 31, 2019	1,792	$ 23.54	3.59	$ 1.23

The total intrinsic value of stock options exercised during the year ended December 31, 2019 and 2018 was $20.5 thousand and nil, respectively. The total intrinsic value of stock options exercisable as of December 31, 2019 and 2018 was $1.2 thousand and nil, respectively.

Awards of Restricted Stock and Performance Stock

Restricted stock awards ("Restricted Stock") granted under the Company's Plans generally vest 25% of the applicable shares on the first anniversary of the date of grant and thereafter an additional 1/16th for each three months of continuous service.

Performance stock awards granted under the Company's 2006 Plan generally vest with respect to one-third of the applicable shares on the date that the performance objectives under the performance stock awards are achieved and thereafter an additional one-third for each year of continuous service.

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Generally, performance stock awards granted under the Company's 2015 Plan vest at the end of a three-year period based on service and achievement of certain performance objectives determined by the Company's Board of Directors.

There were no significant changes to the Company's restricted stock award ("Restricted Stock") and performance stock plan during the year ended December 31, 2019.

A summary of the Company's unvested restricted stock at December 31, 2019, and changes during the year ended December 31, 2019, is presented below:

Unvested Restricted Stock	Number of Awards	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2018	2,630	$ 12.71
Granted	2,204	7.02
Vested	(1,188)	17.70
Forfeited	(271)	10.90
Unvested at December 31, 2019	3,375	$ 8.68

Restricted stock awards are granted subject to other service conditions or service and performance conditions ("Performance-Based Awards"). Restricted stock and Performance-Based Awards are measured at the closing stock price at the date of grant and are recognized straight line over the requisite service period.

Performance Based Cash Units

Performance based cash units granted under the Company's 2015 Plan vest at the end of a three-year period based on service and achievement of certain performance objectives determined by the Company's Board of Directors.

A summary of the Company's unvested performance-based cash units at December 31, 2019 and changes during the year ended December 31, 2019, is presented below:

Unvested Cash Units	Number of Awards	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2018	70	$ 6.14
Granted	976	—
Vested	—	—
Forfeited	—	—
Unvested at December 31, 2019	1,046	$ 4.75

Performance based cash units are measured at the closing stock price at the reporting period end date and are recognized straight line over the requisite service period. The expense for the period will increase or decrease based on updated fair values of these awards at each reporting date.

14. 401(k) Plan

The Company has a 401(k) plan (the "401(k) Plan") covering all eligible employees. The 401(k) Plan allows for a discretionary employer match. The Company incurred and expensed $2.6 million, $2.2 million, and $2.9 million for the years ended December 31, 2019, 2018 and 2017, respectively, in 401(k) Plan match contributions.

15. Restructuring

The Company continues to identify workforce optimization opportunities to better align the Company's resources with its key strategic priorities.

A summary of the Company's restructuring accrual at December 31, 2019 and changes during the year ended December 31, 2019, are presented below:

	Balance at December 31, 2018	Charges	Payments	Other Adjustments[1]	Balance at December 31, 2019
Employment termination costs	$ 1,276	$ 755	$ (2,082)	$ 141	$ 90

(1) Includes non-cash adjustments and reclassifications.

16. Income Taxes

The components of income or (loss) from continuing operations before income taxes are as follows:

	Year Ended December 31, 2019	2018	2017
Domestic	$ (104,445)	$ (216,589)	$ (210,214)
Foreign	3,152	(46,585)	(18,873)
Total	$ (101,293)	$ (263,174)	$ (229,087)

The components of income tax (expense) benefit from continuing operations are as follows:

	Year Ended December 31, 2019	2018	2017
Current:			
Federal	$ (208)	$ 3,163	$ 600
State	46	116	—
Foreign	(2,048)	(2,612)	(4,817)
Deferred:			
Federal	(28)	6,729	40,634
State	(17)	2,214	1,340
Foreign	81	8,284	(2,894)
Income tax (provision) benefit	$ (2,174)	$ 17,894	$ 34,863

Reconciliations of the statutory tax rates and the effective tax rates from continuing operations for the years ended December 31, 2019, 2018 and 2017 are as follows:

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	Year Ended December 31, 2019	2018	2017
Statutory rate	21.0 %	21.0 %	35.0 %
State taxes, net of federal benefit	(0.8)%	3.0 %	1.0 %
Effect of rates different than statutory	(4.3)%	(2.0)%	(2.0)%
Minority interest	0.2 %	(1.0)%	(1.0)%
Non-deductible stock-based compensation	(2.5)%	(2.0)%	(2.0)%
Other permanent adjustments	(0.3)%	— %	(2.0)%
Research and development credit	0.5 %	— %	— %
Change in valuation allowance	6.7 %	(17.0)%	(7.0)%
Statute release of uncertain tax position	0.6 %	1.0 %	— %
Other	(1.4)%	1.0 %	(2.0)%
Acquisitions and foreign tax residency changes	— %	3.0 %	(2.0)%
Investment in JV	(1.7)%	— %	— %
Global Intangible Low-Taxed Income	(3.3)%	— %	— %
Waived deductions for purposes of Base Erosion Anti-Abuse Tax	(17.0)%	— %	— %
Tax Reform Rate Reduction	— %	— %	(3.0)%
Net	(2.1)%	7.0 %	15.0 %

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Deferred income taxes reflect the net effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities are as follows:

