CSG SYSTEMS INTERNATIONAL INC
Form 10-K
February 22, 2019
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

# FORM 10-K

(Mark One)

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

OR

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

Commission File Number 0-27512

CSG SYSTEMS INTERNATIONAL, INC.

(Exact name of registrant as specified in its charter)

| | |
|---|---|
| Delaware<br>(State or other jurisdiction<br>of incorporation or organization) | 47-0783182<br>(I.R.S. Employer<br>Identification No.) |
| 6175 S. Willow Drive, 10th Floor<br>Greenwood Village, Colorado<br>(Address of principal executive offices) | 80111<br>(Zip Code) |

Registrant’s telephone number, including area code: (303) 200-2000

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

| Title of Each Class | Name of Each Exchange on Which Registered |
|---|---|
| Common Stock, Par Value $0.01 Per Share | 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 15(d) of the Act. YES NO

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 voting and non-voting common equity held by non-affiliates of the Registrant, based on the closing price of the shares of common stock on The NASDAQ Stock Market on June 30, 2018, was $1,021,190,980.

The number of shares of Registrant's Common Stock outstanding as of February 15, 2019 was 32,987,206.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Definitive Proxy Statement for its 2019 Annual Meeting of Stockholders to be filed on or prior to April 30, 2019, are incorporated by reference into Part III of this Report.

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CSG SYSTEMS INTERNATIONAL, INC.

2018 FORM 10-K

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# PART I

## Item 1. Business
### Overview

CSG Systems International, Inc. (the “Company”, “CSG”, or forms of the pronoun “we”) is one of the world’s leading revenue management and digital monetization, customer experience, and payment solutions providers, and a trusted partner to some of the most well-known companies around the globe. We leverage more than 35 years of experience to help our clients simplify the complexity of a rapidly changing business landscape. Drawing from real-world knowledge and unparalleled expertise, we design and implement business solutions that make their hardest decisions simpler and smarter so they can focus on evolving their businesses to provide highly sophisticated and competitive multi-product offerings while also delivering increasingly differentiated, real-time, and personalized experiences that meet the ever-changing demands of their customers across all stages of the customer lifecycle.

Our solutions are built on proven public and private cloud platforms, with out-of-the-box and managed service models that adapt to fit their unique business needs and enable the transformative change required to create personalized experiences that drive loyalty and retention.

Our principal executive offices are located at 6175 S. Willow Drive, 10th Floor, Greenwood Village, Colorado 80111, and the telephone number at that address is (303) 200-2000.

Our common stock is listed on the NASDAQ Stock Market LLC (“NASDAQ”) under the symbol “CSGS”. We are a S&P Small Cap 600 company.

### Industry Overview

Background. We provide software and services that help companies around the world monetize and digitally enable the customer experience. While our heritage is born out of the communications services industry, we serve an expanding group of customers in markets ranging from financial services to health care to governmental agencies. With an unwavering commitment to their success, we help our clients thrive in the most dynamic, challenging, and complex market conditions imaginable, allowing them to:

- Optimize their business, addressing the critical need to reduce operating costs to enable the redeployment of operating capital to support business growth and transformation.
- Enable new revenue streams through the monetization of multiple services, across multiple locations and channels, and bringing new services to market quickly.
- Protect and maintain existing revenue streams by improving service delivery that drives higher customer satisfaction and increases retention.
- Leverage data and insights to better know and understand their customers and deliver exceptional experiences.
- Become future-ready so they can adapt quickly and efficiently to industry changes and innovations.

Market Trends of Communications Industry. Our primary market, the global communications industry, is going through an unprecedented level of change. This dramatic disruption is driving the emergence of heightened competition, innovative digital products, compelling customer engagements, real-time operational processes, and intense cost pressures. Some key trends are emerging as communications service providers (“CSPs”) try to evolve and compete in this highly complex ecosystem:

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Consumer choice: Customers have more choices than ever for information, communications, and entertainment services. While the shift in power from the service provider to the consumer has been occurring over the past several years, the adoption of new technologies and services which enable a more ubiquitous and personalized customer experience is becoming mainstream. Service providers – whether traditional or new digital native – are developing offerings to cultivate a more recurring, loyal, and “branded” customer experience. Increasing importance is placed on “brand” and “experience” as they both play a larger role in purchasing decisions. The customer experience, from acquisition to termination of service, will determine the winners and losers in this “always connected” consumer world.

- Competitive landscape: The proliferation of digital native service providers (e.g., Facebook, Apple, Netflix, Google, Amazon, etc.) has changed the competitive landscape forever. This new breed of competitors is not burdened with the infrastructure or legacy operational expenses that traditional CSPs have and, as a result, are more nimble, agile, and competitively priced for consumers. This, in conjunction with the consumer-driven economy, has forced traditional providers to evaluate the viability of their existing business model, including scale, breadth of offerings, speed to react, and consumer experience, and to evolve their businesses to remain not only relevant and competitive but to thrive. While consolidation continues between traditional CSPs and content providers (e.g., AT&T and Time Warner Inc.), companies are also scaling their offerings through acquisitions within their respective media (e.g., Disney and 21st Century Fox, Comcast and Sky) and communications industries (e.g., T-Mobile and Sprint). Direct-to-consumer offerings are becoming even more prevalent, and cooperation not only with new partners, but even competitors (e.g., Netflix with Amazon Prime Video and traditional cable operators) is accelerating.
- Technology: Fueled by the collision of artificial intelligence, the Internet of Things ("IoT"), cloud technologies, and analytics, providers are fundamentally changing the way they get their products to market and engage with their customers. 5G technologies will propel the expansion of IoT and sensor-enabled services. IoT will underpin the "servicification" of offerings — the transition of routine activities and purchases (e.g., checking gas meters, driving a car, buying groceries, etc.) to on demand services and pervasive consumer relationships (e.g., only servicing meters that show faults, recommending best parking spots, recommending meals for dinner tonight, etc.). To meet the requirements of this hyper-connected ecosystem (speed-to-market, agility, scalability cost structure), providers are transitioning their legacy technology infrastructure to a combination of private and public cloud technologies to support billions of device connections.
- New Revenue Sources: CSPs are facing increased pressure to find new revenue sources, while also managing their cost structure and quality of service delivery during their business transformation. They are seeing a decline in revenues and profits associated with their traditional services like wireline voice and video as a result of new or increased competition. In order to offset these declining revenues and profits, CSPs are looking for ways to improve their cost structure, grow through acquisitions, and launch new revenue-generating services with minimal capital investment. The result is that many CSPs are cutting costs associated with their traditional systems, integrating disparate acquired business operations, and launching new digital services with highly-flexible lower cost solutions.

Overall, these market trends drive the demand for scalable, flexible, and cost-efficient revenue management, customer experience, and digital monetization solutions, which we believe will provide us with revenue opportunities. As a result, we have historically invested a meaningful amount of our revenues in research and development ("R&D") and have acquired companies that enable us to expand our offerings in a timely and efficient manner. We believe that our scalable, modular, and flexible solutions combined with our rich domain expertise and our ability to effectively migrate clients to our solutions, provide the industry with proven solutions to improve their profitability and consumers' experiences. We have specifically architected our solutions to offer service providers a phased, incremental approach to transforming their businesses, thereby reducing the business interruption risk associated with this evolution.

Business Strategy

Our goal is to be the most trusted provider of world-class cloud and software-based solutions to service providers around the globe by helping make our clients' hardest decisions simpler and smarter, no matter the challenge. We believe that by successfully executing on this goal we can grow our revenues and earnings, and therefore, create long-term value for our clients, employees, and stockholders. Our strategic focus to accomplish this goal is as follows:

Create More Long-Term, Recurring Relationships. Our relentless, relationship-driven, customer-focused business approach is built on a foundation of respect, integrity, and collaboration. As a result, we enjoy long-term relationships with many of the world's leading CSPs. Our commitment to working with providers in true partnership fashion helps them to enable sustainable growth, create efficiencies, and deliver differentiated services to their customers. We have

seen successful adoption of our managed services approach with global CSPs based upon our compelling value proposition and proven track record.

Expand Our Product and Services Portfolio Through Continuous Innovation. We believe that our product technology, cloud-based solutions, and pre-integrated suite of solutions give service providers a competitive advantage. Our solutions allow providers to effectively manage their traditional businesses while being able to also quickly deliver new digital services directly to consumers with a modern, personalized, branded experience driving customer satisfaction and loyalty. We continually add new, relevant capabilities to what we do as a company, both in terms of our people and our solutions. By doing this, we build very strong recurring relationships which are difficult for our competitors to displace.

Deliver On Our Commitments. Our products and services are business critical. We help our clients manage the entire customer lifecycle, from acquisition to servicing to billing for their end customers. As a result, it is imperative that we deliver on our commitments. For over 35 years, we have been helping blue-chip companies manage periods of explosive and sustained market growth and change – helping them drive revenues, improve their profitability, and deliver positive customer experiences. Our track record of doing what we say we are going to do has enabled us to be a trusted advisor and integral member of our clients' operations.

Bring New Skills and Talents to Market. In order to maintain our competitiveness in the market, we invest in our people so that they are prepared to bring the highest quality technical skills, interpersonal skills, and managerial skills to our business and our clients.

In summary, we are focused on helping our clients compete more effectively and successfully in an ever-changing market.

Description of Business

Key Clients. We work with the leading communication providers located around the world. A partial list of those service providers as of December 31, 2018 is included below:

| | |
|---|---|
| Altice | Deutsche Telecom |
| América Móvil | Hutchinson Whampoa 3G |
| AT&T | Liberty Latin America |
| Bharti Airtel | MTN |
| Charter Communications, Inc. ("Charter") | Telefônica |
| JPMorgan Chase | Telstra |
| Comcast Corporation ("Comcast") | Verizon |
| DISH Network Corporation ("DISH") | |

Clients that represented 10% or more of our revenues for 2018 and/or 2017 were as follows (in millions, except percentages):

| | 2018 | | | 2017 | | |
|---|---|---|---|---|---|---|
| | Amount | % of Revenues | | Amount | % of Revenues | |
| Comcast | $221 | 25 | % | $219 | 28 | % |
| Charter | 179 | 20 | % | 171 | 22 | % |
| DISH | 80 | 9 | % | 89 | 11 | % |

See the Significant Client Relationships section of our Management's Discussion and Analysis ("MD&A") for additional information regarding our business relationships with these key clients.

Research and Development. Our clients around the world are facing competition from new entrants and at the same time, are deploying new services at a rapid pace and dramatically increasing the complexity of their business operations. Therefore, we continue to make meaningful investments in R&D to ensure that we stay ahead of our clients' needs and advance our clients' businesses as well as our own. We recognize these challenges and believe our value proposition is to provide solutions that help our clients ensure that each customer communication is an

opportunity to create value and deepen the business relationship. As a result of our R&D efforts, we have broadened our footprint within our client base with many new innovative product offerings.

Our total R&D expenses for 2018 and 2017 were $124.0 million and $113.2 million, respectively, or approximately 14% of our total revenues in both periods, with the increase reflective of our heightened level of investment in 2018. We anticipate the level of R&D investment in the near-term to be relatively consistent with that of 2018.

There are certain inherent risks associated with significant technological innovations. Some of these risks are described in this report in our Risk Factors section below.

Products and Services. Our products and services help companies with complex transaction-centric business models manage the opportunities and challenges associated with accurately capturing, managing, generating, and optimizing the revenue associated with the immense volumes of customer communications and then manage the intricate nature of those customer relationships. Our primary product solutions include the following:

- Revenue Management & Digital Monetization: Our solutions provide global service providers with a robust, integrated real-time revenue management framework in either a cloud-based or stand-alone environment to optimize and monetize transactions at every stage of the customer lifecycle. We support more than 480 million end users worldwide on behalf of our

clients, managing every aspect from billing to customer care to partner settlement, and we help our clients quickly launch and monetize new services while having the flexibility to keep up with rapidly changing customer demands and markets that continually evolve. These solutions include our industry leading Advanced Convergent Platform ("ACP"), Ascendon, Singleview, Total Service Mediation ("TSM"), and Wholesale Business Management Solution ("WBMS") platforms.

- Customer Communications Management: Our solutions are a diverse and integrated suite of tools designed to manage and improve every aspect of the customer experience, from onboarding to upgrades, payments to field service management. We are an industry leader in supporting omni-channel communications between our clients and their customers, processing more than 1.5 billion voice, SMS/text, print, and e-mail messages each year. Our February 2018 acquisition of Business Ink Co., ("Business Ink") expanded these capabilities into new vertical markets and extended the scale of our operations and platform capabilities. More than 65,000 of our clients' field technicians and dispatchers complete over 100 million work orders per year by leveraging our field service management solutions to optimize routing and provide real-time insights into arrival times for their customers.
- Payments: We empower our clients with options to manage and process payments from their customers. Through our October 2018 acquisition of Forte Payment Systems, Inc. ("Forte"), we have extended these capabilities, offering an advanced, cloud-based, integrated suite of products and solutions across a variety of industries. Forte's broad offering and strategic partnerships with more than 45,000 merchants, resellers, and independent software vendors has fueled its aggressive growth and success in the integrated payments space.
- Managed Services: We leverage our 35+ year history in running highly scalable, complex business support solutions to improve operational efficiencies and effectiveness. For our managed services clients, we assume long-term responsibility for delivering our software solutions and related operations under a defined scope and specified service levels. Under managed services agreements, we may operate software products (primarily our software solutions) on behalf of our clients: (i) out of a client's data center; (ii) out of a data center we own and operate; or (iii) out of a third-party data center (including public cloud providers) we contract with for such services.

Historically, a substantial percentage of our total revenues have been generated from ACP and customer communications management solutions. These products and services are expected to provide a large percentage of our total revenues in the foreseeable future as well.

Business Acquisitions. Our strategy includes acquiring assets and businesses which provide the technology and personnel to expedite our product development efforts, provide complementary products and services, increase market share, and/or provide access to new markets and clients.

Professional Services. We employ professional services experts globally who bring a wide-ranging expertise – including solution architecture, project management, systems implementation, and business consultancy – to every project. We apply a proven methodology to each of our engagements, leveraging consistent world-class processes, best-practice programs, and systemized templates for all engagements.

Sales and Marketing. We organize our sales efforts to clients primarily within our geographically dispersed, dedicated account teams, with senior level account managers who are responsible for new revenues and renewal of existing contracts within a client account. The account teams are supported by sales support personnel who are experienced in the various products and services that we provide.

Competition. The market for revenue management solutions and services in the communications industry, as well as in other industries we serve, is highly competitive. We compete with both independent providers and in-house developers of customer management systems. We believe that our most significant competitors in our primary markets are Amdocs Limited and NEC Corporation; network equipment providers such as Ericsson and Huawei; and client-developed internal solutions. Some of our actual and potential competitors have substantially greater financial, marketing, and technological resources than us and in some instances, we may partner and collaborate with our competitors on large opportunities and projects.

We believe service providers in our industry use the following criteria when selecting a vendor for the mission critical management of their revenue, customer communications, and digital ecosystem: (i) functionality, scalability, flexibility, interoperability, and architecture of the software assets; (ii) the breadth and depth of pre-integrated product solutions; (iii) product quality, client service, and support; (iv) operational excellence and reliability; (v) quality of R&D efforts; and (vi) total cost of ownership. We believe that our products and services allow us to compete effectively in these areas.

Proprietary Rights and Licenses

We rely on a combination of trade secret, copyright, trademark, and patent laws in the United States (“U.S.”) and similar laws in other countries, and non-disclosure, confidentiality, and other types of contractual arrangements to establish, maintain, and enforce our intellectual property rights in our solutions. Despite these measures, any of our intellectual property rights could be challenged, invalidated, circumvented, or misappropriated. Although we hold a select number of patents and patent applications on some of our newer solutions, we do not rely upon patents as a primary means of protecting our rights in our intellectual property. In any event, there can be no assurance that our patent applications will be approved, that any issued patents will adequately protect our intellectual property, or that such 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 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. Our failure to adequately establish, maintain, and protect our intellectual property rights could have a material adverse impact on our business, financial condition, and results of operations. For a description of the risks associated with our intellectual property rights, see “Item 1A - Risk Factors - Failure to Protect Our Intellectual Property Rights or Claims by Others That We Infringe Their Intellectual Property Rights Could Substantially Harm Our Business, Financial Condition and Results of Operations.”

Employees

As of December 31, 2018, we had a total of 3,965 employees, an increase of 592 employees when compared to the number of employees we had as of December 31, 2017. This increase is mainly attributed to the employees added as a result of the acquisitions of Business Ink and Forte during 2018. Our success is dependent upon our ability to attract and retain qualified employees. We are subject to various foreign employment laws and regulations based on the country in which our employees are located. We believe that our relations with our employees are good.

