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

FORM 10-K

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

For the fiscal year ended December 31, 2016

Commission File Number 0-25346

ACI WORLDWIDE, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

47-0772104
(I.R.S. Employer
Identification No.)

3520 Kraft Rd, Suite 300
Naples, FL 34105
(Address of principal executive offices, including zip code)

(239) 403-4600
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: Common Stock, \$.005 par value, NASDAQ Global Select Market

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K 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 or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Act. (Check one):

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>

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

The aggregate market value of the Company's voting common stock held by non-affiliates on June 30, 2016 (the last business day of the registrant's most recently completed second fiscal quarter), based upon the last sale price of the common stock on that date of \$19.51 was \$1,708,864,375. For purposes of this calculation, executive officers, directors, and holders of 10% or more of the outstanding shares of the registrant's common stock are deemed to be affiliates of the registrant and are excluded from the calculation.

As of February 24, 2017, there were 117,305,774 shares of the registrant's common stock outstanding.

Documents Incorporated by Reference – Portions of the registrant’s definitive Proxy Statement for the Annual Meeting of Shareholders to be held on June 14, 2017, are incorporated by reference in Part III of this report. This registrant’s Proxy Statement will be filed with the Securities and Exchange Commission pursuant to Regulation 14A.

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Forward-Looking Statements

This report contains forward-looking statements based on current expectations that involve a number of risks and uncertainties. Generally, forward-looking statements do not relate strictly to historical or current facts and may include words or phrases such as “believes,” “will,” “expects,” “anticipates,” “intends,” and words and phrases of similar impact. The forward-looking statements are made pursuant to safe harbor provisions of the Private Securities Litigation Reform Act of 1995, as amended.

Forward-looking statements in this report include, but are not limited to, statements regarding future operations, business strategy, business environment, key trends, and, in each case, statements related to expected financial and other benefits. Many of these factors will be important in determining our actual future results. Any or all of the forward-looking statements in this report may turn out to be incorrect. They may be based on inaccurate assumptions or may not account for known or unknown risks and uncertainties. Consequently, no forward-looking statement can be guaranteed. Actual future results may vary materially from those expressed or implied in any forward-looking statements, and our business, financial condition and results of operations could be materially and adversely affected. In addition, we disclaim any obligation to update any forward-looking statements after the date of this report, except as required by law.

All of the forward-looking statements in this report are expressly qualified by the risk factors discussed in our filings with the Securities and Exchange Commission (“SEC”). Such factors include, but are not limited to, risks related to:

- increased competition;
- the performance of our strategic products, Universal Payments solutions;
- demand for our products;
- consolidations and failures in the financial services industry;
- customer reluctance to switch to a new vendor;
- our strategy to migrate customers to our next generation products;
- our strategy to migrate customers to hosted software solutions;
- failure to obtain renewals of customer contracts or to obtain such renewals on favorable terms;
- delay or cancellation of customer projects or inaccurate project completion estimates;
- the complexity of our products and services and the risk that they may contain hidden defects;
- compliance of our products with applicable legislation, governmental regulations, and industry standards;
- failing to comply with money transmitter rules and regulations;
- our compliance with privacy regulations;
- being subject to security breaches or viruses;
- the protection of our intellectual property;
- risks from increasing intellectual property rights litigation;
- certain payment funding methods expose us to the credit and/or operating risk of our clients;
- business interruptions or failure of our information technology and communication systems;
- our offshore software development activities;
- operating internationally;
- global economic conditions impact on demand for our products and services;
- volatility and disruption of the capital and credit markets and adverse changes in the global economy;
- the appeal of the judgment in excess of \$46.5 million against us in the Baldwin Hackett & Meeks, Inc. (“BHMI”) litigation, for which there is no assurance we will be successful in overturning that judgment;
- our assessment that we do not have a probable loss with respect to the BHMI litigation and that the amount of any loss cannot be reasonably estimated;
- risks from potential future litigation;
- our sale of Community Financial Services (“CFS”) assets and liabilities to Fiserv, Inc. (“Fiserv”), including potential claims arising under the transaction agreement, the transition services agreement or with respect to retained liabilities;
- future acquisitions, strategic partnerships, and investments;

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- impairment of our goodwill or intangible assets;
- restrictions and other financial covenants in our credit facility;
- difficulty meeting our debt service requirements;
- the accuracy of our backlog estimates;
- exposure to unknown tax liabilities;
- the cyclical nature of our revenue and earnings and the accuracy of forecasts due to the concentration of revenue generating activity during the final weeks of each quarter; and
- volatility in our stock price.