	As of December 31, 2019	As of December 31, 2018
Deferred tax assets:		
Accrued liabilities	$ 78	$ 88
Deferred revenue	12,943	13,120
Bad debts reserve	9,291	1,108
Deferred compensation	5,262	4,680
Federal net operating loss carry forwards	7,969	28,193
State net operating loss carry forwards	4,236	7,085
Foreign net operating loss carry forwards	9,401	10,880
Deferred rent	—	776
Lease Obligations	13,791	—
Capital loss carry forward	1,563	1,689
Intangible assets	2,716	1,318
Basis difference	8,041	7,632
Installment sale	8,726	8,819
Other	3,208	3,508
Total deferred tax assets	$ 87,225	$ 88,896
Deferred tax liabilities:		
Depreciation and amortization	(5,965)	(9,179)
Lease Assets	(9,593)	—
Total deferred tax liabilities	(15,558)	(9,179)
Less: valuation allowance	(73,346)	(81,064)
Net deferred income tax (liabilities) assets	$ (1,679)	$ (1,347)

As of December 31, 2019, the Company has federal and state income tax net operating loss ("NOL") carryforwards of $38.0 million and $67.3 million, respectively, including NOL carryforwards which will expire at various dates from 2023 through 2039, and NOL carryforwards which do not expire. The Company also has foreign NOL carryforwards in various jurisdictions of $98.5 million that have various carryforward periods. Such NOL carryforwards expire as follows:

2023 - 2027	846
2028 - 2038	74,911
Indefinite	128,071
	$ 203,828

In evaluating the Company's ability to recover its deferred tax assets within the jurisdiction from which they arise, the Company considers all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax-planning strategies, and results of recent operations. In projecting future taxable income, the Company begins with historical results and incorporates assumptions including the amount of future state, federal and foreign pretax operating income, the reversal of temporary differences, and the implementation of feasible and prudent tax-planning strategies. These assumptions require significant judgment about the forecasts of future taxable income and are consistent with the plans and estimates the Company is using to manage the underlying businesses.

The foreign NOL carryforwards in the income tax returns filed included unrecognized tax benefits taken in prior years. The NOLs for which a deferred tax asset is recognized for financial statement purposes in accordance with ASC 740 are presented net of these unrecognized tax benefits.

The Company continues to evaluate the ability to realize all of its net deferred tax assets at each reporting date and records a benefit for deferred tax assets to the extent it has deferred tax liabilities that provide a source of income to benefit the deferred tax asset. As a result of this analysis, the Company recorded a valuation allowance against the net deferred tax assets of certain foreign jurisdictions as the realization of these assets is not more likely than not, given uncertainty of future earnings in these jurisdictions. The valuation allowance decreased by $7.7 million and increased by $48.5 million during the years ended December 31, 2019 and December 31, 2018, respectively. The decrease in tax year ended December 31, 2019 is primarily related to utilization of NOL carryforwards. The increase in tax year ended December 31, 2018 was primarily attributable to an increase in NOL carryforwards and valuation allowance recorded in additional foreign jurisdictions where realizability of the deferred tax assets is no longer more likely than not.

The Company is subject to taxation in the United States and various states and foreign jurisdictions. As of December 31, 2019, the Company's tax years for 2016 through 2019 are subject to examination by the tax authorities. With few exceptions, as of December 31, 2019, the Company is no longer subject to U.S. federal, state, local, or foreign examinations by tax authorities for years before 2015. However, to the extent we utilize our NOL carryforwards in the future, the tax years in which the attribute was generated may still be adjusted upon examination by the tax authorities in the future period when the attribute is utilized.

The Company is currently under income tax examinations in Illinois for the tax years 2014 through 2015, Colorado for tax years 2014 through 2017, and Massachusetts for the tax years 2015 through 2017. The Company does not believe that the results of this audit will have a material effect on its financial position or results of operations.

In 2017, the TCJA included a transition tax based on undistributed, untaxed foreign earnings analyzed in aggregate. The final analysis performed by the Company resulted in an overall untaxed deficit and no transition tax. In addition, no income taxes have been provided for any remaining undistributed foreign earnings not subject to the transition tax, or any additional outside basis difference inherent in these entities, as these amounts continue to be indefinitely reinvested in foreign operations. Should the Company decide to repatriate the foreign earnings, it would need to adjust its income tax provision in the period it determined that the earnings will no longer be indefinitely invested outside the United States. Due to the timing and circumstances of repatriation of such earnings, if any, it is not practicable to determine the unrecognized deferred tax liability relating to such amounts.

A reconciliation of the amounts of unrecognized tax benefits excluding interest, are as follows:

Unrecognized tax benefit at December 31, 2016	**4,585**
Increase for tax positions taken during prior year	1,823
Increases related to acquired entities	13,278
Reduction due to lapse of applicable statute of limitations	(1,512)
Decreases related to divested entities	(13,645)
Increases for tax positions of current period	**1,946**
Unrecognized tax benefit at December 31, 2017	6,475
Decrease for tax positions taken during prior year	(567)
Increases related to acquired entities	—
Reduction due to lapse of applicable statute of limitations	(2,657)
Decreases related to divested entities	—
Increases for tax positions of current period	721
Unrecognized tax benefit at December 31, 2018	**3,972**
Increase for tax positions taken during prior year	—
Increases related to acquired entities	—
Increases and (decreases) related to Lapse of Statute of Limitations	(703)
Decreases related to divested entities	—
Increases for tax positions of current period	—
Unrecognized tax benefit at December 31, 2019	**$ 3,269**

Included in the balance of unrecognized tax benefits as of the years ended December 31, 2019 and 2018, are $2.8 million and $3.5 million, respectively, of tax benefits that, if recognized, would affect the effective tax rate.

(Amounts in tables in thousands, except for per share data or unless otherwise noted)

The Company recognizes interest and penalties, if any, related to unrecognized tax benefits in interest expense. The liability for unrecognized tax benefits excludes accrued interest of $0.3 million, $0.4 million, and $0.6 million, for the years ended December 31, 2019, 2018 and 2017, respectively. The Company believes that it is reasonably possible that approximately $0.5 million of its currently unrecognized tax benefits primarily related to research and development credits, which are individually insignificant, may be recognized by the end of 2020 as a result of a lapse of the statute of limitations.