Available Information

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy materials, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act are available free of charge on our website at www.csgi.com. Additionally, these reports are available on the SEC’s website at www.sec.gov.

Code of Conduct and Business Ethics

A copy of our Code of Conduct and Business Ethics (the “Code of Conduct”) is maintained on our website. Any future amendments to the Code of Conduct, or any future waiver of a provision of our Code of Conduct, will be timely posted to our website upon their occurrence. Historically, we have had minimal changes to our Code of Conduct, and have had no waivers of a provision of our Code of Conduct.

Item 1A. Risk Factors

We or our representatives from time-to-time may make or may have made certain forward-looking statements, whether orally or in writing, including without limitation, any such statements made or to be made in MD&A contained in our various SEC filings or orally in conferences or teleconferences. We wish to ensure that such statements are accompanied by meaningful cautionary statements, so as to ensure, to the fullest extent possible, the protections of the safe harbor established in the Private Securities Litigation Reform Act of 1995.

Accordingly, the forward-looking statements are qualified in their entirety by reference to and are accompanied by the following meaningful cautionary statements identifying certain important risk factors that could cause actual results to differ materially from those in such forward-looking statements. This list of risk factors is likely not exhaustive. We

operate in rapidly changing and evolving markets throughout the world addressing the complex needs of communication service providers, financial institutions, and many others, and new risk factors will likely emerge. Further, as we enter new market sectors such as financial services, as well as new geographic markets, we are subject to new regulatory requirements that increase the risk of non-compliance and the potential for economic harm to us and our clients. Management cannot predict all of the important risk factors, nor can it assess the impact, if any, of such risk factors on our business or the extent to which any risk factor, or combination of risk factors, may cause actual results to differ materially from those in any forward-looking statements. Accordingly, there can be no assurance that forward-looking statements will be accurate indicators of future actual results, and it is likely that actual results will differ from results projected in forward-looking statements and that such differences may be material.

We Derive a Significant Portion of Our Revenues From a Limited Number of Clients, and the Loss of the Business of a Significant Client Could Have a Material Adverse Effect on Our Financial Position and Results of Operations.

Over the past decade, the worldwide communications industry has experienced significant consolidation, resulting in a large percentage of the market being served by a limited number of service providers with greater size and scale, and there are possibilities of further consolidation. Consistent with this market concentration, we generate approximately 55% of our revenues from our three largest clients, which are (in order of size) Comcast, Charter, and DISH, which each individually accounted approximately 10% or more of our total revenues. See the Significant Client Relationships section of MD&A for key renewal dates and a brief summary of our business relationship with these clients.

There are inherent risks whenever a large percentage of total revenues are concentrated with a limited number of clients. Such risks are that a significant client could: (i) undergo a formalized process to evaluate alternative providers for services we provide; (ii) terminate or fail to renew their contracts with us, in whole or in part for any reason; (iii) significantly reduce the number of customer accounts processed on our solutions, the price paid for our services, or the scope of services that we provide; or (iv) experience significant financial or operating difficulties. Any such development could have a material adverse effect on our financial position and results of operations and/or trading price of our common stock.

Our industry is highly competitive, and as a result, it is possible that a competitor could increase its footprint and share of customers serviced at our expense or a service provider could develop their own internal solutions. While our clients may incur some costs in switching to our competitors or their own internally-developed solutions, they may do so for a variety of reasons, including: (i) price; (ii) dissatisfaction with our solutions or service levels; or (iii) dissatisfaction with our relationships.

The Delivery of Our Solutions is Dependent on a Variety of Computing Environments and Communications Networks Which May Not Be Available or May Be Subject to Security Attacks.

Our solutions are generally delivered through a variety of sources including public cloud, third-party data center providers, and internally-operated computing environments (collectively referred to hereafter in this section as "Systems"). The end users are connected to the Systems through a variety of public and private communications networks, which we will collectively refer to herein as "Networks." Our solutions are generally considered to be mission critical customer management systems by our clients. As a result, our clients are highly dependent upon the high availability and uncompromised security of the Networks and Systems to conduct their business operations.

Networks and Systems are subject to the risk of an extended interruption, outage, or security breach due to many factors such as: (i) changes to the Systems and Networks for such things as scheduled maintenance and technology upgrades, or conversions to other technologies, service providers, or physical location of hardware; (ii) failures or lack of continuity of services from public could or third-party data center providers; (iii) defects in software program(s); (iv) human and machine error; (v) acts of nature; (vi) intentional, unauthorized attacks from computer "hackers", or cyber-attacks; and (vii) using our systems to perpetrate identity theft through unauthorized authentication to our clients' customers' accounts. Most recently, the marketplace is experiencing an ever-increasing exposure to both the number and severity of cyber-attacks. In addition, we continue to expand our use of the Internet with our product offerings thereby permitting, for example, our clients' customers to use the Internet to review account balances, order services or execute similar account management functions. Access to Networks and Systems via the Internet has the potential to increase their vulnerability to unauthorized access and corruption, as well as increasing the dependency of the Systems' reliability on the availability and performance of the Internet and end users' infrastructure they obtain through other third-party providers.

The method, manner, cause and timing of an extended interruption, outage, or security breach in the Networks or Systems are impossible to predict. As a result, there can be no assurances that these Networks and Systems will not fail, not suffer a security breach or that our business continuity or remediation plans will adequately mitigate the negative effects of a disruption or security breach to the Networks or Systems. Further, our property, technology errors and omissions, and business interruption insurance may not adequately compensate us for losses that we incur as a result of such interruptions or security breaches. Should the Networks or Systems: (i) experience an extended interruption or outage; (ii) have their security breached; or (iii) have their data lost, corrupted or otherwise compromised, it would impede our ability to meet product and service delivery obligations, and likely have an immediate impact to the business operations of our clients. This would most likely result in an immediate loss to us of revenue or increase in expense, as well as damaging our reputation. The loss of confidential information could result in losing the customers' confidence, as well as imposition of fines and damages. Any of these events could have an immediate, negative impact upon our financial position and our short-term revenue and profit expectations, as well as our long-term ability to attract and retain new clients.

The Occurrence or Perception of a Security Breach or Disclosure of Confidential Personally Identifiable Information Could Harm Our Business.

In providing solutions to our clients, we process, transmit, and store confidential and personally identifiable information (“PII”), including social security numbers and financial information. Our treatment of such information is subject to contractual restrictions and federal, state, and foreign data privacy laws and regulations, which continue to evolve resulting in greater scrutiny over the protection of PII. In response to these evolving restrictions and regulations, including the European Union’s adoption of the General Data Protection Regulation (“GDPR”), we leverage various data encryption strategies and have implemented measures to protect against unauthorized access to such information, and comply with these laws and regulations. These measures include standard industry practices (e.g. payment card industry (“PCI”) requirements), periodic security reviews of our systems by independent parties, secure development practices, network firewalls, policy directives, procedural controls, intrusion detection systems, and antivirus applications. Because of the inherent risks and complexities to defend against cybercrime, these measures may fail to adequately protect this information. Any failure on our part to protect the privacy of personally identifiable information or comply with data privacy laws and regulations may subject us to contractual liability and damages, loss of business, damages from individual claimants, substantial fines/penalties, criminal prosecution, and unfavorable publicity. Even the mere perception of a security breach or inadvertent disclosure of personally identifiable information could damage our reputation and inhibit market acceptance of our solutions. In addition, third-party vendors that we engage to perform services for us may unintentionally release personally identifiable information or otherwise fail to comply with applicable laws and regulations. As new laws and regulations emerge and evolve our compliance costs could increase substantially. The occurrence of any of these events could have an adverse effect on our business, financial position, and results of operations.

We May Not Be Able to Efficiently and Effectively Implement New Solutions or Convert Clients onto Our Solutions.

Our continued growth plans include the implementation of new solutions, as well as migrating both new and existing clients to our solutions. Such implementations or conversions (collectively referred to hereafter in this section as “implementations”), regardless of whether they involve new solutions or new customers, have become increasingly more difficult because of the sophistication, complexity, and interdependencies of the various software and network environments impacted, combined with the increasing complexity of the clients’ underlying business processes. In addition, the complexity of the implementations increases when the arrangement includes other vendors participating in the project, including but not limited to, prime and subcontractor relationships with our company. For these reasons, implementations subject our clients to potential business disruption, which could cause them to delay or even cancel future implementations.

As a result, there is a risk that we may experience cancellations, delays, or unexpected costs associated with implementations. In addition, our inability to complete implementations in an efficient and effective manner could have a material adverse effect on our results of operations, and could damage our reputation in the market place, reducing our opportunity to grow our business with both new and existing clients.

We May Not Be Successful in the Integration or Achievement of Financial Targets of Our Acquisitions.

As part of our growth strategy, we seek to acquire assets, technology, and businesses which will provide the technology and personnel to expedite our product development efforts, provide complementary solutions, or provide access to new markets and clients.

Acquisitions involve a number of risks and difficulties, including: (i) expansion into new markets and business ventures; (ii) the requirement to understand local business practices; (iii) the diversion of management’s attention to the assimilation of acquired operations and personnel; (iv) being bound by acquired client or vendor contracts with

unfavorable terms; and (v) potential adverse effects on a company’s operating results for various reasons, including, but not limited to, the following items: (a) the inability to achieve financial targets; (b) the inability to achieve certain financial expectations, operating goals, and synergies; (c) costs incurred to exit current or acquired contracts or activities; (d) costs incurred to service any acquisition debt; and (e) the amortization or impairment of acquired intangible assets.

Due to the multiple risks and difficulties associated with any acquisition, there can be no assurance that we will be successful in achieving our expected strategic, operating, and financial goals for any such acquisition.

Our Business is Highly Dependent on the Global Communications Industry.

Since a large percentage of our revenues are generated from clients that operate within the global communications industry sector, we are highly dependent on the health and the business trends occurring within this industry (in particular for our North American cable and satellite clients). Key factors within this industry that could potentially impact our clients' businesses, and thus, our business, are as follows:

- Key Market Conditions: The global communications industry has undergone significant fluctuations in growth rates and capital investment cycles in the past decade. Current economic indices suggest a slow stabilization of the industry, but it is impossible to predict whether this stabilization will persist or be subject to future instability.

In addition, changes in demand for traditional services for CSPs are causing them to seek new revenue sources, while also managing their cost structure and quality of service delivery during their business transformation. The result is that many CSPs are delaying investment decision on maintaining/advancing legacy systems, and/or making investments in new solutions to drive their business forward into new areas.

- Market Consolidation: The pace of consolidation within the industry continues to accelerate as service providers look to increase the scale of their operations and footprint within the entire communications ecosystem. Potential byproducts of this consolidation that could impact us are as follows: (i) there could be fewer providers in the market, each with potentially greater bargaining power and economic leverage due to their larger size, which may result in our having to lower our prices to remain competitive, retain our market share, or comply with the surviving client's current more favorable contract terms, and (ii) the controlling entity in a consolidation that is not our current client, may acquire one of our existing clients and choose to consolidate both entities onto the controlling entity's software platform, thus reducing and possibly eliminating our business with our existing client.

Also, as consolidated entities execute upon their revenue and operational synergies, there is generally a slowdown in decision-making on large transformational projects, discretionary spending, and/or on new business initiatives. While this could be a timing issue only, it could impact quarterly and annual results.

- Increased Competition: Our clients operate in a highly competitive environment. Competitors range from traditional wireline and wireless providers to new entrants like new digital lifestyle service providers such as Facebook, Apple, Netflix, Google, and Amazon. Should these competitors be successful in their strategies, it could threaten our clients' market share, pricing power, and level of services delivered, all of which could negatively impact our clients' revenues, putting pressure on our source of revenues, as generally speaking, these companies do not use our core solutions and there can be no assurance that new entrants will become our clients. In addition, demand for spectrum, network bandwidth and content continues to increase and any changes in the regulatory environment could have a significant impact to not only our clients' businesses, but in our ability to help our clients be successful.

The above industry factors are impacting our clients' businesses, and thus could cause delays, cancellations/loss of business, and/or downward pricing pressure on our sales and services. This could cause us to either fall short of revenue expectations or have a cost model that is misaligned with revenues, either or both of which could have a material adverse effect on our financial position and results of operations.

We May Not Be Able to Respond to Rapid Technological Changes.

The market for business support solutions, such as customer care, billing solutions, and payment solutions is characterized by rapid changes in technology and is highly competitive with respect to the need for timely product innovations and new product introductions. As a result, we believe that our future success in sustaining and growing our revenues depends upon: (i) our ability to continuously expand, adapt, modify, maintain, and operate our solutions to address the increasingly complex and evolving needs of our clients without sacrificing the reliability or quality of the solutions; (ii) the integration of acquired technologies and their widely distributed, complex worldwide operations; and (iii) creating and maintaining an integrated suite of customer care and billing solutions, which are portable to new

verticals such as utilities, financial services, and content distribution. In addition, the market is demanding that our solutions have greater architectural flexibility and interoperability, and that we are able to meet the demands for technological advancements to our solutions at a greater pace. Our attempts to meet these demands subjects our R&D efforts to greater risks.

As a result, substantial and effective R&D and product investment will be required to maintain the competitiveness of our solutions in the market. Technical problems may arise in developing, maintaining, integrating, and operating our solutions as the complexities are increased. Development projects can be lengthy and costly, and may be subject to changing requirements, programming difficulties, a shortage of qualified personnel, and/or unforeseen factors which can result in delays. In addition, we may be responsible for the implementation of new solutions and/or the conversion of clients to new solutions, and depending upon the specific solution, we may also be responsible for operations of the solution.

There is an inherent risk in the successful development, implementation, conversion, integration, and operation of our solutions as the technological complexities, and the pace at which we must deliver these solutions to market, continue to increase. The risk of making an error that causes significant operational disruption to a client, or results in incorrect computer processing of customer or vendor data that we perform on behalf of our clients, increases proportionately with the frequency and complexity of changes to our solutions and new delivery models. There can be no assurance: (i) of continued market acceptance of our solutions; (ii) that we will be successful in the development of enhancements or new solutions that respond to technological advances or changing client needs at the pace the market demands; or (iii) that we will be successful in supporting the implementation, conversion, integration, and/or operations of enhancements or new solutions.

A Reduction in Demand for Our Key Business Support Solutions Could Have a Material Adverse Effect on Our Financial Position and Results of Operations.

Historically, a substantial percentage of our total revenues have been generated from our core cloud-based product, ACP, and related solutions. These solutions are expected to continue to provide a large percentage of our total revenues in the foreseeable future. Any significant reduction in demand for ACP and related solutions could have a material adverse effect on our financial position and results of operations. Likewise, certain of our revenues generated from our software license and services business have been derived from wholesale billing, retail billing, and mediation products which are typically associated with large implementation projects. A sudden downward shift in demand for these products or for our professional services associated with these products could have a material adverse effect on our financial position and results of operations.

We are Subject to Payments Regulation in the U.S.

Individual states have implemented various definitions and licensing requirements for entities deemed to be money transmitters. If we are required and fail to meet such state requirements at any time, we could be subject to enforcement actions and financial penalties and other costs. An enforcement action could result in restrictions upon, or a prohibition on engaging in, the business of money transmission in one or more states and it could delay or prevent us from obtaining a money transmitter license in one or more states. If we must apply for money transmitter licenses in one or more states, there can be no assurance that we will be able to obtain any such licenses, certifications, and approvals. In addition, there are substantial costs and potential product changes involved in maintaining such licenses, certifications, and approvals, and we could be subject to fines or other enforcement action if we are found to violate disclosure, reporting, anti-money laundering, capitalization, corporate governance or other requirements of such licenses. These factors could impose substantial additional costs and involve considerable delay to the development or provision of our products or services, or could require significant and costly operational changes or prevent us from providing our products or services in a given market. These limitations may adversely affect our ability to grow our business.

Failure to Deal Effectively with Fraud, Fictitious Transactions, Bad Transactions, and Negative Experiences Could Increase Our Loss Rate and Harm Our Payment Processing Business, and Could Severely Diminish Merchant and Consumer Confidence in and Use of Our Services.

In the event that merchants do not fulfill their obligations to consumers or a merchant’s goods or services do not match the merchant’s description, we may incur losses as a result of chargebacks and claims from consumers. We would seek to recover such losses from the merchant, however, we may not be able to recover the amounts in full if the merchant is unwilling or unable to pay. While we have established financial reserves based on assumptions and estimates that we believe are reasonable to cover such eventualities, these reserves on individual merchants may be insufficient. We may also incur losses from claims that the consumer did not authorize the purchase, from consumer fraud, from erroneous transactions, and as a result of consumers who have closed bank accounts or have insufficient funds in their

bank accounts to satisfy payments. In addition, if losses incurred by us related to payment card transactions become excessive, we could lose the right to process credit card transactions, which would significantly impact our payment processing business. We have taken measures to detect and reduce the risk of fraud, including underwriting and risk management procedures and processes, but these measures need to be continually updated to address emerging means of perpetrating fraud or to accommodate new product offerings.