The cautionary statements in this report expressly qualify all of our forward-looking statements. Factors that could cause actual results to differ from those expressed or implied in the forward-looking statements include, but are not limited to, those discussed in Item 1A in the section entitled “Risk Factors”.

Trademarks and Service Marks

ACI, the ACI logo, ACI Worldwide, BASE24-eps, BASE24, ACI Payment Systems, ACI Payment Systems logo, ACI Payment Systems – Trusted Globally, BASE24-atm, BASE24-Card, BASE24-pos, BASE24-Teller, Credisphere, Distra, Enguard, Money HQ, Online Resources, Payanyone, PayMyBill, Prism, Prism Credit, Prism Debit, Prism Merchant, Real-Time Digital Scanline, Red Shield, Universal Payments, UP, UP logo, IBroker, IEX, Iexchange, ACI Universal Payments, ACI Universal Payments Platform, Postilion, among others, are registered trademarks and/or registered service marks of ACI Worldwide, Inc., or one of its subsidiaries, in the United States and/or other countries. Agile Payment Solution, ACI Enterprise Banker, ACI Global Banker, ACI Retail Commerce Server, AS/X, ACI Issuer, ACI Acquirer, ACI Interchange, ACI Token Manager, ACI Payments Manager, ACI Card Management System, ACI Smart Chip Manager, ACI Dispute Management System, ACI Simulation Services for Enterprise Testing or ASSET, ACI Money Transfer System, NET24, ACI Proactive Risk Manager, PRM, ACI Case Manager System, ACI Communication Services, ACI Enterprise Security Services, ACI Web Access Services, ACI Monitoring and Management and ACI DataWise, UPP, ACI Universal Online Banker, ACI Mobile Channel Manager among others, have pending registrations or are common-law trademarks and/or service marks of ACI Worldwide, Inc., or one of its subsidiaries, in the United States and/or other countries. Other parties’ marks referred to in this report are the property of their respective owners.

PART I

ITEM 1. BUSINESS

General

ACI Worldwide, Inc. (“ACI”, “ACI Worldwide”, the “Company,” “we,” “us,” or “our”) is a Delaware corporation incorporated in November 1993 under the name ACI Holding, Inc. ACI is largely the successor to Applied Communications, Inc. and Applied Communications Inc. Limited, which we acquired from Tandem Computers Incorporated on December 31, 1993. On July 24, 2007, we changed our corporate name from “Transaction Systems Architects, Inc.” to “ACI Worldwide, Inc.” We have been marketing our products and services under the ACI Worldwide brand since 1993 and have gained significant market recognition under this brand name.

We develop, market, install, and support a broad line of software products and solutions primarily focused on facilitating real-time electronic payments. Our payment capabilities, technologies, and solutions are marketed under the brand name Universal Payments, or “UP,” which describes the breadth and depth of ACI’s product offerings. UP defines ACI’s enterprise or “universal” payments capabilities targeting any channel, any network, and any payment type. ACI UP solutions empower customers to regain control, choice, and flexibility in today’s complex payments environment, get to market more quickly, and reduce operational costs.

These products and services are used globally by financial institutions, merchants, billers and intermediaries, such as third-party electronic payment processors, payment associations, switch interchanges, and a wide range of transaction-generating endpoints, including automated teller machines (“ATM”), retail merchant point-of-sale (“POS”) terminals, bank branches, mobile phones, tablets, corporations, and internet commerce sites. The authentication, authorization, switching, settlement, fraud-checking, and reconciliation of electronic payments is a complex activity due to the large number of locations and variety of sources from which transactions can be generated, the large number of participants in the market, high transaction volumes, geographically dispersed networks, differing types of authorization, and varied reporting requirements. These activities are typically performed online and are conducted 24 hours a day, seven days a week.

ACI combines a global perspective with local presence to tailor electronic payment solutions for our customers. We believe that we have one of the most diverse and robust electronic payment product portfolios in the industry with application software spanning the entire payments value chain. We also believe that our strong financial performance has been attributable to our ability to design and deliver quality products and solutions coupled with our ability to identify and successfully consummate and integrate strategic acquisitions.

Fiscal 2016 Divestiture

On March 3, 2016, we completed the sale of our CFS assets and liabilities to Fiserv. The transaction included employee agreements and customer contracts as well as technology assets and intellectual property. The sale of CFS assets and liabilities enabled us to focus resources on our strategic products and new high-growth initiatives in support of large financial institutions and enablers, retailers, and billers worldwide.