17. Earnings per Common Share ("EPS")

Basic EPS is computed based upon the weighted average number of common shares outstanding for the year. Diluted EPS is computed based upon the weighted average number of common shares outstanding for the year plus the dilutive effect of common stock equivalents using the treasury stock method and the average market price of the Company's common stock for the year. The Company includes participating securities (Redeemable Convertible Preferred Stock - Participation with Dividends on Common Stock that contain preferred dividend) in the computation of EPS pursuant to the two-class method. The two-class method of computing earnings per share is an allocation method that calculates earnings per share for common stock and participating securities. During periods of net loss, no effect is given to the participating securities because they do not share in the losses of the Company.

The following table provides a reconciliation of the numerator and denominator used in computing basic and diluted net income attributable to common stockholders per common share from continued and discontinued operations.

	Twelve Months Ended December 31,		
	2019	2018	2017
Numerator - Basic:			
Net loss from continuing operations	$ (103,467)	$ (245,280)	$ (194,224)
Net (income) loss attributable to redeemable noncontrolling interests	(1,126)	8,837	9,291
Preferred stock dividend	(32,134)	(25,593)	—
Net (loss) income from continuing operations attributable to Synchronoss	(136,727)	(262,036)	(184,933)
Income from discontinued operations, net of taxes**	—	18,288	75,495
Net (loss) income attributable to Synchronoss	$ (136,727)	$ (243,748)	$ (109,438)
Numerator - Diluted:			
Net (loss) income from continuing operations attributable to Synchronoss	$ (136,727)	$ (262,036)	$ (184,933)
Income effect for interest on convertible debt, net of tax	—	—	—
Net loss from continuing operations adjusted for the convertible debt	(136,727)	(262,036)	(184,933)
Income from discontinued operations, net of taxes**	—	18,288	75,495
Net loss attributable to Synchronoss	$ (136,727)	$ (243,748)	$ (109,438)
Denominator:			
Weighted average common shares outstanding — basic	40,694	40,277	44,669
Dilutive effect of:			
Shares from assumed conversion of convertible debt [1]	—	—	—
Shares from assumed conversion of preferred stock [2]	—	—	—
Options and unvested restricted shares	—	—	—
Weighted average common shares outstanding — diluted	40,694	40,277	44,669
Basic EPS			
Continuing operations	$ (3.36)	$ (6.51)	$ (4.14)
Discontinued operations**	$ —	$ 0.46	$ 1.69
	$ (3.36)	$ (6.05)	$ (2.45)
Diluted EPS			
Continuing operations	$ (3.36)	$ (6.51)	$ (4.14)
Discontinued operations**	$ —	$ 0.46	$ 1.69
	$ (3.36)	$ (6.05)	$ (2.45)
Anti-dilutive stock options excluded	—	—	—
Unvested shares of restricted stock awards	3,375	2,700	2,648

(Amounts in tables in thousands, except for per share data or unless otherwise noted)

(1) The calculation does not include the effect of assumed conversion of convertible debt of 1,288,292, 3,972,939, and 4,325,646 shares for the year ended December 31, 2019, 2018 and 2017, respectively; which is based on 18.8072 shares per $1,000 principal amount of the Senior Convertible Notes.

(2) The calculation does not include the effect of assumed conversion of preferred stock of 11,383,105 and 9,312,528 shares for the year ended December 31, 2019 and 2018, respectively; which is based on 55.5556 shares per $1,000 principal amount of the preferred stock, because the effect would have been anti–dilutive.

18. Commitments.

Non-cancelable agreements

The Company leases office space, automobiles, office equipment and co-location services under non-cancelable agreements that expire at various dates, with the latest expiration in 2023.

Aggregate annual future minimum payments under non-cancelable agreements are as follows:

As of December 31, 2019	Non-cancelable agreements
2020	$ 25,275
2021	2,575
2022	2,207
2023 and thereafter	920
	$ 30,977

19. Legal Matters

In the ordinary course of business, the Company is regularly subject to various claims, suits, regulatory inquiries and investigations. The Company records a liability for specific legal matters when it determines that the likelihood of an unfavorable outcome is probable, and the loss can be reasonably estimated. Management has also identified certain other legal matters where they believe an unfavorable outcome is not probable and, therefore, no reserve is established. Although management currently believes that resolving claims against the Company, including claims where an unfavorable outcome is reasonably possible, will not have a material impact on the Company's business, financial position, results of operations, or cash flows, these matters are subject to inherent uncertainties and management's view of these matters may change in the future. The Company also evaluates other contingent matters, including income and non-income tax contingencies, to assess the likelihood of an unfavorable outcome and estimated extent of potential loss. It is possible that an unfavorable outcome of one or more of these lawsuits or other contingencies could have a material impact on the liquidity, results of operations, or financial condition of the Company.