Failure to Attract and Retain Our Key Management and Other Highly Skilled Personnel Could Have a Material Adverse Effect on Our Business.

Our future success depends in large part on the continued service of our key management, sales, product development, professional services, and operational personnel. We believe that our future success also depends on our ability to attract and retain highly skilled technical, managerial, operational, and sales and marketing personnel, including, in particular, personnel in the areas of R&D, professional services, and technical support. Competition for qualified personnel at times can be intense, particularly in the areas of R&D, conversions, software implementations, and technical support. This risk is heightened with a widely dispersed customer base

and employee populations. For these reasons, 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.

Variability of Our Quarterly Revenues and Our Failure to Meet Revenue and Earnings Expectations Would Negatively Affect the Market Price of Our Common Stock.

From time to time, we may experience variability in quarterly revenues and operating results. Common causes of failure to meet revenue and operating expectations include, among others:

- Inability to close and/or recognize revenue on certain transactions in the period originally anticipated;
- Inability to accurately forecast payment processing transaction volumes and related transaction costs;
- Delays in renewal of multiple or individually significant agreements;
- Inability to renew existing arrangements at anticipated rates;
- Delays in timing of initiation and/or implementation of significant projects or arrangements;
- Inability to meet client expectations materially within our cost estimates;
- Changes in spending and investment levels;
- Foreign currency fluctuations; and
- Economic and political conditions.

Should we fail to meet our revenue and earnings expectations of the investment community, by even a relatively small amount, it would most likely have a disproportionately negative impact upon the market price of our common stock.

We May be Subject to Various Anti-Money Laundering and Counter-Terrorist Financing Laws and Regulations.

We may be subject to various anti-money laundering ("AML") and counter-terrorist financing laws and regulations that prohibit, among other things, our involvement in processing the proceeds of criminal activities. We maintain an AML Compliance Policy and Procedure applicable to our payments processing business which policy is intended to comply with any applicable U.S. federal requirements. The laws or their application, our interpretation of the laws, and/or our services may change so that we could be subject to additional regulation and incur additional costs of compliance. We may not be able to meet additional regulatory requirements or the cost of adhering to such requirements could be substantial or could severely impact our ability to continue to grow our payments processing business or retain merchants or partners. The regulations of other countries and/or any increased compliance costs associated with such regulations, could prevent us from entering new markets for our services.

Our Global Operations Subject Us to Additional Risks.

We currently conduct a portion of our business outside the U.S. We are subject to certain risks associated with operating internationally including the following items:

- Product development not meeting local requirements;
- Fluctuations in foreign currency exchange rates for which a natural or purchased hedge does not exist or is ineffective;
- Staffing and managing foreign operations;
- Longer sales cycles for new contracts;
- Longer collection cycles for client billings or accounts receivable, as well as heightened client collection risks, especially in countries with highly inflationary economies and/or restrictions on the movement of cash out of the country;
- Trade barriers;
- Governmental sanctions;

- Complying with varied legal and regulatory requirements across jurisdictions;
- Reduced protection for intellectual property rights in some countries;
- Inability to recover value added taxes and/or goods and services taxes in foreign jurisdictions;
- Political instability and threats of terrorism; and
- A potential adverse impact to our overall effective income tax rate resulting from, among other things:
- Operations in foreign countries with higher tax rates than the U.S.;
- The inability to utilize certain foreign tax credits; and
- The inability to utilize some or all of losses generated in one or more foreign countries.

Additionally, we are also subject to risks relating to the uncertainties and effects of the United Kingdom's ("U.K.") referendum to withdraw membership from the European Union (referred to as "Brexit") on March 29, 2019, including financial, legal, tax, and trade implications. One or more of these factors could have a material adverse effect on our global operations, which could adversely impact our results of operations and financial position.

Our Global Operations Require Us To Comply With Applicable U.S. and International Laws and Regulations.

Doing business on a worldwide basis requires our company and our subsidiaries to comply with the laws and the regulations of the U.S. government and various international jurisdictions. In addition, the number of countries enacting anti-corruption laws and related enforcement activities is increasing. These regulations place restrictions on our operations, trade practices and trade partners. In particular, our global operations are subject to U.S. and foreign anti-corruption laws and regulations such as the Foreign Corrupt Practices Act ("FCPA"), the U.K. Anti-Bribery Act and economic sanction programs administered by the Office of Foreign Assets Control ("OFAC").

The FCPA prohibits us from providing anything of value to foreign officials for the purposes of influencing official decisions or obtaining or retaining business. In addition, the FCPA imposes accounting standards and requirements on publicly traded U.S. corporations and their foreign affiliates, which are intended to prevent the diversion of corporate funds to the payment of bribes and other improper payments, and to prevent the establishment of "off books" slush funds from which such improper payment can be made. As part of our business, we regularly deal with state-owned business enterprises, the employees of which are considered foreign officials for purposes of the FCPA. In addition, some of the international locations in which we operate lack a developed legal system and have higher than normal levels of corruption. We inform our personnel and third-party sales representatives of the requirements of the FCPA and other anti-corruption laws, including, but not limited to their reporting requirements. We have also developed and will continue to develop and implement systems for formalizing contracting processes, performing due diligence on agents and partners while improving our recordkeeping and auditing practices regarding these regulations. However, there is no guarantee that our employees, third-party sales representatives or other agents have not or will not engage in conduct undetected by our processes and for which we might be held responsible under the FCPA or other anti-corruption laws.

Economic sanctions programs restrict our business dealings with certain countries and individuals. From time to time, we have business dealings with entities and individuals subject to OFAC-administered sanctions. We are exposed to a heightened risk of violating anti-corruption laws and OFAC regulations. Violations of these laws and regulations are punishable by civil penalties, including fines, injunctions, asset seizures, debarment from government contracts and revocations or restrictions of licenses, as well as criminal fines and imprisonment.

Our Use of Open Source Software May Subject Us to Certain Intellectual Property-Related Claims or Require Us to Re-Engineer Our Software, Which Could Harm Our Business.

We use open source software in connection with our solutions, processes, and technology. Companies that use or incorporate open source software into their products have, from time to time, faced claims challenging their use, ownership and/or licensing rights associated with that open source software. As a result, we could be subject to suits by parties claiming certain rights to what we believe to be open source software. Some open source software licenses require users who distribute open source software as part of their software to publicly disclose all or part of the source code in their software and make any derivative works of the open source code available on unfavorable terms or at no cost. In addition to risks related to license requirements, use of open source software can lead to greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties, support, or controls with respect to origin of the software. Use of open source software also complicates compliance with export-related laws. While we take measures to protect our use of open source software in our solutions, open source license terms may be ambiguous, and many of the risks associated with usage of open source software cannot be eliminated. If we

were found to have inappropriately used open source software, we may be required to release our proprietary source code, re-engineer our software, discontinue the sale of certain solutions in the event re-engineering cannot be accomplished on a timely basis, or take other remedial action that may divert resources away from our development efforts, any of which could adversely affect our business, financial position, and results of operations.

We Face Significant Competition in Our Industry.

The market for our solutions is highly competitive. We directly compete with both independent providers and in-house solutions developed by existing and potential clients. In addition, some independent providers are entering into strategic alliances with other independent providers, resulting in either new competitors, or competitors with greater resources. Many of our current and potential competitors have significantly greater financial, marketing, technical, and other competitive resources than our company, many with significant and well-established domestic and international operations. There can be no assurance that we will be able to compete successfully with our existing competitors or with new competitors.

Failure to Protect Our Intellectual Property Rights or Claims by Others That We Infringe Their Intellectual Property Rights Could Substantially Harm Our Business, Financial Position and Results of Operations.

We rely on a combination of trade secret, copyright, trademark, and patent laws in the U.S. and similar laws in other countries, and non-disclosure, confidentiality, and other types of contractual arrangements to establish, maintain, and enforce our intellectual property rights in our solutions. Despite these measures, any of our intellectual property rights could be challenged, invalidated, circumvented, or misappropriated. Further, our contractual arrangements may not effectively prevent disclosure of our confidential information or provide an adequate remedy in the event of unauthorized disclosure of our confidential information. Others may independently discover trade secrets and proprietary information, which may complicate our assertion of trade secret rights against such parties. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position. In addition, the laws of certain countries do not protect proprietary rights to the same extent as the laws of the U.S. Therefore, in certain jurisdictions, we may be unable to protect our proprietary technology adequately against unauthorized third party copying or use, which could adversely affect our competitive position.

Although we hold a limited number of patents and patent applications on some of our solutions, we do not rely upon patents as a primary means of protecting our rights in our intellectual property. In any event, there can be no assurance that our patent applications will be approved, that any issued patents will adequately protect our intellectual property, or that such 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 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.

Finally, third parties may claim that we, our clients, licensees or other parties indemnified by us are infringing upon their intellectual property rights. Even if we believe that such claims are without merit, they can be time consuming and costly to defend and distract management's and technical staff's attention and resources. Claims of intellectual property infringement also might require us to redesign affected solutions, enter into costly settlement or license agreements or pay costly damage awards, or face a temporary or permanent injunction prohibiting us from marketing or selling certain of our solutions. Even if we have an agreement to indemnify us against such costs, the indemnifying party may be unable to uphold its contractual obligations. If we cannot or do not license the infringed technology on reasonable pricing terms or at all, or substitute similar technology from another source, our business, financial position, and results of operations could be adversely impacted. Our failure to adequately establish, maintain, and protect our intellectual property rights could have a material adverse impact on our business, financial position, and results of operations.

We May Incur Material Restructuring Charges in the Future.

In the past, we have recorded restructuring charges related to involuntary employee terminations, various facility abandonments, and various other restructuring and reorganization activities. We continually evaluate ways to reduce our operating expenses through new restructuring opportunities, including more effective utilization of our assets, workforce, and operating facilities. As a result, there is a risk, which is increased during economic downturns and with expanded global operations, that we may incur material restructuring or reorganization charges in the future.

Substantial Impairment of Long-lived Assets in the Future May Be Possible.

As a result of various acquisitions and the growth of our company over the last several years, we have approximately $221 million of long-lived assets other than goodwill (principally, property and equipment, software, acquired client contracts, and client contract costs) as of December 31, 2018. Long-lived assets are required to be evaluated for possible impairment whenever events or changes in circumstances indicate that the carrying amount of these assets

may not be recoverable. We utilize our market capitalization and/or cash flow models as the primary basis to estimate the fair value amounts used in our long-lived asset impairment valuations. If an impairment was to be recorded in the future, it could materially impact our results of operations in the period such impairment is recognized, but such an impairment charge would be a non-cash expense, and therefore would have no impact on our cash flows.

## Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

As of December 31, 2018, we were operating in over 25 leased sites around the world, representing over 700,000 square feet.

Our corporate headquarters is located in Greenwood Village, Colorado. In addition, we lease office space in the U.S. in Allen, Texas, Atlanta, Georgia; Bloomfield, New Jersey; Chicago, Illinois; Omaha, Nebraska; and Philadelphia, Pennsylvania. The leases for these office facilities expire in the years 2019 through 2027. We also maintain leased facilities internationally in Australia, Brazil, Canada, Colombia, France, India, Ireland, Malaysia, South Africa, Sweden, United Arab Emirates, and the U.K. The leases for these international office facilities expire in the years 2019 through 2026. We utilize these office facilities primarily for the following: (i) client services, training, and support; (ii) product and operations support; (iii) systems and programming activities; (iv) professional services staff; (v) R&D activities; (vi) sales and marketing activities; and (vii) general and administrative functions.

Additionally, we lease four statement production and mailing facilities totaling approximately 350,000 square feet. These facilities are located in: (i) Omaha, Nebraska; (ii) Crawfordville, Florida; (iii) Austin, Texas; and (iv) Fort Worth, Texas. The leases for these facilities expire in the years 2021 through 2026.

We believe that our facilities are adequate for our current needs and that additional suitable space will be available as required. We also believe that we will be able to either: (i) extend our current leases as they terminate; or (ii) find alternative space without experiencing a significant increase in cost. See Note 10 to our Financial Statements for information regarding our obligations under our facility leases.

Item 3. Legal Proceedings

From time-to-time, we are involved in litigation relating to claims arising out of our operations in the normal course of business. In the opinion of our management, we are not presently a party to any material pending or threatened legal proceedings.

Item 4. Mine Safety Disclosures

Not applicable.

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Executive Officers of the Registrant

Our executive officers are Bret C. Griess (President and Chief Executive Officer), Rolland B. Johns (Executive Vice President and Chief Financial Officer), Brian A. Shepherd (Executive Vice President and Group President), and Kenneth M. Kennedy (Executive Vice President, President of Technology and Product). We have employment agreements with each of the executive officers.

Bret C. Griess

President and Chief Executive Officer

Mr. Griess, 50, currently serves as our President and CEO. He joined the Company in 1996 and held a variety of positions in Operations and Information Technology, until being appointed Executive Vice President of Operations in February 2009, Chief Operations Officer in March 2011, and President in June 2015. In January 2016, Mr. Griess was appointed President and CEO and a member of our Board. Mr. Griess holds an M.A. degree in Management and a B.S. degree in Management from Bellevue University in Nebraska, and an A.A.S. degree from the Community College of the Air Force.

Rolland B. Johns

Executive Vice President and Chief Financial Officer

Mr. Johns, 49, serves as Executive Vice President and Chief Financial Officer for CSG. Mr. Johns joined CSG as Chief Accounting Officer in 2013. He was named Executive Vice President and Chief Financial Officer in May 2018. Prior to joining CSG, he was audit partner at KPMG and held other accounting-related positions at KPMG. Mr. Johns is a member of the AICPA and the Nebraska Society of Certified Public Accountants. He holds a B.S. degree in Accounting from the University of San Diego.



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Brian A. Shepherd

Executive Vice President and Group President

Mr. Shepherd, 51, joined CSG in 2016. He was named Executive Vice President and Group President of CSG in October 2017. In this position, he leads the profit and loss organization for the entire global organization. Prior to this role, Mr. Shepherd served as Executive Vice President and President of Global Broadband, Cable and Satellite Business from 2016 to 2017, where he focused on accelerating the growth and strategic direction of CSG's global broadband, cable and direct broadcast satellite business. Mr. Shepherd is an international business expert with strong management, customer relationship, global sales, strategy and corporate growth experience. In previous executive roles at companies such as TeleTech, Amdocs, DST Innovis, and McKinsey & Company, Mr. Shepherd built a successful history of helping companies drive and achieve their strategic growth initiatives. With more than 15 years in the cable and communications industries, he has built wide and deep relationships with C-Suite leaders, decision-makers and policy influencers who have shaped these industries globally. Mr. Shepherd graduated Magna cum laude in Economics from Wabash College and received a Master of Business Administration degree from Harvard Business School.

Kenneth M. Kennedy

Executive Vice President, President of Technology and Product

Mr. Kennedy, 49, was named President of Technology and Product in October 2017. In this position, he oversees all product development, product management, platform architecture and operations across CSG's solutions portfolio. His expertise and vision contribute to new innovations that enable CSG's clients to have more agile and dynamic operations. Prior to this role, Mr. Kennedy served as CSG's Executive Vice President of Product Development from 2016 to 2017. Prior to this role, he served as CSG's Chief Technology Officer and Senior Vice President of Product Management, Development and Operations from 2006 to 2016, managing CSG's software development organization and implementing technology initiatives for CSG's product offerings. Prior to CSG, Mr. Kennedy was one of the original founders of Telution where he served as Vice President of Software Development and Professional Services from 1998 to 2006. Prior to Telution, Mr. Kennedy worked at Andersen Consulting where he was responsible for developing highly-scalable distributed software solutions for the manufacturing, financial services, and communications industries. Mr. Kennedy received a Bachelor of Business Administration and Management Information Systems from the University of Notre Dame.

Board of Directors of the Registrant

Information related to our Board of Directors (the "Board") is provided below.