Recent Acquisitions

Fiscal 2015 Acquisition

PAY.ON

On November 4, 2015, we completed the acquisition of PAY.ON AG and its subsidiaries (“PAY.ON”). PAY.ON was a leader in eCommerce payments gateway solutions to payment service providers globally. Their advanced platform-based solution complements and strengthens the Company’s UP Merchant Payments and UP eCommerce Payments. The combined entities provide customers the ability to deliver a seamless omni-channel customer payment experience in store, mobile, and online.

Fiscal 2014 Acquisition

Retail Decisions

On August 12, 2014, we completed our acquisition of Retail Decisions Europe Limited and Retail Decisions, Inc. (collectively “ReD”) and all their subsidiaries. As a leader in fraud prevention solutions, the acquisition of ReD enhanced our UP strategy and further strengthened our leadership position in the fast-growing payments risk management space.

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Target Markets

ACI's comprehensive electronic payment solutions serve three key markets:

Financial institutions

ACI provides payment solutions to large financial institutions globally for both retail banking and transaction banking services. Our solutions transform financial institutions' complex payment environments to speed time to market, reduce costs, and deliver a consistent experience to customers across channels while enabling them to prevent and rapidly react to fraudulent activity. In addition, we enable financial institutions to meet the requirements of different real-time payment schemes and to quickly create differentiated products to meet consumer, business, and merchant demands.

Financial intermediaries

ACI's payment solutions support financial intermediaries, such as processors, networks, payment service providers ("PSPs"), and new financial technology ("FinTech") entrants. We offer these customers scalable solutions that strategically position them to innovate and achieve growth and cost efficiency, while protecting them against fraud. Our solutions also allow new entrants in the digital marketplace to access innovative payment schemes, such as the U.K. Faster Payments New Access Model.

Merchants and Billers

ACI's support of merchants globally includes Tier 1 and Tier 2 merchants, online-only merchants and the PSPs, independent selling organizations ("ISOs"), value added resellers ("VARs"), and acquirers who service them. These customers operate in a variety of verticals, including general merchandise, grocery, hospitality, dining, transportation, and others. Our solutions provide merchants with a secure, omni-channel payments platform that gives them independence from third-party payment providers. We also offer secure solutions to online-only merchants that provide consumers with a convenient and seamless way to shop. Within the biller segment, ACI provides electronic bill presentment and payment ("EBPP") services to billers operating in the consumer finance, insurance, healthcare, higher education, tax, and utility categories. Our solutions enable these customers to support a wide range of payment options and provide a painless consumer payments experience that drives consumer loyalty and increases revenue.

Solutions

ACI's UP solutions span the payments ecosystem to support the electronic payment needs of financial institutions, financial intermediaries, merchants, and billers. Our strategic solutions include the following:

UP Retail Payments solution integrates ACI's UP BASE24-eps and UP Framework products, enabling financial institutions to accept and effectively and securely switch payment transactions at scale.

UP BASE24-eps is an enterprise-class payments platform that facilitates acquisition, authentication, switching, and authorization of financial transactions across multiple channels. The product's modular, open architecture gives customers the freedom to select the application and system components required to operate their networks. UP BASE24-eps operates on International Business Machines ("IBM") System z, IBM System p, Hewlett-Packard Company ("HP") NonStop, Oracle Solaris, and x86/Linux servers, providing flexible integration points to other applications and data within enterprises to support 24-hour per day access to money, services, and information.

UP Framework is the bridge between ACI's legacy and next-generation UP BASE24-eps products, allowing customers to combine the features and functionalities of both in a coexistent environment. UP Framework is built on an open, service-oriented architecture, and is designed to help customers orchestrate the transformation of their own legacy payment environments. With UP Framework and UP BASE24-eps, customers can route payments to non-card identifiers such as account numbers, email addresses, or phone numbers to support person-to-person ("P2P") payments, mobile payments, etc. The combined solution is also highly flexible, with development and configuration tools that simplify implementation and make it easy for customers to support new business opportunities.

UP Immediate Payments solution integrates ACI's UP BASE24-eps and UP Framework products configured for immediate payments, enabling financial institutions to connect to country-level, real-time payment schemes and to create differentiated products for consumers, businesses, and merchants. Through our aggregator services, the UP Immediate Payments solution also allows banks, FinTechs, and other payment intermediaries of all sizes to connect to the U.K. Faster Payments Scheme.

UP BASE24-eps, configured for the UP Immediate Payments solution, manages real-time payments as an extension of a financial institution's existing processing. Processing and clearing to the central infrastructure occur in real-time. Any payments message format can be mapped and processed, regardless of the format utilized by a particular country scheme.

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UP Framework, combined with UP BASE24-eps, enables immediate payments customers to insulate their existing systems as they implement real-time processing. The combined solution is also highly flexible, with development and configuration tools that simplify implementation and make it easy for customers to support new business opportunities.