On May 1, 2017, May 2, 2017, June 8, 2017 and June 14, 2017, four putative class actions were filed against the Company and certain of its current and former officers and directors in the United States District Court for the District of New Jersey (the "Securities Law Action"). After these cases were consolidated, the court appointed as lead plaintiff Employees' Retirement System of the State of Hawaii, which filed, on November 20, 2017, a consolidated complaint purportedly on behalf of purchasers of the Company's common stock between February 3, 2016 and June 13, 2017. On February 2, 2018, the defendants moved to dismiss the consolidated complaint in its entirety, with prejudice. Before that motion was decided, on August 24, 2018, lead plaintiff filed a consolidated amended complaint purportedly on behalf of purchasers of the Company's common stock between October 28, 2014 and June 13, 2017. On June 28, 2019, the Court granted defendants' motion to dismiss the consolidated amended complaint in its entirety, without prejudice, allowing lead plaintiff to leave to amend its complaint. On August 14, 2019, lead plaintiff filed a second amended complaint. The second amended complaint asserts claims under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended, and it alleges, among other things, that the defendants made false and misleading statements of material information concerning the Company's financial results, business operations, and prospects. On October 4, 2019, the defendants moved to dismiss the second amended complaint in its entirety, with prejudice. The Company believes that the asserted claims lack merit and intends to defend against all of the claims vigorously. The plaintiff seeks unspecified damages, fees, interest,

and costs. Due to the inherent uncertainties of litigation, the Company cannot predict the outcome of the actions at this time and can give no assurance that the asserted claims will not have a material adverse effect on its financial position or results of operations.

On September 15, 2017, October 24, 2017, October 27, 2017 and October 30, 2017, the Company's shareholders filed derivative lawsuits against certain of its officers and directors and the Company (as nominal defendant) in the United States District Court for the District of New Jersey (the "Derivative Suits"). On May 24, 2018, the Court consolidated the Derivative Suits and appointed Lisa LeBoeuf as lead plaintiff. The lead plaintiff designated as the Operative Complaint the complaint she previously had filed on October 27, 2017, which alleges claims related to breaches of fiduciary duties and unjust enrichment. The Operative Complaint's allegations relate to substantially the same facts as those underlying the Securities Law Action described above. Plaintiff seeks unspecified damages and for the Company to take steps to improve its corporate governance and internal procedures. Defendants' motion to dismiss the Operative Complaint is pending before the Court.

On March 7, 2019, Synchronoss shareholders, Beth Daniel and Juan Solis, filed a separate derivative lawsuit against certain of the Company's current and former officers and directors and the Company (as nominal defendant) in the Court of Chancery of the State of Delaware, asserting substantially the same allegations as those underlying the Derivative Suits and the Securities Law Action described above. Plaintiffs seek unspecified damages and for the Company to take steps to improve its corporate governance and internal procedures. On May 20, 2019, the parties stipulated to a stay of the action pending a ruling on the pending motion to dismiss in the Derivative Suits. The Company believes that the asserted claims lack merit and intends to defend against all of the claims vigorously. Due to the inherent uncertainties of litigation, the Company cannot predict the outcome of the Derivative Suits at this time and can give no assurance that the asserted claims will not have a material adverse effect on our financial position or results of operations.

Except as set forth above, the Company is not currently subject to any legal proceedings that could have a material adverse effect on its operations; however, it may from time to time become a party to various legal proceedings arising in the ordinary course of its business. The Company is currently the plaintiff in several patent infringement cases. The defendants in several of these cases have filed counterclaims. Although the Company cannot predict the outcome of the cases at this time due to the inherent uncertainties of litigation, the Company continues to pursue its claims and believes that the counterclaims are without merit, and the Company intends to defend against all of such counterclaims.

20. Subsequent Events

Subsequent to December 31, 2019, the Company paid in-kind the accrued Preferred Dividends of $7.9 million.

21. Additional Financial Information

Other Income (expense), net

The following table sets forth the components of Other Income (expense), net included in the Consolidated Statements of Operations:

	Twelve Months Ended December 31,		
	2019	2018	2017
FX gains (losses) [(1)]	$ 31	$ (478)	$ (4,952)
PIK Note impairment [(2)]	—	(84,314)	(14,562)
Litigation settlement [(3)]	—	4,495	—
Remeasurement gain (loss) on financial instrument [(4)]	—	3,849	(4,367)
Divestiture: SpeechCycle [(5)]	—	—	4,947
Income from Investment [(6)]	—	519	—
Income from sale of intangible assets [(7)]	5,518	—	—
Income from Tax credit [(8)]	1,039	—	—
Others [(9)]	801	1,012	1,256
	$ 7,389	$ (74,917)	$ (17,678)

(1) Fair value of foreign exchange gains and losses
(2) PIK Note impairment on the troubled debt restructuring
(3) Represents Legal settlement of $4.2 million and $0.3 million IP settlement from third parties
(4) Remeasurement of gain/loss on Mandatorily Redeemable Put option for common shares held by Siris.
(5) Represents gain on divestiture of SpeechCycle.
(6) Represents gain on sale on the Company's cost investment in Clarity, Money Inc.
(7) Represents gain on sale on the Company's IP addresses
(8) Represents VOX Acquisition R&D Tax Credit
(9) Represents an aggregate of individually immaterial transactions

22. Summary of Quarterly Results of Operations (Unaudited)

Quarterly results of operations for 2019 and 2018 are as follows:

	Quarter Ended			
	March 31,	June 30,	September 30,	December 31,
2019	(In thousands, except per share data)			
Net revenues	$ 88,105	$ 77,846	$ 52,210	$ 90,588
Loss from continuing operations	(20,339)	(18,288)	(50,972)	(18,189)
Net (loss) income	(19,737)	(16,577)	(61,213)	(5,940)
Net (loss) income attributable to Synchronoss	(27,587)	(25,030)	(69,432)	(14,678)
Basic:				
Continuing operations [(1)]	$ (0.68)	$ (0.61)	$ (1.70)	$ (0.36)
Discontinued operations [(1)]	—	—	—	—
	$ (0.68)	$ (0.61)	$ (1.70)	$ (0.36)
Diluted:				
Continuing operations [(1)]	$ (0.68)	$ (0.61)	$ (1.70)	$ (0.36)
Discontinued operations [(1)]	—	—	—	—
	$ (0.68)	$ (0.61)	$ (1.70)	$ (0.36)