Donald B. Reed

Mr. Reed, 74, was elected to the Board in May 2005 and has served as CSG's non-executive Chairman of the Board since January 2010. He is presently retired. Mr. Reed served as CEO of Cable & Wireless Global from 2000 to 2003. Cable & Wireless Global, a subsidiary of Cable & Wireless plc, is a provider of internet protocol ("IP") and data services to business customers in the U.S., United Kingdom, Europe, and Japan. From June 1998 until May 2000, Mr. Reed served Cable & Wireless in various other executive positions. Mr. Reed's career includes 30 years at NYNEX Corporation (now part of Verizon), a regional telephone operating company. From 1995 to 1997, Mr. Reed served NYNEX Corporation as President and Group Executive with responsibility for directing the company's regional,

national, and international government affairs, public policy initiatives, legislative and regulatory matters, and public relations. Mr. Reed holds a B.A. degree in History from Virginia Military Institute.

Bret C. Griess

Mr. Griess' biographical information is included in the "Executive Officers of the Registrant" section shown directly above.

David G. Barnes

Mr. Barnes, 57, was appointed to the Board in February 2014. He served as Executive Vice President, Global Operations of Stantec Inc., a publicly traded global provider of engineering, consulting, and construction services. From 2009 through 2016, he served as Executive Vice President and CFO of MWH Global Inc., an employee-owned engineering and construction firm. MWH Global Inc. was acquired by Stantec Inc. in 2016. From 2006 to 2008, he was Executive Vice President of Western Union Financial Services. From 2004 to 2006, Mr. Barnes served as CFO of Radio Shack Corporation, and from 1999 to 2004, he was Vice President, Treasurer, and U.S. CFO for Coors Brewing Company. Mr. Barnes holds an M.B.A. degree from the University of Chicago and a B.A. degree from Yale University.

Ronald H. Cooper

Mr. Cooper, 62, was elected to the Board in November 2006. He is presently retired. He most recently served as the President and CEO of Clear Channel Outdoor Americas, Inc. (an outdoor advertising company) from 2009 through 2012. Prior to this position, he was a Principal at Tufts Consulting LLC from 2006 through 2009. Previously, he spent nearly 25 years in the cable and telecommunications industry, most recently at Adelphia Communications where he served as President and COO from 2003 to 2006. Prior to Adelphia, Mr. Cooper held a series of executive positions at AT&T Broadband, RELERA Data Centers & Solutions, MediaOne, and its predecessor Continental Cablevision, Inc. He has served on various boards of directors and committees with the National Cable Television Association, California Cable & Telecommunications Association, Cable Television Association for Marketing, New England Cable Television Association, and Outdoor Advertising Association of America. Mr. Cooper holds a B.A. degree from Wesleyan University.

Marwan H. Fawaz

Mr. Fawaz, 56, was appointed to the Board in March 2016. He is currently an Executive Advisor to Google and Alphabet, after joining Alphabet as the CEO of Nest Labs, Inc. With more than 30 years of experience in the media, cable, telecommunications, and broadband industries, Mr. Fawaz offers a wealth of knowledge and expertise, developed from his time as Executive Vice President and CEO of Google/Motorola Mobility from 2012 to 2013, and Executive Vice President of Strategy and Operations and Chief Technology Officer of Charter Communications from 2006 to 2011. In addition, he served as Senior Vice President and Chief Technology Officer of Adelphia Communications from 2003 to 2006, and held leadership positions for other cable industry companies such as MediaOne, among others. He was the founder and principal of Sarepta Advisors, a strategic advisory and consulting group supporting the technology, media, and telecommunications industries. He holds an M.S. degree in Electrical and Communication Engineering and a B.S. degree in Electrical Engineering, both from California State University at Long Beach.

Rajan Naik

Dr. Naik, 47, was elected to the Board in August 2018. He currently serves as the Chief Strategy and Innovation Officer for Motorola Solutions, Inc., where he is responsible for the corporate strategy organization, chief technology office, venture capital portfolio and competitive and market intelligence. Motorola Solutions creates mission-critical communication solutions, including devices, networks, software, services and video. Prior to joining Motorola Solutions, Dr. Naik held the role of Senior Vice President, Chief Strategy Officer at Advanced Micro Devices (AMD), a provider of high-performance computing, graphics and visualization technologies. From 2000-2012, Dr. Naik was a Partner at McKinsey & Company in the technology/media/telecom practice. He currently serves on the board of Sonim Technologies. He holds a B.S. degree in Engineering from Cornell University and a Ph.D. in Engineering from Massachusetts Institute of Technology.

Janice I. Obuchowski

Ms. Obuchowski, 67, was elected to the Board in November 1997. She is the founder and President of Freedom Technologies, Inc. (a firm providing public policy, strategic, and engineering advice to companies in the communications sector, government agencies, and international clients), a position she has held since 1992. In 2003, Ms. Obuchowski was appointed by President George W. Bush to serve as Ambassador and Head of the U.S. Delegation to the World Radiocommunication Conference. She has served as Assistant Secretary for Communications and Information at the Department of Commerce, Administrator for the National Telecommunications and Information Administration (“NTIA”), and as the head of international government relations at NYNEX Corporation. Ms. Obuchowski currently serves as a Director on the boards for Inmarsat. She also has served on several non-profit

and other publicly traded company boards. She holds a J.D. degree from Georgetown University and a B.A. degree from Wellesley College, and also attended the University of Paris.

Frank V. Sica

Mr. Sica, 68, has served as a director of the Company since its formation in 1994. He is currently a Partner of Tailwind Capital (a private equity firm) since 2006. He currently serves as a director on the boards of JetBlue Airways, Kohl’s Corporation, and Safe Bulkers, Inc. Mr. Sica holds an M.B.A. degree from the Tuck School of Business at Dartmouth College and a B.A. degree from Wesleyan University.

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Donald V. Smith

Mr. Smith, 76, was elected to the Board in January 2002. He is presently retired. Previously, Mr. Smith served as Senior Managing Director of Houlihan Lokey Howard & Zukin, Inc., an international investment banking firm with whom he had been associated from 1988 through 2009, and where he served on the board of directors. From 1978 to 1988, he served as a Principal with Morgan Stanley & Co. Inc., where he headed the company's valuation and reorganization services. He also serves on the board of directors of several non-profit organizations. Mr. Smith holds an M.B.A. degree from the Wharton Graduate School of the University of Pennsylvania and a B.S. degree from the United States Naval Academy.

James A. Unruh

Mr. Unruh, 78, was elected to the Board in June 2005. He became a founding Principal of Alerion Capital Group, LLC (a private equity investment company) in 1998 and currently holds such position. Mr. Unruh was an executive with Unisys Corporation (a global information technology company) from 1987 to 1997, including serving as its Chairman and CEO from 1990 to 1997. From 1982 to 1986, Mr. Unruh held various executive positions, including Senior Vice President–Finance and CFO with Burroughs Corporation, a predecessor of Unisys Corporation. Prior to 1982, Mr. Unruh was CFO with Memorex Corporation and also held various executive positions with Fairchild Camera and Instrument Corporation, including CFO. Mr. Unruh formerly served as director on the boards for Tenet Healthcare Corporation, and Prudential Financial, Inc.. during the past five years. He holds an M.B.A. degree from the University of Denver and a B.S. degree from the University of Jamestown.

PART II

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

Our common stock is listed on NASDAQ under the symbol ''CSGS''. On January 31, 2019, the number of holders of record of common stock was 125.

Stock Price Performance

The following graph compares the cumulative total stockholder return on our common stock, the Russell 2000 Index, and our Standard Industrial Classification ("SIC") Code Index: Data Preparation and Processing Services during the indicated five-year period. The graph assumes that $100 was invested on December 31, 2013, in our common stock and in each of the two indexes, and that all dividends, if any, were reinvested.

| | As of December 31, | | | | | |
|---|---|---|---|---|---|---|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| CSG Systems International, Inc. | $100.00 | $87.27 | $128.05 | $175.29 | $161.82 | $119.83 |
| Russell 2000 Index | 100.00 | 104.89 | 100.26 | 121.63 | 139.44 | 124.09 |
| Data Preparation and Processing Services | 100.00 | 108.97 | 119.79 | 138.99 | 167.15 | 180.20 |

Equity Compensation Plan Information

The following table summarizes certain information about our equity compensation plans as of December 31, 2018:

| Plan Category | Number of securities to be issued upon exercise of outstanding options, warrants, and rights | Weighted-average exercise price of outstanding options, warrants, and rights | Number of securities remaining available for future issuance |
|---|---|---|---|
| Equity compensation plans approved by security holders | — | $ — | 4,460,053 |

Of the total number of securities remaining available for future issuance, 4,182,842 shares can be used for various types of stock-based awards, as specified in the equity compensation plan, with the remaining 277,211 shares to be used for our employee stock purchase plan. See Note 12 to our Financial Statements for additional discussion of our equity compensation plans.

Issuer Repurchases of Equity Securities

The following table presents information with respect to purchases of our common stock made during the fourth quarter of 2018 by CSG Systems International, Inc. or any "affiliated purchaser" of CSG Systems International, Inc., as defined in Rule 10b-18(a)(3) under the Exchange Act.

| Period | Total Number of Shares Purchased (1) (2) | Average Price Paid Per Share | Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2) | Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plan or Programs (2) |
|---|---|---|---|---|
| October 1 - October 31 | 108,396 | $ 36.43 | 107,300 | 5,740,367 |
| November 1 - November 30 | 89,160 | 35.92 | 85,900 | 5,654,467 |
| December 1 - December 31 | 116,500 | 32.46 | 116,500 | 5,537,967 |

| Total | 314,056 | $ 34.81 | 309,700 |
|---|---|---|---|

(1) The total number of shares purchased that are not part of the Stock Repurchase Program represents shares purchased and cancelled in connection with stock incentive plans.

(2) See Note 12 to our Financial Statements for additional information regarding our share repurchases.

Item 6. Selected Financial Data

The following selected financial data have been derived from our audited financial statements. The selected financial data presented below should be read in conjunction with, and is qualified by reference to, our MD&A and our Financial Statements. The information below is not necessarily indicative of the results of future operations.

| | Year Ended December 31, | | | | |
|---|---|---|---|---|---|
| | 2018 | 2017 | 2016 | 2015 | 2014 |
| | (in thousands, except per share amounts) | | | | |
| Statements of Income Data: | | | | | |
| Revenues (1)(2)(3) | $875,059 | $789,582 | $760,958 | $752,520 | $751,286 |
| Operating income (1)(2)(3) | 104,932 | 105,685 | 132,629 | 113,140 | 75,690 |
| Net income (1)(2)(3) | 66,130 | 61,364 | 62,882 | 62,567 | 35,711 |
| | | | | | |
| Weighted-average diluted shares outstanding | 32,855 | 32,865 | 33,014 | 33,438 | 33,736 |
| | | | | | |
| Diluted net income per common share | $2.01 | $1.87 | $1.90 | $1.87 | $1.06 |
| | | | | | |
| Dividend declared per share | $0.84 | $0.79 | $0.74 | $0.70 | $0.62 |
| | | | | | |
| Key Capital Activities: | | | | | |
| Shares repurchased under Stock Repurchase Program (5) | 704 | 500 | 318 | 1,838 | 733 |
| Cost of shares repurchased under Stock Repurchase Program (5) | $27,628 | $20,548 | $11,565 | $56,959 | $19,106 |
| Dividends declared | 28,148 | 26,823 | 23,753 | 22,852 | 21,327 |
| | | | | | |
| Balance Sheet Data (at Period End): | | | | | |
| Cash, cash equivalents and short-term investments (4) | $162,880 | $261,360 | $276,498 | $240,936 | $201,800 |
| Total assets (7) | 1,114,362 | 904,534 | 891,879 | 862,731 | 839,367 |
| Total debt (4)(7) | 359,826 | 331,736 | 416,260 | 279,130 | 250,376 |
| Total treasury stock (4)(5)(6) | 842,360 | 814,732 | 826,002 | 814,437 | 757,478 |
| Total stockholders' equity (2)(5) | 361,024 | 342,746 | 251,360 | 345,845 | 358,633 |

(1) During 2018, we acquired Business Ink on February 28 and Forte Payment Systems, Inc. on October 1, and as a result, ten and three months of their operations, respectively, are included in our 2018 results (approximately $74 million of revenue impact). The overall cost of these acquisitions was approximately $155 million and was funded with existing cash.

See Note 6 to our Financial Statements for additional discussion of these acquisitions.

(2) In 2018, we adopted Accounting Standards Update ("ASU") 2014-09, Revenue from Contracts with Customers (Topic 606), a single comprehensive model which supersedes nearly all existing revenue recognition guidance under U.S. GAAP. Under the new guidance, revenue is recognized when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services.

We adopted the new guidance using the cumulative effect approach, and as a result, recorded a cumulative adjustment increasing beginning retained earnings (net of tax) by approximately $7 million.

See Note 2 to our Financial Statements for further discussion regarding the adoption of this new standard.

(3) In September 2015, we sold our cyber-security business, marketed under the Invotas brand, to certain former management personnel, resulting in a gain on the sale of $3.7 million. In February 2016, this business was acquired by a third-party. Based on the terms of the agreement, we received additional consideration upon a liquidation event, as defined in the agreement, which resulted in an additional gain on the sale of $6.6 million. The impact of Invotas to our business prior to the divestiture date was not material.

(4) In March 2018, we refinanced our Credit Agreement. As a result, under the refinanced Credit Agreement, we: (i) extended the term of the agreement to March 2023; (ii) obtained a reduction in the interest rate and other fees; and (iii) borrowed $150 million, resulting in a net increase of available cash of $30 million, after paying off the outstanding $120 million balance from the term loan under the previous Credit Agreement.

In March 2016, we completed an offering of $230 million of 4.25% senior convertible notes due March 15, 2036. The net proceeds of approximately $223 million were used to settle the outstanding 2010 Convertible Notes, due March 1, 2017. During 2016, we repurchased approximately $115 million of the 2010 Convertible Notes for approximately $216 million, and recognized a loss on the repurchases of $8.7 million. In March 2017, we settled our conversion obligation by paying cash of $34.8 million for the remaining par value of the notes and delivered 694,240 shares of our common shares from treasury stock to settle the $28.8 million value of the conversion obligation in excess of par value.

In February 2015, we refinanced our Credit Agreement. As a result, under the refinanced Credit Agreement, we: (i) extended the term of the agreement to February 2020; (ii) increased the amount of the revolving credit facility from $100 million to $200 million; and (iii) borrowed $150 million, resulting in a net increase of available cash of $30 million, after paying off the outstanding $120 million balance from the term loan under the previous Credit Agreement.

See Note 5 to our Financial Statements for additional discussion of our debt.

(5) In March 2015, we entered into an accelerated share repurchase (“ASR”) Agreement with a counterparty to repurchase $50 million of our common stock. Final share settlement occurred in December 2015, with total shares purchased under the ASR Agreement of 1.6 million.

(6) In January 2017, Comcast exercised approximately 1.4 million vested stock warrants, which we net share settled under the provisions of the warrant agreement by delivering 649,221 of our common shares from treasury stock, which had a fair value of $31.5 million. The carrying value of the shares of treasury stock delivered was $15.4 million. See Note 11 to our Financial Statements for additional discussion of the stock warrants.

(7) In 2016, we adopted ASU 2015-03, Interest-Imputation of Interest (Subtopic 835-30) and ASU 2015-17, Income Taxes (Topic 740). ASU 2015-03 requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a reduction from the carrying amount of that debt liability, consistent with debt discounts. ASU 2015-17 requires that all deferred tax liabilities and assets be classified as noncurrent. We adopted both ASU's on January 1, 2016, which resulted in a reclassification of our Balance Sheets for the periods presented.

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

Forward-Looking Statements

This report contains a number of forward-looking statements relative to our future plans and our expectations concerning our business and the industries we serve. These forward-looking statements are based on assumptions about a number of important factors, and involve risks and uncertainties that could cause actual results to differ materially from estimates contained in the forward-looking statements. Some of the risks that are foreseen by management are outlined above within Item 1A., "Risk Factors". Item 1A. constitutes an integral part of this report, and readers are strongly encouraged to review this section closely in conjunction with MD&A.

Acquisition Activity

Business Ink, Co.

On February 28, 2018 we acquired Business Ink, a multi-channel communications company based in Austin, Texas, for approximately $70 million, excluding acquisition-related expenses. Business Ink provides outsourced, customized business communications services to the telecommunications, healthcare, financial services, utilities, and government sectors across statements, email, mobile messaging, and more. The acquisition extends the scale of our operations and platform capabilities, expands our customer base into new verticals, and further solidifies our customer communications footprint. For 2018, Business Ink contributed $49.2 million of cloud and related solutions revenues and was neutral to our operating income when factoring in acquired amortization and acquisition-related costs.

See Note 6 to our Financial Statements for further discussion of this acquisition.

Forte Payment Systems, Inc.

On October 1, 2018, we acquired Forte, a leading provider of advanced payment solutions headquartered in Allen, Texas. The acquisition of Forte accelerates our ability to offer a comprehensive suite of next generation payment solutions that enables service providers to provide a differentiated customer experience, while also strengthening our position in the revenue management and payments sector and allowing us to grow our footprint into new verticals. We acquired 100% of the equity of Forte for a purchase price of approximately $85 million (excluding cash acquired), and held back approximately $13 million in cash subject to certain tax filings. In addition, the stock purchase agreement includes provisions for $18.8 million of potential future earn-out payments over a four-year measurement period. For 2018, Forte generated $24.9 million of cloud and related solutions revenues and was dilutive to our operating income due to acquisition amortization and acquisition-related costs.

See Note 6 our Financial Statements for further discussion of this acquisition.

Key Impact of U.S. Tax Cuts and Jobs Act

On December 22, 2017, the U.S. Tax Cuts and Jobs Act (the "Tax Reform Act") was passed into legislation. The Tax Reform Act amends the Internal Revenue Code, reducing the corporate income tax rate, changing or eliminating certain income tax deductions and credits, and provides sweeping change to how U.S. companies are taxed on their international operations. The Tax Reform Act was generally effective for tax years beginning after December 31,

2017; however, certain provisions of the Tax Reform Act had effective dates beginning in 2017.

The Tax Reform Act reduces the U.S. maximum rate of income taxation from 35% to 21% applicable to taxable years beginning after December 31, 2017. Our effective income tax rate for the full year 2018 was 24%.

See Note 8 to our Financial Statements for additional impacts of the Tax Reform Act.

Impact of New Revenue Accounting Pronouncement

In January 2018 we adopted ASC 606, a single comprehensive model which supersedes nearly all existing revenue recognition guidance under U.S. GAAP, utilizing the cumulative effect approach. Under the new guidance, revenue is recognized when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services.



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In conjunction with the adoption of ASC 606, we recorded a cumulative adjustment increasing beginning retained earnings (net of tax) by approximately $7 million, primarily related to contracts that we were required to defer revenue as we did not have vendor specific objective evidence (“VSOE”) for certain undelivered elements. The adoption of ASC 606 did not have a material impact on our revenues in 2018, and we do not anticipate it to have a material impact going forward, as the new revenue accounting rules under ASC 606 are fairly consistent with our policies and guidelines based on the nature of our client contracts.

As a result of adopting ASC 606, beginning in 2018, the following key reclassifications have occurred:

- Certain deferred contract costs that had been included in our client contracts and other current and non-current assets on our Balance Sheet were reclassified and presented separately as a non-current client contract asset, net of related amortization.
- Certain revenues and related costs previously recorded as software and services or maintenance on our Income Statement are now being classified as cloud and related solutions.
- Investments in client contracts on our Consolidated Statement of Cash Flows have been reclassified to operating activities from investing activities.

Since we adopted ASC 606 using the cumulative effect method, prior period comparative information in our Financial Statements have not been adjusted and continue to be as previously reported.

Refer to Note 2 to our Financial Statements for further detail and discussion regarding the adoption of ASC 606.

Impact of New Lease Accounting Pronouncement

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842), which requires lessees to recognize a lease liability and a right-of-use asset for all leases, including operating leases, with a term greater than twelve months on its balance sheet. We adopted the ASU in January of 2019, utilizing the effective date method of transition. While the adoption of this standard resulted in a material gross-up of our Balance Sheet assets and liabilities, it is not expected to have a material impact on our Income Statement or Statement of Cash Flows.

Refer to Note 2 to our Financial Statements for further detail regarding the adoption of ASC 842.

Management Overview

Results of Operations. A summary of our results of operations for 2018 and 2017, and other key performance metrics are as follows (in thousands, except percentages and per share amounts):

| | Year Ended December 31, | |
|---|---|---|
| | 2018 | 2017 |
| Revenues | $875,059 | $789,582 |
| Transaction fees | 15,602 | — |
| Operating Results: | | |
| Operating income | 104,932 | 105,685 |
| Operating income margin | 12.0 % | 13.4 % |
| Diluted EPS | $2.01 | $1.87 |
| Supplemental Data: | | |
| Restructuring and reorganization charges | $8,661 | $8,796 |
| Acquisition-related costs: | | |
| Amortization of acquired intangible assets | 9,699 | 6,864 |
| Earn-out compensation | 1,260 | — |
| Transaction-related costs | 3,653 | — |
| Stock-based compensation (1) | 19,650 | 20,782 |
| Amortization of OID | 2,664 | 2,790 |
| Loss on extinguishment of debt | 810 | — |

(1) Stock-based compensation included in the table above excludes amounts that have been recorded in restructuring and reorganization charges.

Revenues. Our revenues for 2018 were $875.1 million, an 11% increase when compared to $789.6 million for 2017, with the increase mainly attributed to the acquisitions of Business Ink and Forte, discussed above, which generated approximately $74 million of combined revenues during the year.

Operating Results. Operating income for 2018 was $104.9 million, or a 12.0% operating income margin percentage, compared to $105.7 million, or a 13.4% operating income margin percentage for 2017, with the decreases in operating income and operating income margin percentage reflective of costs associated with the acquisition and integration of Business Ink and Forte and the continuation of planned investments aimed at generating future long-term growth in our business.

Diluted Earnings Per Share (“EPS”). Diluted EPS for 2018 was $2.01 compared to $1.87 for 2017 with the increase mainly attributed to the lower effective income tax rate, resulting primarily from the U.S. Tax Reform enacted in December 2017.

Balance Sheet and Cash Flows. As of December 31, 2018, we had cash, cash equivalents, and short-term investments of $162.9 million, as compared to $261.4 million as of December 31, 2017, with the decrease primarily attributed to the cash acquisitions of Business Ink and Forte for approximately $155 million during the year. Cash flows from operating activities for 2018 were $143.3 million, compared to $127.2 million for 2017. See the Liquidity section below for further discussion of our cash flows.

Significant Client Relationships

Comcast. Comcast continues to be our largest client. For 2018 and 2017, revenues from Comcast were $221 million and $219 million, respectively, representing approximately 25% and 28% of our total revenues. In November 2018, Comcast exercised the first of their two one-year renewal options extending the term of their agreement through June 30, 2020. Terms of the extension remain consistent with the financial terms and obligations under the existing agreement. Additionally, under the terms of the agreement, Comcast has the right to exercise an additional one-year renewal option no later than January 1, 2020, to extend the term of the Agreement through June 30, 2021.

A copy of the Comcast agreement and related amendments, with confidential information redacted, is included in the exhibits to our periodic filings with the SEC.

Charter. Charter is our second largest client. For 2018 and 2017, revenues from Charter were $179 million and $171 million, respectively, representing approximately 20% and 22% of our total revenues. Our agreement with Charter runs through December 31, 2021, with an option to extend the agreement for an additional one-year term.

A copy of the Charter agreements and related amendments, with confidential information redacted, are included in the exhibits to our periodic filings with the SEC.

DISH. DISH is our third largest client. For 2018 and 2017, revenues from DISH were $80 million and $89 million, respectively, representing approximately 9% and 11% of our total revenues, with the decrease in revenues driven mainly by the decrease in DISH customers utilizing their satellite services. Our agreement with DISH runs through December 31, 2021.

The DISH agreement and related amendments, with confidential information redacted, is included in the exhibits to our periodic filings with the SEC.

Stock-Based Compensation Expense

Stock-based compensation expense is included in the following captions in our Income Statement (in thousands):

| | 2018 | 2017 | 2016 |
|---|---|---|---|
| Cost of cloud and related solutions | $3,568 | $3,573 | $3,958 |
| Cost of software and services | 904 | 895 | 1,348 |
| Cost of maintenance | 64 | 357 | 371 |
| Research and development | 2,483 | 3,103 | 3,339 |
| Selling, general and administrative | 12,631 | 12,854 | 13,779 |
| Restructuring | (292) | 267 | (80) |
| Total stock-based compensation expense | $19,358 | $21,049 | $22,715 |

See Notes 2 and 12 to our Financial Statements for additional discussion of our stock-based compensation expense.

Amortization of Acquired Intangible Assets

Amortization of acquired intangible assets is included in the following captions in our Income Statement (in thousands):

| | 2018 | 2017 | 2016 |
|---|---|---|---|
| Cost of cloud and related solutions | $5,229 | $1,065 | $1,092 |
| Cost of maintenance | 4,470 | 5,799 | 7,397 |
| Total amortization expense | $9,699 | $6,864 | $8,489 |

The increase in amortization of acquired intangible assets in 2018 is due to the amortization of the intangible assets acquired with the Business Ink and Forte acquisitions, discussed above. See Notes 4 and 6 to our Financial Statements for additional discussion of our acquired intangible assets and related amortization.

Critical Accounting Policies

The preparation of our Financial Statements in conformity with accounting principles generally accepted in the U.S. requires us to select appropriate accounting policies, and to make judgments and estimates affecting the application of those accounting policies. In applying our accounting policies, different business conditions or the use of different assumptions may result in materially different amounts reported in our Financial Statements.

We have identified the most critical accounting policies that affect our financial position and the results of our operations. These critical accounting policies were determined by considering our accounting policies that involve the most complex or subjective decisions or assessments. The most critical accounting policies identified relate to: (i) revenue recognition; (ii) impairment assessments of long-lived assets; (iii) income taxes; and (iv) loss contingencies. These critical accounting policies, as well as our other significant accounting policies, are disclosed in the notes to our Financial Statements.

Revenue Recognition. We adopted ASC 606 in January 2018 using the cumulative effect method and applied ASC 606 to all contracts with clients that had not been completed as of the date of initial application. Revenue under ASC 606 is recognized upon conclusion that a contract with a client exists. Such conclusion is made by us when the contract is legally enforceable and certain criteria, including collectability, are met. In making our determination of collectability, we consider a number of factors depending upon the specific aspects of an arrangement, which may include, but is not limited to, the following items: (i) an assessment of the client's specific credit worthiness, evidenced by its current financial position and/or recent operating results, credit ratings, and/or a bankruptcy filing status (as applicable); (ii) the client's current accounts receivable status and/or its historical payment patterns with us (as applicable); (iii) the economic condition of the industry in which the client conducts the majority of its business; and/or (iv) the economic conditions and/or political stability of the country or region in which the client is domiciled and/or conducts the majority of its business. The evaluation of these factors, and the ultimate determination of collectability, requires significant judgments to be made by us. The judgments made in this area could have a significant effect to the amount and timing of revenue recognized in any period.

Our contracts with clients include cloud-based solution arrangements, managed services solution arrangements, payment processing transaction services, software license and service arrangements, professional services arrangements, and bundled service arrangements. The revenue recognition policies that involve the most complex and subjective decisions or assessments that may have a material impact on our operations relate to the accounting for

cloud-based solution arrangements, software license and service arrangements and bundled service arrangements.

Our cloud-based solution arrangements are complex agreements that typically include multiple performance obligations. Key factors considered in accounting for cloud-based solution arrangements include the following criteria: (i) identification of performance obligations within the contract; (ii) determination of the transaction price given the variable nature of the consideration and significance of the consideration; (iii) allocation of value between the performance obligations; and (iv) calculation of revenue recognized in each period. The evaluation of these factors and ultimate revenue recognition decision requires significant judgements to be made by us. Depending on the significance of variable consideration, number of products/services, complex pricing structures and long-term nature of these types of contracts, the judgements and estimates made in this area could have a significant effect on the amount and timing of revenue recognized in any period. In addition, certain products and arrangements require us to make an assessment of whether we are a principal to the transaction (gross revenue) or an agent to the transaction (net revenue). Such assessments can have a significant effect on the amount of revenue recognized.

Our software license and services arrangements and bundled service arrangements include multiple performance obligations and can be complex and require considerable judgement. Key factors considered in accounting for our software license and related service arrangements include the following criteria: (i) identification of performance obligations within the contract; (ii) assessment of

whether services included in the arrangement represent significant production, modification or customization of the software (as applicable), such that the delivery of the software license and related services required to implement the software represent one combined performance obligation; (iii) determination of the transaction price for the contract as these types of arrangements may include both fixed and variable consideration; (iv) determination of stand-alone selling price for each performance obligation; allocation of value between performance obligations; and (v) estimates to measure progress for delivery. The evaluation of these factors and ultimate revenue recognition decision requires significant judgements to be made by us. We generally determine stand-alone selling prices using pricing calculations (which include regional market factors) for our software license fees and maintenance, and cost-plus margins for services. The pricing calculations can be complex and require estimates based on volumes and regional market factors. Additionally, our use of an hours-based method of accounting for software license and other professional services performance obligations that are satisfied over time requires estimates of total project revenues and costs, along with the expected hours necessary to complete a project. Changes in estimates as a result of additional information or experience on a project as work progresses are inherent characteristics of this method of revenue recognition as we are exposed to various business risks in completing these types of performance obligations. The estimation process to support our hours-based recognition method is more difficult for projects of greater length and/or complexity. The judgments and estimates made in this area could: (i) have a significant effect on revenues recognized in any period by changing the amount and/or the timing of the revenue recognized; and/or (ii) impact the expected profitability of a project, including whether an overall loss on an arrangement has occurred.

Our contracts are subject to modification via amendment, change requests, and/or statement of works. Such modifications can occur frequently. The accounting for contract modifications under ASC 606 can be complex and requires significant judgements to be made by us as to whether the contract modification is treated as either a separate contract or part of the existing contract. The judgements made in this area could have a significant effect on the revenues recognized in any period by changing the amount and/or timing of the revenue recognized.

Our contracts typically include service level agreements that may result in refunds or credits to our clients. Under ASC 606, failure to meet service level standards under the terms of the contract represent adjustments to the overall consideration (reductions in revenue) and may need to be estimated at the outset of the arrangement as part of the overall variable consideration. Such estimates require significant judgement by us and may impact the amount and/or timing of the revenue recognized.

Impairment Assessments of Long-Lived Assets. Long-lived assets, which for us relates primarily to property and equipment, software, acquired client contracts, and client contract costs, are required to be evaluated for possible impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. A long-lived asset (or group of long-lived assets) is impaired if estimated future undiscounted cash flows associated with that asset, without consideration of interest, are insufficient to recover the carrying amount of the long-lived asset. Once deemed impaired, even if by $1, the long-lived asset is written down to its fair value which could be considerably less than the carrying amount or future undiscounted cash flows. The determination of estimated future cash flows and, if required, the determination of the fair value of a long-lived asset, are by their nature, highly subjective judgments. Changes to one or more of the assumptions utilized in such an analysis could materially affect our impairment conclusions for long-lived assets.

Income Taxes. We are required to estimate our income tax liability in each jurisdiction in which we operate, which includes the U.S. (including both Federal and state income taxes) and numerous foreign countries.

Various judgments are required in evaluating our income tax positions and determining our provisions for income taxes. During the ordinary course of our business, there are certain transactions and calculations for which the ultimate income tax determination may be uncertain. In addition, we may be subject to examination of our income tax returns by various tax authorities which could result in adverse outcomes. For these reasons, we establish a liability associated

with unrecognized tax benefits based on estimates of whether additional taxes and interest may be due. We adjust this liability based upon changing facts and circumstances, such as the closing of a tax audit, the closing of a tax year upon the expiration of a statute of limitations, or the refinement of an estimate. Should any of the factors considered in determining the adequacy of this liability change significantly, an adjustment to the liability may be necessary. Because of the potential significance of these issues, such an adjustment could be material.

One of the more complex items within our income tax expense is the determination of our annual research and experimentation income tax credit (“R&D credit”). We have incurred approximately $100 - $125 million annually in R&D expense over the last three years. The calculation of the R&D tax credit involves the identification of qualifying projects, and then an estimation of the qualifying costs for such projects. Because of the size, nature, and the number of projects worked on in any given year, the calculation can become complex and certain judgments are necessary in determining the amount of the R&D credits claimed.

Loss Contingencies. In the ordinary course of business, we are subject to claims (and potential claims) related to various items including but not limited to the following: (i) legal and regulatory matters; (ii) vendor contracts; (iii) product and service delivery matters; and (iv) labor matters. Accounting and disclosure requirements for loss contingencies requires us to assess the likelihood of any adverse judgments in or outcomes to these matters, as well as the potential ranges of probable losses. A determination of the amount of reserves for such contingencies, if any, for these contingencies is based on an analysis of the issues, often with the assistance of legal counsel. The evaluation of such issues, and our ultimate accounting and disclosure decisions, are by their nature, subject to various estimates and highly subjective judgments. Should any of the factors considered in determining the adequacy of any required reserves change significantly, an adjustment to the reserves may be necessary. Because of the potential significance of these issues, such an adjustment could be material.