	Quarter Ended			
	March 31,	June 30,	September 30,	December 31,
2018	(In thousands, except per share data)			
Net revenues	$ 83,709	$ 76,742	$ 83,286	$ 82,102
Loss from continuing operations	(44,234)	(43,100)	(34,629)	(42,313)
Net (loss) income	(37,977)	(41,264)	(46,644)	(101,107)
Net (loss) income attributable to Synchronoss	(40,045)	(47,265)	(54,529)	(101,909)
Basic:				
Continuing operations [(1)]	$ (0.95)	$ (1.20)	$ (1.38)	$ (3.01)
Discontinued operations [(1)]	—	—	—	0.45
	$ (0.95)	$ (1.20)	$ (1.38)	$ (2.56)
Diluted:				
Continuing operations [(1)]	$ (0.95)	$ (1.20)	$ (1.38)	$ (3.01)
Discontinued operations [(1)]	—	—	—	0.45
	$ (0.95)	$ (1.20)	$ (1.38)	$ (2.56)

(1) Per common share amounts for the quarters and full year have been calculated separately. Accordingly, quarterly amounts do not add to the annual amount because of differences in the number of weighted-average common shares outstanding during each period which results principally from the effect of issuing shares of the Company's common stock and options throughout the year.

ITEM 9. *CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE*

Not applicable.

ITEM 9A. *CONTROLS AND PROCEDURES*

Evaluation of Disclosure Controls and Procedures

Our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and to ensure that information required to be disclosed is accumulated and communicated to management, including our principal executive and financial officers, to allow timely decisions regarding disclosure. Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. The Chief Executive Officer ("CEO") and the Chief Financial Officer ("CFO"), with assistance from other members of management, have reviewed the effectiveness of our disclosure controls and procedures as of December 31, 2019 and, based on their evaluation, have concluded that the disclosure controls and procedures were effective as of December 31, 2019.

Management's Report on Internal Control over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) of the Exchange Act. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

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

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

Under the supervision, and with the participation, of our management, including the CEO and CFO, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2019. In making this assessment, management used the criteria established in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on this assessment, management, including our CEO and CFO, has concluded that our internal control over financial reporting was effective as of December 31, 2019.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2019 has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report which appears herein.

Changes in Internal Control over Financial Reporting

The Company concluded that the pervasive material weakness identified under item 9a of our Annual Report on Form 10-K for the year ended December 31, 2018, pertaining to the Company's control environment, risk assessment, control activity, information and communication and monitoring components of the COSO criteria, has been remediated (the "Remediated Material Weakness").

During the year ended December 31, 2019, the Company completed the implementation of the following remedial measures designed to address the Remediated Material Weakness.

<u>Control Environment</u>

- Hired a Director of Revenue Recognition, a Director of Technical Accounting, and other resources to augment our staff to support further enhancement on the controls and procedures surrounding revenue recognition, technical matters and financial reporting.

- Increased standardization of contract documentation and revenue analysis for individual transactions, including increased oversight of revenue opportunities and contract review by personnel with the requisite accounting knowledge to identify revenue-impacting terms and consider potential downstream effects.
- Developed a more comprehensive review process and monitoring controls over contracts with customers to ensure accurate accounting for multiple-element arrangements.
- Implemented and effectively executed a quarterly non-recurring transaction review meeting with key stakeholders within the Company to identify and discuss potentially significant transactions. Meetings are attended by process owners across various functions or departments, both domestic and international, to promote regular and effective communication between finance and non-finance personnel, and to ensure that information related to significant transactions is communicated timely.
- Performed a review of key business process controls related to high-risk financial statement accounts, such as revenue, significant transactions, capitalized software, fixed assets, accounts receivable, treasury and financial close, which resulted in the redesign of existing controls and the addition of newly developed / documented control activities, in order to mitigate known risks and strengthen the overall control environment. The redesigned control environment was tested by the Company's internal auditors and management.
- Management reinforces compliance through consistent communication.

<u>Control Activities</u>

- Performed a detailed review of key IT process controls and enhanced the control design. The IT control environment was tested by the Company's internal auditors and management for design and operating effectiveness.
- Engaged external resources to assist management in our control design assessment and execution.

<u>Information and Communication</u>

- Established a Disclosure Committee that includes key members of management that have responsibility for disclosure information necessary for periodic filings with the SEC. The committee met formally for purposes of the Fiscal 2019 filings to discuss all significant events and relevant disclosure matters for the filing.

<u>Monitoring Activities and Risk Assessment</u>

- Formally established an Internal Audit function and our Audit Committee approved their charter in January 2019.
- Hired external resources to support and improve our Internal Audit Function. The internal audit function performed detailed internal control testing for all key controls and processes.
- Enhanced and completed our risk assessment processes to identify relevant accounts and assertions and design control procedures that relate to relevant risks.
- Reevaluated and completed our entity level control design and testing. The Company's internal auditor and management tested the entity level controls design and operating effectiveness.

Except for the foregoing, there was no change in our internal control over financial reporting that occurred during the quarter ended December 31, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Controls

The Company's management, including the Company's CEO and CFO, recognizes that the Company's disclosure controls and procedures and the Company's internal control over financial reporting cannot prevent or detect all errors and all fraud. A control system, regardless of how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system will be met. These inherent limitations include the following:

- Judgments in decision-making can be faulty, and control and process breakdowns can occur because of simple errors or mistakes.
- Controls can be circumvented by individuals, acting alone or in collusion with each other, or by management override.
- The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions.
- Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies and procedures.

Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Synchronoss Technologies, Inc.