Detailed Discussion of Results of Operations

Total Revenues. Total revenues for: (i) 2018 were $875.1 million, an 11% increase from $789.6 million for 2017; and (ii) 2017 were $789.6 million, a 4% increase from $761.0 million for 2016.

- The 11% year-over-year increase in total revenues between 2018 and 2017 can be mainly attributed to the acquisitions of Business Ink and Forte, discussed above, which generated approximately $74 million of combined revenues during the year.
- The 4% year-over-year increase in total revenues between 2017 and 2016 can be mainly attributed to the 7% increase in our cloud and related solutions revenues, driven largely by the conversion of new customer accounts onto ACP during the year (primarily from Comcast), and increases in revenues from recurring managed services arrangements, with these increases reduced by lower software and services revenues.

The components of total revenues, discussed in more detail below, are as follows:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2018 | 2017 | 2016 |
| Revenues: | | | |
| Cloud and related solutions | $766,377 | $651,010 | $606,936 |
| Software and services | 58,101 | 62,892 | 79,400 |
| Maintenance | 50,581 | 75,680 | 74,622 |
| Total revenues | $875,059 | $789,582 | $760,958 |

Cloud and Related Solutions Revenues. Cloud and related solutions revenues for: (i) 2018 increased 18% to $766.4 million, from $651.0 million for 2017; and (ii) 2017 increased 7% to $651.0 million, from $606.9 million for 2016.

- The year-over-year increase in cloud and related solutions revenues between 2018 and 2017 can be primarily attributed to: (i) the revenues generated from the acquired Business Ink and Forte businesses of $74.1 million; (ii) the application of ASC 606, which resulted in revenues of $26.0 million, previously classified as software and services and maintenance revenues, now being classified as cloud and related solutions revenues; and (iii) the execution of and performance under additional managed services and Ascendon arrangements.
- The year-over-year increase in cloud and related services revenues between 2017 and 2016 can be mainly attributed to the conversion of customer accounts onto ACP and increases in revenues from recurring managed services arrangements. During 2017 and 2016, Comcast added four million and three million customer accounts (of which half were converted during the fourth quarter of 2016), respectively, onto ACP. Additionally, our recurring managed services revenues nearly doubled between 2016 and 2017.

Amortization of the investments in client contracts intangible asset (reflected as a reduction of cloud and related solutions revenues) for 2018, 2017, and 2016 was $11.1 million, $7.4 million, and $6.6 million, respectively.

Software and Services Revenues. Software and services revenues for: (i) 2018 decreased 8% to $58.1 million, from $62.9 million for 2017; and (ii) 2017 decreased 21% to $62.9 million, from $79.4 million for 2016. These decreases can be primarily attributed to the shift in our focus towards managed services arrangements, which are included in our cloud and related solutions revenues, offset in 2018 by an increase in software license uplifts. Additionally, for 2018, due to the application of ASC 606, revenues of $6.1 million previously classified as software and services are now being classified as cloud and related solutions revenues.

Maintenance Revenues. Maintenance revenues for: (i) 2018 decreased 33% to $50.6 million, from $75.7 million for 2017; and (ii) 2017 were $75.7 million, a slight increase when compared to $74.6 million for 2016. The 2018 decrease is primarily due to the application of ASC 606, which resulted in revenues of $21.2 million, previously classified as maintenance now being classified as cloud and related solutions, with the remaining decrease attributed to the timing of maintenance renewals and related revenue recognition.

Total Operating Expenses. Our operating expenses for: (i) 2018 increased 13% to $770.1 million, from $683.9 million for 2017; and (ii) 2017 increased 9% to $683.9 million, from $628.3 million for 2016.

- The $86.2 million increase in total operating expenses between 2018 and 2017 can be mainly attributed to the approximately $72 million of operating expenses of the Business Ink and Forte businesses included in our results (which include $5.0 million of acquisition amortization) and an additional $4.9 million of transaction-related costs.
- The $55.6 million increase in total operating expenses between 2017 and 2016 can be primarily attributed to the increased planned investments aimed at generating future long-term growth in our business, higher cost of sales, reflective of the increase in cloud revenues, and an additional $8.4 million of restructuring and reorganization charges.

The components of total expenses are discussed in more detail below.

Cost of Cloud and Related Solutions (Exclusive of Depreciation). The cost of cloud and related solutions revenues consists principally of the following: (i) computing capacity and network communications costs; (ii) statement production costs (e.g., labor, paper, envelopes, equipment, equipment maintenance, etc.); (iii) transaction fees-interchange and other payment-related fees to third-party payment processors and financial institutions; (iv) client support organizations (e.g., our client support call center, account management, etc.); (v) various product delivery and support organizations (e.g., managed services delivery, product management, product maintenance, etc.); (vi) facilities and infrastructure costs related to the statement production and support organizations; and (vii) amortization of acquired intangibles. The costs related to new product development (including significant enhancements to existing products and services) are included in R&D expenses.

The cost of cloud and related solutions for: (i) 2018 increased 25% to $392.8 million, from $315.0 million for 2017; and (ii) 2017 increased 11% to $315.0 million, from $283.0 million for 2016. Total cloud and related solutions cost of revenues as a percentage of our cloud and related solutions revenues for 2018, 2017, and 2016, were 51.3%, 48.4%, and 46.6%, respectively.

- The year-over-year increase in cost of cloud and related solutions between 2018 and 2017 relates almost entirely to: (i) cloud and related solutions expense from the acquired Business Ink and Forte businesses, to include $5.0 million of acquisition amortization; and (ii) the application of ASC 606, which resulted in $20.4 million of costs, previously classified as cost of software and services and maintenance, now being classified as cost of cloud and related solutions.
- The year-over-year increase in cost of cloud and related solutions between 2017 and 2016 relate primarily to higher variable costs associated with the increase in revenues related to use of our ACP and related solutions, and growth in our managed services arrangements.

Cost of Software and Services (Exclusive of Depreciation). The cost of software and services revenues consists principally of the following: (i) professional services organization; (ii) various product support organizations (e.g., delivery, etc.); (iii) facilities and infrastructure costs related to these organizations; and (iv) third-party software costs and/or royalties related to certain software products. The costs related to new product development (including significant enhancements to existing products and services) are included in R&D expenses.

The cost of software and services for: (i) 2018 decreased 11% to $34.9 million, from $39.0 million for 2017; and (ii) 2017 decreased 21% to $39.0 million, from $49.2 million for 2016. These decreases in cost of software and services

are reflective of the decreases in revenue as personnel and the related costs previously allocated to professional services projects have been reassigned to other areas of the business.

Total cost of software and services as a percentage of our software and services revenues for 2018, 2017, and 2016, were 60.0%, 62.0%, and 62.0%, respectively.

Variability in quarterly revenues and operating results are inherent characteristics of companies that sell software licenses and perform professional services. Our quarterly revenues for software licenses and professional services may fluctuate, depending on various factors, including the timing of executed contracts and revenue recognition, and the delivery of contracted solutions. However, the costs associated with software and professional services revenues are not subject to the same degree of variability (e.g., these costs are generally fixed in nature within a relatively short period of time), and thus, fluctuations in our cost of software and services as a percentage of our software and services revenues will likely occur between periods.

Cost of Maintenance (Exclusive of Depreciation). The cost of maintenance consists principally of the following: (i) client support organizations (e.g., our client support call center, account management, etc.); (ii) various product support organizations (e.g., product maintenance, product management, etc.); (iii) facilities and infrastructure costs related to these organizations; and (iv) amortization of acquired intangibles.

The cost of maintenance for: (i) 2018 decreased 46% to $22.1 million, from $40.8 million for 2017; and (ii) 2017 decreased 5% to $40.8 million, from $43.0 million for 2016. Total cost of maintenance as a percentage of our maintenance revenues for 2018, 2017, and 2016 were 43.8%, 53.9%, and 57.6%, respectively.

- The decrease in cost of maintenance between 2018 and 2017 is mainly attributed to the application of ASC 606, which resulted in $18.6 million of costs, previously classified as cost of maintenance, now being classified as cost of cloud and related solutions.
- The decrease in cost of maintenance between 2017 and 2016 can be mainly attributed to lower amortization expense for certain technology assets.

R&D Expense (Exclusive of Depreciation). R&D expense for: (i) 2018 increased 10% to $124.0 million, from $113.2 million for 2017; and (ii) 2017 increased 15% to $113.2 million, from $98.7 million for 2016. These increases are reflective of our heightened level of investment that began in early 2017 aimed at generating long-term growth of our business.

Our R&D efforts are focused on the continued evolution of our solutions that enable service providers worldwide to provide a more personalized customer experience while introducing new digital products and services. This includes the continued investment in our cloud-based solutions (principally, around our Ascendon platform).

As a percentage of total revenues, R&D expense for 2018, 2017, and 2016 was 14%, 14%, and 13%, respectively. We anticipate the level of R&D investment in the near-term to be relatively consistent with 2018.

Selling, General and Administrative Expense (Exclusive of Depreciation) ("SG&A"). SG&A expense for: (i) 2018 increased 10% to $169.3 million, from $153.7 million for 2017; and (ii) 2017 increased 9% to $153.7 million, from $140.5 million for 2016.

- The increase in SG&A expense between 2018 and 2017 is primarily due to the SG&A costs related to the acquired Business Ink and Forte businesses, to include approximately $5 million of transaction-related costs.
- The increase in SG&A expense between 2017 and 2016 reflect an increased investment in our sales and marketing activities (principally, towards greater global sales coverage and Ascendon sales capabilities) and system security.

As a percentage of total revenues, SG&A expense for 2018, 2017, and 2016 was 19%, 19%, and 18%, respectively.

Depreciation Expense. Depreciation expense for all property and equipment is reflected separately in the aggregate and is not included in the cost of revenues or the other components of operating expenses. Depreciation expense for: (i) 2018 was $18.3 million, a 37% increase from $13.4 million for 2017; and (ii) 2017 was $13.4 million, a slight decrease when compared to $13.6 million for 2016. The increase between 2018 and 2017 can be primarily attributed to depreciation expense from the acquired Business Ink and Forte assets and the increased level of capital expenditures we have made over the last twelve months.

Restructuring and Reorganization Charges. In 2018, 2017, and 2016, we implemented various cost reduction and efficiency initiatives that resulted in restructuring and reorganization charges of $8.7 million, $8.8 million, and $0.4 million, respectively. These initiatives included: (i) reducing and reorganizing our workforce to further align it around our long-term growth initiatives; (ii) the abandonment of space at some of our facility locations; (iii) the reversal of a liability related to a previous disposition of a business; and (iv) the impairment of a long-term receivable related to the disposition of a business in 2013.

See Note 7 to our Financial Statements for additional information regarding these initiatives.

Operating Income. Operating income and operating income margin for: (i) 2018 was $104.9 million, or 12.0% of total revenues, compared to $105.7 million, or 13.4% of total revenues for 2017; and (ii) 2017 was $105.7 million, or 13.4% of total revenues, compared to $132.6 million, or 17.4% of total revenues for 2016.

- The decreases in operating income and operating income margin percentage between 2018 and 2017 are reflective of the costs associated with the acquisition and integration of Business Ink and Forte and the continuation of planned investments aimed at generating future long-term growth in our business.
- The decreases in operating income and operating income margin percentage between 2017 and 2016 are primarily due to the increase in planned investments aimed at generating future long-term growth in our business, and to a lesser degree, the increase in restructuring and reorganization charges.

Interest Expense and Amortization of Original Issue Discount ("OID"). Our interest expense relates primarily to our 2016 Convertible Notes and our Credit Agreement. See Note 5 to our Financial Statements for additional discussion of our long-term debt, to include the non-cash interest expense related to the amortization of the convertible debt OID.

Interest expense for: (i) 2018 increased 5% to $17.7 million, from $16.8 million for 2017; and (ii) 2017 increased 3% to $16.8 million, from $16.3 million for 2016. These increases can be primarily attributed to an increase in interest rates between periods, and for 2018, a higher average outstanding debt balance.

Loss on Extinguishment of Debt. In March 2018, we refinanced our 2015 Credit Agreement (see Note 5 to our Financial Statements). As a result, we incurred a loss of $0.8 million related to the write-off of unamortized debt issuance costs.

Income Tax Provision. Our effective income tax rates for 2018, 2017, and 2016 were as follows:

| 2018 (1) | 2017 (2) | 2016 |
|---|---|---|
| 24 % | 30 % | 37 % |

(1) Our 2018 effective income tax rate reflects the impact of the Tax reform Act, discussed above, which reduced the U.S. maximum rate of income taxation from 35% to 21% applicable to taxable years beginning after December 31, 2017.

(2) Our 2017 effective income tax rate reflects the following items:

- As a result of Comcast's exercise of 1.4 million vested stock warrants in January 2017 (see Note 11 to our Financial Statements), we received an additional $5 million income tax benefit when exercised due to the stock warrants appreciating in value since their vesting.
- As discussed in Note 2 to our Financial Statements, we adopted ASU 2016-09, Compensation – Stock Compensation (Topic 718) in the first quarter of 2017. This ASU required a change in the recognition of excess tax benefits and tax deficiencies, related to share-based payment transactions, which were recorded in equity, and now are recorded discrete to the quarter incurred as a component of income tax expense in the income statement. Under guidance of this ASU, we recognized an income tax benefit of approximately $3 million for 2017.
- We recorded an income tax benefit of approximately $2 million from the remeasurement of U.S.-based net deferred tax liabilities as required under the Tax Reform Act, as noted above (see Note 8 to our Financial Statements).

Liquidity

Cash and Liquidity. As of December 31, 2018, our principal sources of liquidity included cash, cash equivalents, and short-term investments of $162.9 million, compared to $261.4 million as of December 31, 2017, with the decrease primarily attributed to the cash acquisitions of Business Ink and Forte for approximately $155 million during the year. We generally invest our excess cash balances in low-risk, short-term investments to limit our exposure to market and

credit risks.

During the first quarter of 2018, we refinanced our 2015 Credit Agreement primarily to extend the term of the loan from February 2020 to March 2023 and obtain a reduction in the interest rate and other fees. The 2018 Credit Agreement increased our liquidity and capital resources position by approximately $30 million.

As part of our 2018 Credit Agreement, we have a $200 million senior secured revolving loan facility with a syndicate of financial institutions that expires in March 2023. As of December 31, 2018, there were no borrowings outstanding on the 2018 Revolver. The 2018 Credit Agreement contains customary affirmative covenants and financial covenants. As of December 31, 2018, and the date of this filing, we believe that we are in compliance with the provisions of the 2018 Credit Agreement.



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Our cash, cash equivalents, and short-term investment balances as of the end of the indicated periods were located in the following geographical regions (in thousands):

| | December 31, 2018 | December 31, 2017 |
|---|---|---|
| Americas (principally the U.S.) | $ 110,385 | $ 196,053 |
| Europe, Middle East and Africa | 45,884 | 48,030 |
| Asia Pacific | 6,611 | 17,277 |
| Total cash, equivalents and short-term investments | $ 162,880 | $ 261,360 |

We generally have ready access to substantially all of our cash, cash equivalents, and short-term investment balances, but may face limitations on moving cash out of certain foreign jurisdictions due to currency controls and potential negative economic consequences. As of December 31, 2018, we had $3.0 million of cash restricted as to use to collateralize outstanding letters of credit.

Cash Flows From Operating Activities. We calculate our cash flows from operating activities beginning with net income, adding back the impact of non-cash items or non-operating activity (e.g., depreciation, amortization, amortization of OID, impairments, gain/loss from debt extinguishments, deferred income taxes, stock-based compensation, etc.), and then factoring in the impact of changes in operating assets and liabilities.

Our primary source of cash is from our operating activities. Our current business model consists of a significant amount of recurring revenue sources related to our long-term cloud-based and managed services arrangements (mostly billed monthly), payment process transaction services (mostly billed monthly), and software maintenance agreements (billed monthly, quarterly, or annually). This recurring revenue base provides us with a reliable and predictable source of cash. In addition, software license fees and professional services revenues are sources of cash, but the payment streams for these items are less predictable.

The primary use of our cash is to fund our operating activities. Over half of our total operating costs relate to labor costs (both employees and contracted labor) for the following: (i) compensation; (ii) related fringe benefits; and (iii) reimbursements for travel and entertainment expenses. The other primary cash requirements for our operating expenses consist of: (i) computing capacity and related services and communication lines for our outsourced cloud-based business; (ii) paper, envelopes, and related supplies for our statement processing solutions; (iii) hardware and software; and (iv) rent and related facility costs. These items are purchased under a variety of both short-term and long-term contractual commitments. A summary of our material contractual obligations is provided below.