Opinion on Internal Control over Financial Reporting

We have audited Synchronoss Technologies, Inc.'s internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Synchronoss Technologies, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive (loss) income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and schedule listed in the Index at Item 15(a)(2) and our report dated March 16, 2020, expressed an unqualified opinion thereon.

Basis for Opinion

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

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

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

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP
Iselin, New Jersey
March 16, 2020

ITEM 9B. *OTHER INFORMATION*

None.

PART III

ITEM 10. *DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE*

a. Identification of Directors. Information concerning the directors of Synchronoss is set forth under the heading “Election of Directors” in the Synchronoss Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

b. Audit Committee Financial Expert. Information concerning Synchronoss’ audit committee financial expert is set forth under the heading “Audit Committee” in the Synchronoss Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

c. Identification of the Audit Committee. Information concerning the audit committee of Synchronoss is set forth under the heading “Audit Committee” in the Synchronoss Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

d. Delinquent Section 16(a) Reports. Information concerning non-compliance, if any, with beneficial ownership reporting requirements is set forth under the caption “Delinquent Section 16(a) Reports” in the Synchronoss Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

e. Information about our Executive Officers. Information concerning the executive officers of Synchronoss is set forth under the heading “Information about our Executive Officers” in the Synchronoss Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

Code of Ethics. Information concerning the Synchronoss Code of Business Conduct is set forth under the caption “Code of Business Conduct” in the Synchronoss Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference. The Company intends to disclose on its website any amendments to, or waivers from, its Code of Business Conduct that are required to be disclosed pursuant to the rules of the SEC. Information contained on, or connected to, our website is not incorporated by reference into this annual report and should not be considered part of this report or any other filing that we make with the SEC.

ITEM 11. *EXECUTIVE COMPENSATION*

Information concerning executive compensation is set forth under the headings “Compensation of Executive Officers” and “Securities Authorized for Issuance Under Equity Compensation Plans” in the Synchronoss Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

ITEM 12. ***SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS***

Information concerning shares of Synchronoss equity securities beneficially owned by certain beneficial owners and by management is set forth under the heading "Equity Security Ownership of Certain Beneficial Owners and Management" in the Synchronoss Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

ITEM 13. ***CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE***

Information concerning certain relationships and related transactions is set forth under the heading "Certain Related Party Transactions" in the Synchronoss Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

ITEM 14. *PRINCIPAL ACCOUNTING FEES AND SERVICES*

Information concerning fees and services of the Company's principal accountants is set forth under the heading "Report of the Audit Committee" and "Independent Registered Public Accounting Firm's Fees" in the Synchronoss Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

PART IV

ITEM 15. *EXHIBITS*

(a)(1) Financial Statements:

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(a)(2) Schedule for the years ended December 31, 2019, 2018, 2017:

II—Valuation and Qualifying Accounts

All other Schedules have been omitted because they are not applicable, or the required information is shown in the Consolidated Financial Statements or of the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K thereto.

(a)(3) Exhibits:

Exhibit No.	Description
3.1	Restated Certificate of Incorporation of the Registrant, incorporated by reference to Registrant's Registration Statement on Form S-1 (Commission File No. 333-132080).
3.2	Amended and Restated Bylaws of the Registrant, incorporated by reference to Registrant's Registration Statement on Form S-1 (Commission File No. 333-132080).
3.3	Amendment No. 1 to Amended and Restated Bylaws of Registration, incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on February 20, 2018.
3.4	Certificate of Designations of Series A Convertible Participating Perpetual Preferred Stock, incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on February 20, 2018.
4.1	Reference is made to Exhibits 3.1, 3.2, 3.3 and 3.4
4.2	Amended and Restated Investors Rights Agreement, dated December 22, 2000, by and among the Registrant, certain stockholders and the investors listed on the signature pages thereto, incorporated by reference to Registrant's Registration Statement on Form S-1 (Commission File No. 333-132080).
4.3	Amendment No. 1 to Synchronoss Technologies, Inc. Amended and Restated Investors Rights Agreement, dated April 27, 2001, by and among the Registrant, certain stockholders and the investors listed on the signature pages thereto, incorporated by reference to Registrant's Registration Statement on Form S-1 (Commission File No. 333-132080).
4.4	Registration Rights Agreement, dated November 13, 2000, by and among the Registrant and the investors listed on the signature pages thereto, incorporated by reference to Registrant's Registration Statement on Form S-1 (Commission File No. 333-132080).
4.5	Amendment No. 1 to Synchronoss Technologies, Inc. Registration Rights Agreement, dated May 21, 2001, by and among the Registrant, certain stockholders listed on the signature pages thereto and Silicon Valley Bank, incorporated by reference to Registrant's Registration Statement on Form S-1 (Commission File No. 333-132080).
4.6	Form of Common Stock Certificate, incorporated by reference to Registrant's Registration Statement on Form S-1 (Commission File No. 333-132080)
4.7	Form of Indenture for Convertible Senior Notes, incorporated by reference to Registrant's Registration Statement on Form S-3 (Commission File No. 333-197871)
4.8	Investor Rights Agreement by and between Synchronoss Technologies, Inc. and Silver Private Holdings I, LLC dated as of February 15, 2018, incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed on February 20, 2018.
4.9	Description of Securities Registered under Section 12 of the Securities Exchange Act of 1934
10.1	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers, incorporated by reference to Registrant's Registration Statement on Form S-1 (Commission File No. 333-132080).
10.2	Synchronoss Technologies, Inc. 2000 Stock Plan and forms of agreements thereunder, incorporated by reference to Registrant's Registration Statement on Form S-1 (Commission File No. 333-132080).
10.3	Amendment No. 1 to Synchronoss Technologies, Inc. 2000 Stock Plan, incorporated by reference to Registrant's Registration Statement on Form S-1 (Commission File No. 333-132080).
10.4	2006 Equity Incentive Plan, as amended and restated, incorporated by reference to Registrant's Schedule 14A dated April 8, 2010.
10.4.1	2010 New Hire Equity Incentive Plan, incorporated by reference to Registrant's Registration Statement on Form S-8 (Commission File No. 333-168745).

Exhibit No.	Description
10.4.2	2015 Equity Incentive Plan, incorporated by reference to Registrant's Registration Statement on Form S-8 (Commission File No. 333-204311).
10.5	Employee Stock Purchase Plan, incorporated by reference to Registrant's Annual Report on Form 10-K for the year ended December 31, 2011.
10.6	Lease Agreement between the Registrant and Wells Reit-Bridgewater NJ, LLC for the premises located at 200 Crossing Boulevard, Bridgewater, New Jersey, dated as of October 27, 2011, incorporated by reference to Registrant's Annual Report on Form 10-K for the year ended December 31, 2011.
10.7‡	Cingular Master Services Agreement, effective September 1, 2005 by and between the Registrant and Cingular Wireless LLC, incorporated by reference to Registrant's Annual Report on Form 10-K for the year ended December 31, 2008.
10.8‡	Subordinate Material and Services Agreement No. SG021306.S.025 by and between the Registrant and AT&T Services, Inc. dated as of August 1, 2013, incorporated by reference to Registrant's Annual Report on Form 10-K for the year ended December 31, 2013, including order numbers SG021306.S.025.S.001, SG021306.S.025.S.002, SG021306.S.025.S.003 and SG021306.S.025.S.004, incorporated by reference to Registrant's Quarterly Report on Form 10-Q/A for the quarter ended September 30, 2013.
10.9‡	Amendment 1 effective as of January 1, 2016 to Subordinate Material and Services Agreement No. SG021306.S.025 by and between the Registrant and AT&T Services, Inc., incorporated by reference to Exhibit 10.9.1 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016.
10.10‡	Order No.SG021306.S.025.S.007 effective as of January 1, 2016 by and between the Registrant and AT&T Services, Inc., incorporated by reference to Exhibit 10.9.2 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016.
10.11‡	Amendment No. 1 effective as of January 1, 2016 to Order No. SG021306.S.025.S.001 dated as of August 1, 2013 by and between the Registrant and AT&T Services, Inc. together with Amended and Restated Order No. SG021306.S.025.S.001, incorporated by reference to Exhibit 10.9.3 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016.
10.12‡	Amendment No. 2 effective as of January 1, 2016 to Order No. SG021306.S.025.S.002 dated as of August 1, 2013 by and between the Registrant and AT&T Services, Inc., together with Amended and Restated Order No. SG021306.S.025.S.002, incorporated by reference to Exhibit 10.9.4 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016.
10.13‡	Amendment No. 3 effective as of January 1, 2016 to Order No. SG021306.S.025.S.003 dated as of August 1, 2013 by and between the Registrant and AT&T Services, Inc. incorporated by reference to Exhibit 10.9.5 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016.
10.14‡	Amendment No. 4 effective as of January 1, 2016 to Order No. SG021306.S.025.S.003 dated as of August 1, 2013 by and between the Registrant and AT&T Services, Inc., together with Amended and Restated Order No. SG021306.S.025.S.003, incorporated by reference to Exhibit 10.9.6 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016.
10.15‡	Amendment No. 5 effective as of January 1, 2016 to Order No. SG021306.S.025.S.004 dated as of August 1, 2013 by and between the Registrant and AT&T Services, Inc. together with Amended and Restated Order No. SG021306.S.025.S.004, incorporated by reference to Exhibit 10.9.7 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016.
10.16†	Employment Agreement dated as of April 27, 2017 between the Registrant and Stephen G. Waldis.
10.17†	Tier One Executive Employment Plan effective March 24, 2017.
10.18†	Executive Employment Letter dated as of August 9, 2018 between the Registrant and David Clark, incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018 filed on November 9, 2018.
10.19†	Employment Agreement dated as of November 13, 2017 between the Registrant and Glenn Lurie, incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on November 17, 2017.
10.20	2017 New Hire Equity Incentive Plan, incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on December 21, 2017.
10.21	Application Service Provider Agreement retroactively effective as of April 1, 2013 by and between the Registrant and Verizon Sourcing LLC, incorporated by reference to Exhibit 10.12 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018 filed on August 9, 2018.
10.22	Change Request No 8 effective January 1, 2018 to SOW No. 1 Application Service Provider Agreement effective as of April 1, 2013 by and between the Registrant and Verizon Sourcing LLC, incorporated by reference to Exhibit 10.13 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018 filed on August 9, 2018.
10.23	Credit Agreement dated as of October 4, 2019 among Synchronoss Technologies, Inc. as the Borrower, the Lenders Party hereto, and Citizens Bank, N.A., as Administrative Agent Citizens Bank, N.A as Sole Lead Arranger and Sole Bookrunner
21.1	List of subsidiaries, incorporated by reference to Exhibit 21.1 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2017 filed on July 2, 2018.
23.1	Consent of Ernst & Young, LLP, Independent Registered Public Accounting Firm.
31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) of the Exchange Act, as adopted pursuant to section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) of the Exchange Act, as adopted pursuant to section 302 of the Sarbanes-Oxley Act of 2002
32.1**	Certification of Principal Executive Officer pursuant to Rule 13a-14(b) of the Exchange Act and section 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002
32.2**	Certification of Principal Financial Officer pursuant to Rule 13a-14(b) of the Exchange Act and section 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Schema Document
101.CAL	XBRL Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase
101.LAB	XBRL Labels Linkbase Document

Exhibit No.	Description
101.PRE	XBRL Presentation Linkbase Document

† Compensation Arrangement.