Our 2018 and 2017 net cash flows from operating activities, broken out between operations and changes in operating assets and liabilities, for the indicated quarterly periods are as follows (in thousands):

| | Operations | Changes in Operating Assets and Liabilities | Net Cash Provided by (Used In) Operating Activities – Totals |
|---|---|---|---|

| Cash Flows from Operating Activities: | | | |
|---|---|---|---|
| 2018: | | | |
| March 31 (1) | $ 38,247 | $ (8,392 ) | $ 29,855 |
| June 30 (2) | 38,476 | (42,117 ) | (3,641 ) |
| September 30 | 34,888 | 12,167 | 47,055 |
| December 31 | 46,646 | 23,426 | 70,072 |
| Total | $ 158,257 | $ (14,916 ) | $ 143,341 |
| | | | |
| 2017: | | | |
| March 31 (1) | $ 43,495 | $ (13,531 ) | $ 29,964 |
| June 30 | 26,364 | 8,160 | 34,524 |
| September 30 | 30,536 | 7,798 | 38,334 |
| December 31(2) | 37,752 | (13,379 ) | 24,373 |
| Total | $ 138,147 | $ (10,952 ) | $ 127,195 |

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(1) Cash flows from operating activities for the first quarter of 2018 and 2017 reflect the negative impacts of the payment of the 2017 and 2016 year-end accrued employee incentive compensation in the first quarter subsequent to the year-end accrual for those items.
(2) For the second quarter of 2018 and fourth quarter of 2017, cash flows from operating activities were negatively impacted by the increase in the accounts receivable balance primarily related to the timing around certain recurring client payments that were delayed at quarter-end.

We believe the above table illustrates our ability to generate recurring quarterly cash flows from our operations, and the importance of managing our working capital items. The quarterly and annual variations in our net cash provided by operating activities are related mostly to the changes in our operating assets and liabilities (related mostly to fluctuations in timing at quarter-end of client payments and changes in accrued expenses), and generally over longer periods of time, do not significantly impact our cash flows from operations.

Significant fluctuations in key operating assets and liabilities between 2018 and 2017 that impacted our cash flows from operating activities are as follows:

Billed Trade Accounts Receivable

Management of our billed accounts receivable is one of the primary factors in maintaining strong quarterly cash flows from operating activities. Our billed trade accounts receivable balance includes significant billings for several non-revenue items (primarily postage, sales tax, and deferred revenue items). As a result, we evaluate our performance in collecting our accounts receivable through our calculation of days billings outstanding (“DBO”) rather than a typical days sales outstanding (“DSO”) calculation.

Our gross and net billed trade accounts receivable and related allowance for doubtful accounts receivable (“Allowance”) as of the end of the indicated quarterly periods, and the related DBOs for the quarters then ended, are as follows (in thousands, except DBOs):

| Quarter Ended | Gross | Allowance | Net Billed | DBOs |
|---|---|---|---|---|
| 2018: | | | | |
| March 31 | $217,018 | $ (3,967 ) | $213,051 | 70 |
| June 30 | 243,874 | (3,961 ) | 239,913 | 67 |
| September 30 | 250,913 | (4,182 ) | 246,731 | 68 |
| December 31 | 238,942 | (3,115 ) | 235,827 | 66 |
| | | | | |
| 2017: | | | | |
| March 31 | $198,135 | $ (2,824 ) | $195,311 | 70 |
| June 30 | 200,192 | (2,706 ) | 197,486 | 65 |
| September 30 | 204,293 | (2,456 ) | 201,837 | 72 |
| December 31 | 223,680 | (4,149 ) | 219,531 | 70 |

The increase in gross and net billed accounts receivable during 2018 is due to the addition of Business Ink and Forte’s accounts receivable and the timing around certain recurring client payments (from different clients) that were delayed at the end of the second and third quarter. As these monthly payments were received subsequent to each quarter-end,

they do not raise any collectability concerns. All other changes in our gross and net billed accounts receivable reflect the normal fluctuations in the timing of client payments at quarter-end, as evidenced by our relatively consistent DBO metric over the past several quarters.

As a global provider of software and professional services, a portion of our accounts receivable balance relates to clients outside the U.S. This diversity in the geographic composition of our client base may adversely impact our DBOs as longer billing cycles (i.e., billing terms and cash collection cycles) are an inherent characteristic of international software and professional services transactions. For example, our ability to bill (i.e., send an invoice) and collect arrangement fees may be dependent upon, among other things: (i) the completion of various client administrative matters, local country billing protocols and processes (including local cultural differences), and/or non-client administrative matters; (ii) us meeting certain contractual invoicing milestones; or (iii) the overall project status in certain situations in which we act as a subcontractor to another vendor on a project.

Other Current and Non-Current Assets and Liabilities

As illustrated in Note 2 to our Financial Statements, as a result of the application of ASC 606, an additional $13.2 million of client contract costs are now being included in operating activities as changes in other current and non-current assets and liabilities for the year ended December 31, 2018. Prior to the adoption of ASC 606, these were included with investments in client contracts and included in investing activities.

Cash Flows From Investing Activities. Our typical investing activities consist of purchases/sales of short-term investments, purchases of property and equipment, and investments in client contracts, which are discussed below. Additionally, as discussed earlier, during 2018 we acquired Business Ink and Forte for $68.6 million and $73.4 million, respectively, net of cash acquired, and as discussed in Note 2 to our Financial Statements, made an investment in a payment technology and services company for $2.8 million, which is included in our cash flows from investing activities.

Purchases/Sales of Short-term Investments

During 2018, 2017, and 2016 we purchased $75.0 million, $182.2 million, and $197.0 million, respectively, and sold or had mature $190.8 million, $193.5 million, and $157.8 million, respectively, of short-term investments. We continually evaluate the possible uses of our excess cash balances and will likely purchase and sell additional short-term investments in the future.

Software, Property and Equipment/Client Contracts

Our annual capital expenditures for software, property and equipment, and investments in client contracts were as follows (in thousands):

| | 2018 | 2017 | 2016 |
|---|---|---|---|
| Software, property and equipment | $57,104 | $28,942 | $14,263 |
| Client contracts | — | 12,180 | 7,587 |

Our capital expenditures for these periods consisted principally of investments in: (i) computer hardware, software, and related equipment; (ii) statement production equipment; and (iii) facilities and internal infrastructure items.

As a result of the application of ASC 606, $9.3 million of investments in client contracts have been included in operating activities for the year ended December 31, 2018. Prior to the adoption of ASC 606, investments in client contracts were included in investing activities.

Our investments in client contracts for 2017 and 2016 relate primarily to: (i) cash incentives provided to clients to convert their customer accounts to, or retain their customer's accounts on, our managed services solutions; and (ii) direct and incremental costs incurred for conversion/set-up services related to long-term managed services arrangements where we are required to defer conversion/set-up services fees and recognize those fees as the related services are performed. For 2017 and 2016 our: (i) investments in client contracts related to incentives were $2.1 million and $1.5 million, respectively; and (ii) the deferral of costs related to conversion/set-up services provided under long-term managed services contracts were $10.1 million and $6.1 million, respectively.

Cash Flows From Financing Activities. Our financing activities typically consist of various debt-related transactions and activities with our common stock, which are discussed below.

Issuance of Common Stock

Proceeds from the issuance of common stock for 2018, 2017, and 2016 were $2.3 million, $1.8 million, and $1.5 million, respectively, and relates primarily to employee stock purchase plan purchases.

Repurchase of Common Stock

During 2018, 2017, and 2016 we repurchased approximately 704,000 shares, 500,000 shares, and 318,000 shares of our common stock under the guidelines of our Stock Repurchase Program for $27.6 million, $20.5 million, and $11.6 million, respectively.

Additionally, outside of our Stock Repurchase Program, during 2018, 2017, and 2016, we repurchased from our employees and then canceled approximately 159,000 shares, 249,000 shares, and 344,000 shares, of our common stock for $7.4 million, $10.1 million, and $13.6 million, respectively, in connection with minimum tax withholding requirements resulting from the vesting of restricted stock under our stock incentive plans.

Through December 31, 2018, 2017, and 2016, we have paid $34.7 million, $30.6 million, and $25.2 million, respectively, for our total repurchases of common stock, with the differences attributed to the timing of the settlement.

Cash Dividends Paid on Common Stock

During 2018, 2017, and 2016, the Board approved dividend payments totaling $28.1 million, $26.8 million, and $23.8 million, respectively, of which $28.0 million, $26.9 million, and $24.1 million, respectively, had been paid through December 31, 2018, 2017, and 2016 (with the differences attributed to unvested incentive shares that are paid upon vesting).

Long-term debt

During the first quarter of 2018, we refinanced our 2015 Credit Agreement and as a result, we repaid the outstanding principal balance of $120.0 million and borrowed $150.0 million under the 2018 Credit Agreement, resulting in a net increase of available cash of $30.0 million.  As part of the refinancing, we paid $1.5 million of deferred financing costs.

In March 2017, we settled our conversion obligation for the 2010 Convertible Notes as follows: (i) we paid cash of $34.8 million for the remaining par value of the 2010 Convertible Notes; and (ii) delivered 694,240 of our common shares from treasury stock to settle the $28.8 million conversion obligation in excess of par value.

Additionally, during 2018, 2017, and 2016 we made principal repayments of $5.6 million, $15.0 million, and $7.5 million, respectively, on our long-term debt balance.  See Note 5 to our Financial Statements for additional discussion of our long-term debt.

Contractual Obligations and Other Commercial Commitments and Contingencies

We have various contractual obligations that are recorded as liabilities in our Consolidated Balance Sheets. Other items, such as certain purchase commitments and other executory contracts, are not recognized as liabilities in our Balance Sheet but are required to be disclosed.

The following table summarizes our significant contractual obligations and commercial commitments as of December 31, 2018, and the future periods in which such obligations are expected to be settled in cash (in thousands).

| | Total | Less than 1 Year | Years 2-3 | Years 4-5 | More than 5 Years |
|---|---|---|---|---|---|
| Long-term debt | $570,048 | $23,854 | $56,007 | $137,999 | $352,188 |
| Leases | 79,465 | 16,609 | 27,147 | 21,034 | 14,675 |
| Purchase obligations | 259,410 | 89,826 | 129,199 | 28,787 | 11,598 |
| Total | $908,923 | $130,289 | $212,353 | $187,820 | $378,461 |

The contractual obligation amounts reflected for our long-term debt are as of December 31, 2018, based upon the following assumptions:

(i) Our 2016 Convertible Notes will remain outstanding through their maturity date of March 15, 2036 (although the 2016 Convertible Notes can be converted during the period from, and including, December 15, 2021 to the close of business on the business day immediately preceding March 15, 2022 and holders may require us to repurchase the 2016 Convertible Notes for cash on each of March 15, 2022, March 14, 2026 and March 15, 2031); upon settlement, our cash obligation will not exceed the principal amount; and interest paid through maturity is at a rate of 4.25%; and

(ii) Our 2018 Credit Agreement includes the mandatory quarterly amortization payments on the term loan as of December 31, 2018, and the interest paid throughout the life of the term loan is based upon the interest rate applicable as of December 31, 2018.

Our long-term debt obligations are discussed in more detail in Note 5 to our Financial Statements.

The operating leases are discussed in Note 10 to our Financial Statements. As of December 31, 2018, our purchase obligations consist primarily of our expected minimum base fees under the Ensono service agreement (discussed in Note 10 to our Financial Statements).

Of the total contractual obligations and commercial commitments above, approximately $402 million is reflected on our Balance Sheet.

Off-Balance Sheet Arrangements

None

Capital Resources

The following are the key items to consider in assessing our sources and uses of capital resources:

Current Sources of Capital Resources.

- Cash, Cash Equivalents and Short-term Investments. As of December 31, 2018, we had cash, cash equivalents, and short-term investments of $162.9 million, of which approximately 65% is in U.S. Dollars and held in the U.S. We have $3.0 million of restricted cash included in cash and cash equivalents, used primarily to collateralize outstanding letters of credit. For the remainder of the monies denominated in foreign currencies and/or located outside the U.S., we do not anticipate any material amounts being unavailable for use in running our business.
- Operating Cash Flows. As described in the Liquidity section above, we believe we have the ability to generate strong cash flows to fund our operating activities and act as a source of funds for our capital resource needs.
- Long-Term Debt/Revolving Loan Facility. In March 2018, we refinanced our 2015 Credit Agreement and as a result, we repaid the outstanding term loan principal balance of $120.0 million and borrowed $150.0 million, resulting in a net increase in cash of $30 million (the 2018 Credit Agreement). The 2018 Credit Agreement also includes a $200 million revolving loan facility (2018 Revolver). As of December 31, 2018, we had no borrowing outstanding on our 2018 Revolver and had the entire $200 million available to us. The 2018 Credit Agreement provides us with additional capital capacity, and greater flexibility to manage our capital structure over the next five years. Our long-term debt obligations are discussed in more detail in Note 5 to our Financial Statements.

Uses/Potential Uses of Capital Resources. Below are the key items to consider in assessing our uses/potential uses of capital resources:

- Common Stock Repurchases. We have made repurchases of our common stock in the past under our Stock Repurchase Program. As of December 31, 2018, we had 5.5 million shares authorized for repurchase remaining under our Stock Repurchase Program. Our 2018 Credit Agreement places certain limitations on our ability to repurchase our common stock.

In September 2018, we announced an increase in our planned share repurchases of up to $150 million under our Stock Repurchase Program over the next three years. Under our Stock Repurchase Program, we may repurchase shares in the open market or in privately negotiated transactions, including through an accelerated stock repurchase plan or under a SEC Rule 10b5-1 plan. The actual timing and amount of the share repurchases will be dependent on then current market conditions and other business-related factors over the next three years. Our common stock repurchases are discussed in more detail in Note 11 to our Financial Statements.

During 2018, we repurchased 0.7 million shares of our common stock for $27.6 million (weighted-average price of $39.23 per share).

Outside of our Stock Repurchase Program, during 2018, we repurchased from our employees and then cancelled 0.2 million shares of our common stock for $7.4 million in connection with minimum tax withholding requirements resulting from the vesting of restricted stock under our stock incentive plans.

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Cash Dividends. During the year ended December 31, 2018, the Board declared dividends totaling $28.0 million. Going forward, we expect to pay cash dividends each year in March, June, September, and December, with the amount and timing subject to the Board's approval.

- Acquisitions. In February 2018, we acquired Business Ink, a privately-held multi-channel business communications company based in Austin, Texas for approximately $70 million. The acquisition was funded from currently available cash.

In October 2018, we acquired Forte, a leading provider of advanced payment solutions headquartered in Allen, Texas for a purchase price of approximately $85 million (excluding cash acquired), and held back approximately $13 million in cash subject to certain tax filings. The purchase agreement includes provisions for $18.8 million of potential future earn-out payments over a four-year measurement period. The earn-out payments are tied to performance-based goals and continued employment by the eligible recipients. The acquisition was funded from currently available cash.

Our acquisitions are discussed in more detail in Note 6 to our Financial Statements. As part of our growth strategy, we are continually evaluating potential business and/or asset acquisitions and investments in market share expansion with our existing and potential new clients.

- Equity Method Investment. In July 2018, we made a $2.0 million investment for a 4% noncontrolling financial interest in a payment technology and services company that enables omni-channel digital payments in Latin America. As of December 31, 2018, we recorded an investment of $2.8 million which includes direct costs of acquiring the investment. See Note 2 to our Financial Statements for additional discussion.
- Capital Expenditures. During 2018, we spent $57.1 million on capital expenditures. As of December 31, 2018, we had committed to purchase approximately $4.0 million of equipment.
- Stock Warrants. We have issued Stock Warrants with an exercise price of $26.68 per warrant to Comcast as an incentive for Comcast to convert new customer accounts to ACP. Once vested, Comcast may exercise the Stock Warrants and elect either physical delivery of common shares or net share settlement (cashless exercise). Alternatively, the exercise of the Stock Warrants may be settled with cash based solely on our approval, or if Comcast were to beneficially own or control in excess of 19.99% of the common stock or voting of the Company. As of December 31, 2018, approximately 1.4 million Stock Warrants are outstanding, of which 0.4 million are vested.

The Stock Warrants are discussed in more detail in Note 11 to our Financial Statements.

- Long-Term Debt. As discussed above, we refinanced our 2015 Credit Agreement in March 2018. As of December 31, 2018, our long-term debt consisted of the following: (i) 2016 Convertible Notes with a par value of $230.0 million; and (ii) 2018 Credit Agreement term loan borrowings of $144.4 million.

2016 Convertible Notes

During the next twelve months, there are no scheduled conversion triggers on our 2016 Convertible Notes. As a result, we expect our required debt service cash outlay during the next twelve months for the 2016 Convertible Notes to be limited to interest payments of $9.8 million.