‡ Confidential treatment has been granted with respect to certain provisions of this exhibit.

** This certification is being furnished solely to accompany this Annual Report pursuant to 18 U.S.C. Section 1350, and are not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and are not to be incorporated by reference into any filing of the registrant, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

(b) Exhibits.

See (a)(3) above.

(c) Financial Statement Schedule.

ITEM 16. *FORM 10-K SUMMARY*

None.

SCHEDULE II—VALUATION AND QUALIFYING ACCOUNTS

December 31, 2019, 2018, 2017

	Beginning Balance	Additions	Reductions	Ending Balance
	(In thousands)			
Allowance for doubtful receivables:				
2019	$ 4,599	$ 6,045	$ (8,780)	$ 1,864
2018	$ 3,107	$ 13,982	$ (12,490)	$ 4,599
2017	$ 1,459	$ 7,590	$ (5,942)	$ 3,107

	Beginning Balance	Additions	Reductions	Ending Balance
	(In thousands)			
Allowance for loan loss:				
2019	$ 98,876	$ —	$ —	$ 98,876
2018	$ 14,562	$ 84,314	$ —	$ 98,876

	Beginning Balance	Additions	Reductions	Ending Balance
	(In thousands)			
Valuation allowance for deferred tax assets:				
2019	$ 81,064	$ 3,843	$ (11,561)	$ 73,346
2018	$ 32,523	$ 49,610	$ (1,069)	$ 81,064
2017	$ 14,180	$ 23,370	$ (5,027)	$ 32,523

SIGNATURES

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

SYNCHRONOSS TECHNOLOGIES, INC.
(Registrant)

/s/ Glenn Lurie
Glenn Lurie
Chief Executive Officer
(Principal Executive Officer)

March 16, 2020

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

Signature	Title	Date
/s/ Glenn Lurie Glenn Lurie	Chief Executive Officer (Principal Executive Officer)	March 16, 2020
/s/ David Clark David Clark	Chief Financial Officer (Principal Financial Officer) (Principal Accounting Officer)	March 16, 2020
/s/ Stephen Waldis Stephen Waldis	Director Executive Chairman	March 16, 2020
/s/ Laurie L. Harris Laurie L. Harris	Director	March 16, 2020
/s/ Kristin S. Rinne Kristin S. Rinne	Director	March 16, 2020
/s/ Mohan Gyani Mohan Gyani	Director	March 16, 2020
/s/ Robert Aqualina Robert Aqualina	Director	March 16, 2020
/s/ Frank Baker Frank Baker	Director	March 16, 2020
/s/ Peter Berger Peter Berger	Director	March 16, 2020
/s/ William J. Cadogan William J. Cadogan	Director	March 16, 2020
/s/ Thomas J. Hopkins Thomas J. Hopkins	Director	March 16, 2020

Board of Directors

Stephen G. Waldis [4]
Executive Chairman
Synchronoss Technologies, Inc.

Glenn Lurie [4]
President & Chief
Executive Officer
Synchronoss Technologies, Inc.

William J. Cadogan [2,3,4]
Retired, Senior Managing Director
Vesbridge Partners
Retired, Chairman & CEO
ADC Telecommunications

Laurie Harris [1]
Retired, Partner PwC

Thomas J. Hopkins [1,2,3,4]
Managing Director
Colchester Capital, LLC

Frank Baker [3,4]
Co-Founder &
Managing Partner
Siris Capital Group LLC

Peter Berger [2,3]
Co-Founder &
Managing Partner
Siris Capital Group, LLC

Robert Aquilina
Executive Partner
(a senior advisory role)
Siris Capital Group, LLC

Kristin S. Rinne [1,4]
Retired, SVP Network
& Product Planning
AT&T

Mohan Gyani [2,4]
Retired, President
& CEO
AT&T Wireless
Mobility Services

Management

Glenn Lurie
President & Chief
Executive Officer

David Clark
Chief Financial Officer

Jeff Miller
Chief Commercial Officer

Ronald Prague
Chief Legal Officer
and Secretary

Mary Clark
Chief Product Officer &
Chief Marketing Officer

Patrick Doran
Chief Technology Officer

Kevin Hunsaker
Chief People Officer

[1] Audit Committee
[2] Compensation Committee
[3] Nominating Committee
[4] Business Development Committee

synchronoss

FORM 10-K

Additional copies of the Company's Annual Report on Form 10-K (without exhibits) are available from the Company at no charge. Requests should be directed to Synchronoss Technologies, Inc., 200 Crossing Blvd., Eighth Floor, Bridgewater, NJ 08807, Attention: Secretary. This Annual Report to Stockholders contains forward-looking statements. For this purpose, any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Without limiting the foregoing, the words "believes," "anticipates," "plans," "expects" and similar expressions are intended to identify forward-looking statements. There are a number of important factors that could cause the Company's actual results to differ materially from those indicated by such forward-looking statements. These factors include, without limitation, those set forth herein under the caption "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Headquarters

Synchronoss Technologies
200 Crossing Blvd.
Bridgewater, NJ 08807

Synchronoss Technologies
4020 East Indian School Road
Phoenix, AZ 85081

Key International Locations

Synchronoss Technologies
The Academy
42 Pearse Street, 2nd floor
Dublin, Ireland

Synchronoss Technologies
Subramayna No 12 Bannerghatta Road
Bangalore, India 560076

Synchronoss Technologies
Tri-Seven Roppongi
Floor 12
7-7-7 Roppongi
Tokyo, Japan

Synchronoss Technologies
71-75 Uxbridge Road
Ealing England
W5 5SL

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