2018 Credit Agreement

Our 2018 Credit Agreement mandatory repayments and the cash interest expense (based upon current interest rates) for the next twelve months is $7.5 million, and $6.6 million, respectively. We have the ability to make prepayments on our 2018 Credit Agreement without penalty.

Our long-term debt obligations are discussed in more detail in Note 5 to our Financial Statements.

In summary, we expect to continue to have material needs for capital resources going forward, as noted above. We believe that our current cash, cash equivalents and short-term investments balances and our 2018 Revolver, together with cash expected to be generated in the future from our current operating activities, will be sufficient to meet our anticipated capital resource requirements for at least the next 12 months. We also believe we could obtain additional capital through other debt sources which may be available to us if deemed appropriate.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market risk is the potential loss arising from adverse changes in market rates and prices. As of December 31, 2018, we are exposed to various market risks, including changes in interest rates, fluctuations and changes in the market value of our cash equivalents and short-term investments, and changes in foreign currency exchange rates. We have not historically entered into derivatives or other financial instruments for trading or speculative purposes.

Interest Rate Risk

Long-Term Debt. The interest rate on our 2016 Convertible Notes is fixed, and thus, as it relates to our convertible debt borrowings, we are not exposed to changes in interest rates.

The interest rates under our 2018 Credit Agreement are based upon an adjusted LIBOR rate plus an applicable margin, or an alternate base rate plus an applicable margin. Refer to Note 5 to our Financial Statements for further details of our long-term debt.

A hypothetical adverse change of 10% in the December 31, 2018 adjusted LIBOR rate would not have had a material impact upon our results of operations.

Market Risk

Cash Equivalents and Short-Term Investments. Our cash and cash equivalents as of December 31, 2018 and 2017 were $139.3 million and $122.3 million, respectively. Certain of our cash balances are "swept" into overnight money market accounts on a daily basis, and at times, any excess funds are invested in low-risk, somewhat longer term, cash equivalent instruments and short-term investments. Our cash equivalents are invested primarily in institutional money market funds, commercial paper, and time deposits held at major banks. We have minimal market risk for our cash and cash equivalents due to the relatively short maturities of the instruments.

Our short-term investments as of December 31, 2018 and 2017 were $23.6 million and $139.1 million, respectively. Currently, we utilize short-term investments as a means to invest our excess cash only in the U.S. The day-to-day management of our short-term investments is performed by a large financial institution in the U.S., using strict and formal investment guidelines approved by our Board. Under these guidelines, short-term investments are limited to certain acceptable investments with: (i) a maximum maturity; (ii) a maximum concentration and diversification; and (iii) a minimum acceptable credit quality. At this time, we believe we have minimal liquidity risk associated with the short-term investments included in our portfolio.

Settlement Assets. With the acquisition of Forte (see Note 6), we are exposed to market risk associated with cash held on behalf of our clients related to our payment processing services. As of December 31, 2018, we had $124.6 million of cash collected on behalf of our clients which is held for an established holding period until settlement with the client. The holding period is generally one to four business days depending on the payment model and contractual terms with the client. During the holding period, cash is held in trust accounts with various major financial institutions in the U.S. in an amount equal to at least 100% of the aggregate amount owed to our clients.

Long-Term Debt. The fair value of our convertible debt is exposed to market risk. We do not carry our convertible debt at fair value but present the fair value for disclosure purposes (see Note 2 to our Financial Statements). Generally, the fair value of our convertible debt is impacted by changes in interest rates and changes in the price and volatility of our common stock. As of December 31, 2018, the fair value of the 2016 Convertible Notes was estimated at $228.3 million using quoted market prices.

Foreign Currency Exchange Rate Risk

Due to foreign operations around the world, our balance sheet and income statement are exposed to foreign currency exchange risk due to the fluctuations in the value of currencies in which we conduct business. While we attempt to maximize natural hedges by incurring expenses in the same currency in which we contract revenue, the related expenses for that revenue could be in one or more differing currencies than the revenue stream.

During the year ended December 31, 2018, we generated approximately 87% of our revenues in U.S. dollars. We expect that, in the foreseeable future, we will continue to generate a very large percentage of our revenues in U.S. dollars.



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As of December 31, 2018 and 2017, the carrying amounts of our monetary assets and monetary liabilities on the books of our non-U.S. subsidiaries in currencies denominated in a currency other than the functional currency of those non-U.S. subsidiaries are as follows (in thousands, in U.S. dollar equivalents):

| | December 31, 2018 | | December 31, 2017 | |
|---|---|---|---|---|
| | Monetary Liabilities | Monetary Assets | Monetary Liabilities | Monetary Assets |
| Pounds sterling | $ (3 ) | $ 1,848 | $ - | $ 1,968 |
| Euro | (448 ) | 7,482 | (257 ) | 8,491 |
| U.S. Dollar | (632 ) | 18,044 | (178 ) | 19,354 |
| Other | (7 ) | 1,227 | (9 ) | 2,074 |
| Totals | $ (1,090 ) | $ 28,601 | $ (444 ) | $ 31,887 |

A hypothetical adverse change of 10% in the December 31, 2018 exchange rates would not have had a material impact upon our results of operations.

Item 8. Financial Statements and Supplementary Data
CSG SYSTEMS INTERNATIONAL, INC.

CONSOLIDATED FINANCIAL STATEMENTS

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Management's Report on Internal Control Over Financial Reporting

Management of CSG Systems International, Inc. and subsidiaries (the "Company") is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) or 15d-15(f) under the Securities Exchange Act of 1934, as amended. The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. The Company's internal control over financial reporting includes those policies and procedures that:

(i) Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;

(ii) Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. 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

(iii) 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 and procedures may deteriorate.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework (2013). Management has excluded from its evaluation the internal control over financial reporting of Forte Payment Systems, Inc. ("Forte"), which was acquired on October 1, 2018, as discussed in Note 2 to the Consolidated Financial Statements. At December 31, 2018, Forte had $234.1 million and $92.2 million of total assets and net assets, respectively. For the year ended December 31, 2018, the Consolidated Statement of Income included total revenues associated with Forte of $24.9 million. In accordance with guidance issued by the Securities and Exchange Commission, companies are allowed to exclude acquisitions from their assessment of internal controls over financial reporting during the first year subsequent to the acquisition while integrating the acquired operations.

Based on our assessment, and the exclusion noted in the previous paragraph, management believes that the Company maintained effective internal control over financial reporting as of December 31, 2018.

The Company's independent registered public accounting firm, KPMG LLP, has issued an attestation report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2018. That report appears immediately following.

Report of Independent Registered Public Accounting Firm

The Stockholders and Board of Directors
CSG Systems International, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited CSG Systems International, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

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, 2018 and 2017, and the related consolidated statements of income, comprehensive income, stockholders' equity, and cash flows for each of the years in the three year period ended December 31, 2018, and related notes (collectively, the consolidated financial statements), and our report dated February 22, 2019 expressed an unqualified opinion on those consolidated financial statements.

The Company acquired Forte Payment Systems, Inc. on October 1, 2018, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2018, Forte Payment Systems, Inc.'s internal control over financial reporting associated with $234.1 million and $92.2 million of total assets and net assets, respectively, and total revenues of $24.9 million included in the consolidated financial statements of the Company as of and for the year ended December 31, 2018. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of Forte Payment Systems, Inc.

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 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 of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included 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/ KPMG LLP

Omaha, Nebraska
February 22, 2019

Report of Independent Registered Public Accounting Firm

The Stockholders and Board of Directors
CSG Systems International, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of CSG Systems International, Inc. and subsidiaries (the Company) as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, stockholders' equity, and cash flows for each of the years in the three year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three year period ended December 31, 2018, 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, 2018, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 22, 2019 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Adoption of ASC Topic 606

As discussed in note 2 to the consolidated financial statements, the Company has changed its method of revenue recognition in 2018 due to the adoption of ASC Topic 606, Revenue from Contracts with Customers (ASC 606). The Company adopted the standard using the cumulative effect method, and as such, the comparative information in the financial statements has not been adjusted and continues to be as previously reported.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated 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 consolidated 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 consolidated 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 consolidated 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/ KPMG LLP

We have served as the Company's auditor since 2002.

Omaha, Nebraska
February 22, 2019

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CSG SYSTEMS INTERNATIONAL, INC.

CONSOLIDATED BALANCE SHEETS

(in thousands, except per share amounts)

| | December 31, 2018 | December 31, 2017 |
|---|---|---|
| ASSETS | | |
| Current assets: | | |
| Cash and cash equivalents | $ 139,277 | $ 122,243 |
| Short-term investments | 23,603 | 139,117 |
| Total cash, cash equivalents and short-term investments | 162,880 | 261,360 |
| Settlement assets | 124,627 | - |
| Trade accounts receivable: | | |
| Billed, net of allowance of $3,115 and $4,149 | 235,827 | 219,531 |
| Unbilled | 37,227 | 31,187 |
| Income taxes receivable | 6,720 | 13,839 |
| Other current assets | 32,286 | 28,349 |
| Total current assets | 599,567 | 554,266 |
| Non-current assets: | | |
| Property and equipment, net of depreciation of $93,278 and $123,126 | 81,813 | 44,651 |
| Software, net of amortization of $119,381 and $108,986 | 36,400 | 26,906 |
| Goodwill | 255,816 | 210,080 |
| Client contracts, net of amortization of zero and $97,109 | - | 43,626 |
| Acquired client contracts, net of amortization of $82,692 and zero | 65,456 | - |
| Client contract costs, net of amortization of $43,051 and zero | 37,289 | - |
| Deferred income taxes | 11,087 | 14,057 |
| Other assets | 26,934 | 10,948 |
| Total non-current assets | 514,795 | 350,268 |
| Total assets | $ 1,114,362 | $ 904,534 |
| LIABILITIES AND STOCKHOLDERS' EQUITY | | |
| Current liabilities: | | |
| Current portion of long-term debt | $ 7,500 | $ 22,500 |
| Client deposits | 36,889 | 31,053 |
| Trade accounts payable | 45,386 | 38,420 |
| Accrued employee compensation | 61,107 | 62,984 |
| Settlement liabilities | 123,613 | - |
| Deferred revenue | 40,236 | 41,885 |
| Income taxes payable | 218 | 1,216 |
| Other current liabilities | 35,442 | 24,535 |
| Total current liabilities | 350,391 | 222,593 |
| Non-current liabilities: | | |
| Long-term debt, net of unamortized discounts of $14,549 and $18,264 | 352,326 | 309,236 |
| Deferred revenue | 17,527 | 12,346 |
| Income taxes payable | 2,284 | 2,415 |
| Deferred income taxes | 8,205 | 4,584 |
| Other non-current liabilities | 22,605 | 10,614 |
| Total non-current liabilities | 402,947 | 339,195 |

| | | |
|---|---|---|
| Total liabilities | 753,338 | 561,788 |
| Stockholders' equity: | | |
| Preferred stock, par value $.01 per share; 10,000 shares authorized; zero shares issued and outstanding | - | - |
| Common stock, par value $.01 per share; 100,000 shares authorized; 4,460 and 2,702 shares reserved for employee stock purchase plan and stock incentive plans; 33,158 and 33,516 shares outstanding | 693 | 689 |
| Common stock warrants; 439 warrants vested; 1,425 issued | 9,082 | 9,082 |
| Additional paid-in capital | 441,417 | 427,091 |
| Treasury stock, at cost; 34,779 and 34,075 shares | (842,360) | (814,732) |
| Accumulated other comprehensive income (loss): | | |
| Unrealized gain (loss) on short-term investments, net of tax | 2 | (88) |
| Cumulative foreign currency translation adjustments | (42,937) | (28,734) |
| Accumulated earnings | 795,127 | 749,438 |
| Total stockholders' equity | 361,024 | 342,746 |
| Total liabilities and stockholders' equity | $ 1,114,362 | $ 904,534 |

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

CSG SYSTEMS INTERNATIONAL, INC.

CONSOLIDATED STATEMENTS OF INCOME

(in thousands, except per share amounts)

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2018 | 2017 | 2016 |
| Revenues: | | | |
| Cloud and related solutions | $766,377 | $651,010 | $606,936 |
| Software and services | 58,101 | 62,892 | 79,400 |
| Maintenance | 50,581 | 75,680 | 74,622 |
| Total revenues | 875,059 | 789,582 | 760,958 |
| Cost of revenues (exclusive of depreciation, shown separately below): | | | |
| Cloud and related solutions | 392,801 | 315,006 | 282,952 |
| Software and services | 34,870 | 39,018 | 49,202 |
| Maintenance | 22,149 | 40,787 | 42,993 |
| Total cost of revenues | 449,820 | 394,811 | 375,147 |
| Other operating expenses: | | | |
| Research and development | 124,034 | 113,215 | 98,683 |
| Selling, general and administrative | 169,308 | 153,695 | 140,467 |
| Depreciation | 18,304 | 13,380 | 13,616 |
| Restructuring and reorganization charges | 8,661 | 8,796 | 416 |
| Total operating expenses | 770,127 | 683,897 | 628,329 |
| Operating income | 104,932 | 105,685 | 132,629 |
| Other income (expense): | | | |
| Interest expense | (17,667 ) | (16,794 ) | (16,262 ) |
| Amortization of original issue discount | (2,664 ) | (2,790 ) | (4,866 ) |
| Interest and investment income, net | 2,646 | 3,246 | 2,457 |
| Loss on extinguishment of debt | (810 ) | - | (8,651 ) |
| Other, net | 550 | (1,637 ) | (5,308 ) |
| Total other | (17,945 ) | (17,975 ) | (32,630 ) |
| Income before income taxes | 86,987 | 87,710 | 99,999 |
| Income tax provision | (20,857 ) | (26,346 ) | (37,117 ) |
| Net income | $66,130 | $61,364 | $62,882 |
| | | | |
| Weighted-average shares outstanding: | | | |
| Basic | 32,488 | 32,415 | 30,968 |
| Diluted | 32,855 | 32,865 | 33,014 |
| | | | |
| Earnings per common share: | | | |
| Basic | $2.04 | $1.89 | $2.03 |
| Diluted | 2.01 | 1.87 | 1.90 |

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

CSG SYSTEMS INTERNATIONAL, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2018 | 2017 | 2016 |
| Net income | $66,130 | $61,364 | $62,882 |
| Other comprehensive income (loss), net of tax: | | | |
| Foreign currency translation adjustments | (14,203) | 16,479 | (18,925) |
| Unrealized holding gains (losses) on short-term investments arising during period | 90 | 71 | (62) |
| Other comprehensive income (loss), net of tax | (14,113) | 16,550 | (18,987) |
| Total comprehensive income, net of tax | $52,017 | $77,914 | $43,895 |

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

CSG SYSTEMS INTERNATIONAL, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(in thousands)

| | Shares of Common Stock Outstanding | Common Stock | Common Stock Warrants | Additional Paid-in Capital | Treasury Stock | Accumulated Other Comprehensive Income (Loss) | Accumulated Earnings | Total Stockholders' Equity |
|---|---|---|---|---|---|---|---|---|
| BALANCE, January 1, 2016 | 32,555 | $ 672 | $ 7,310 | $ 503,254 | $ (814,437) | $ (26,385) | $ 675,431 | $ 345,845 |
| Comprehensive income: | | | | | | | | |
| Net income | - | - | - | - | - | - | 62,882 | |
| Unrealized gain on short-term investments, net of tax | - | - | - | - | - | (62) | - | |
| Foreign currency translation adjustments | - | - | - | - | - | (18,925) | - | |
| Total comprehensive income | | | | | | | | 43,895 |
| Repurchase of common stock | (662) | (3) | - | (13,628) | (11,565) | - | - | (25,196) |
| Issuance of common stock pursuant to employee stock purchase plan | 44 | - | - | 1,547 | - | - | - | 1,547 |
| Stock-based compensation income tax benefits | - | - | - | 4,729 | - | - | - | 4,729 |
| Issuance of restricted common stock pursuant to stock-based compensation plans | 572 | 5 | - | (5) | - | - | - | - |
| Cancellation of restricted common stock issued pursuant to stock-based compensation plans | (248) | (2) | - | 2 | - | - | - | - |
| Stock-based compensation expense | - | - | - | 22,745 | - | - | - | 22,745 |
| Issuance of common stock warrants, granted to Comcast | - | - | 8,697 | - | - | - | - | 8,697 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Issuance of convertible notes | - | - | - | 9,816 | - | - | - | 9,816 |
| Repurchase of convertible notes, net of tax | - | - | - | (97,410 ) | - | - | - | (97,410 ) |
| Debt conversion obligation reclassification | | | | | | | | |