The **UP Transaction Banking** solution is an end-to-end platform that meets the complete channel and payment needs of a financial institution's business customers, including digital banking, wire transfer processing, supply chain finance, Single Euro Payments Area ("SEPA") processing, Society for Worldwide Interbank Financial Telecommunications ("SWIFT") MX or MT, and fraud detection needs. ACI Universal Online Banker and ACI Money Transfer System are key components of the UP Transaction Banking solution.

Universal Online Banker is a comprehensive online payments portal financial institutions can flexibly package for small, medium, and large business customers as well as individual customers. The product allows these customers to use online tools to easily manage daily collections, disbursements, information reporting, and numerous other corporate cash management services.

Money Transfer System is a global payments engine that offers multi-bank, multi-currency, and 24x7 payment processing capabilities. Seamlessly integrated with multiple clearing and settlement mechanisms, Money Transfer System can connect to all recognized banking schemes. The product also facilitates SWIFT messaging.

UP Merchant Payments is ACI's direct-to-merchant solution designed to support omni-channel or online-only payment environments. The solution is an integration of ACI's Postilion, PAY.ON Payments Gateway, and ReD Shield strategic products for merchants and is deployed in the cloud.

Postilion is a payments platform that facilitates transactions generated at the point of purchase as well as related back-office functions. Configured for merchants, the product's capabilities include prepaid, debit and credit card processing, ACH processing, electronic benefits transfer, card issuance and management, check authorization, customer loyalty programs, and returned check collection. Postilion operates on open system technologies such as Microsoft Windows and AIX, utilizing a modern, service-oriented architecture that gives customers the flexibility to evolve their business independent of third-party providers.

The PAY.ON Payments Gateway delivers global payments connectivity. Configured for merchants, the PAY.ON Payments Gateway connects Postilion to eCommerce and mCommerce channels and a payments network of more than 300 alternative payment methods and card acquirers in more than 160 countries. The product is based on open application programming interface ("API") architecture which allows it to be integrated and configured with unprecedented speed and simplicity.

ReD Shield is a real-time fraud prevention solution that provides instant decisions (accept/challenge/deny) on eCommerce and mCommerce transactions. As part of the UP Merchant Payments solution, ReD Shield detects and manages domestic and cross-border payments fraud across all payment types. The product is managed by experienced, expert risk analysts and is tailored to meet the needs of individual merchants. Merchants can elect to combine ReD Shield with ACI's ReDi, an interactive, self-service business intelligence portal that gives them deep insight into their fraud activity, fraud prevention performance, and online customer activity.

UP eCommerce Payments solution is designed for PSPs, ISOs, VARs, acquirers, and others that offer payment services to their merchant customer base. The solution is an integration of the PAY.ON Payments Gateway and ReD Shield strategic products for merchants, is deployed in ACI's cloud, and is available as a white-label product.

The PAY.ON Payments Gateway delivers global payments connectivity, enabling PSPs, ISOs, VARs, and acquirers to fully outsource payments transaction processing and integrate a gateway-to-gateway solution. As describe above, the PAY.ON Payments Gateway is based on open API architecture, which allows it to be integrated and configured with unprecedented speed and simplicity. The product is modular, allowing PSPs and other customers to conveniently adapt it to any business need in any market or industry.

As described above, ReD Shield detects and manages domestic and cross-border payments fraud across all payment types. The product is managed by experienced, expert risk analysts and can be combined with ReDi.

UP Payments Risk Management is a comprehensive fraud prevention and detection solution designed for both financial institutions and merchants. At the core of our solution is ACI's Proactive Risk Manager, a comprehensive crime management solution that uses predictive analytics and expertly defined rules to help customers successfully identify and mitigate fraud. Our solution for merchants uses Proactive Risk Manager in conjunction with ReD Shield to help customers minimize risk across multiple channels in real time.

Proactive Risk Manager gives customers real-time visibility into threats across their enterprise, including issuer card fraud, check/deposit fraud, merchant acquirer fraud, internal fraud, and money laundering schemes. Proactive Risk Manager accepts transactions from any bank channel and is scalable, making it able to meet customers' needs as they grow and pursue new opportunities.

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UP Bill Payment solutions enable direct billers to present bills and collect payments from consumers electronically through a single, integrated platform that powers the entire bill payments operation. The solution overcomes internal application silos, providing a seamless consumer experience across all payment channels, payment types, and methods. Customers can use UP Bill Payment solutions to power one-time payments, recurring payments, service fee payments, disbursement services, remittance services, and eBilling. The solution also simplifies treasury management operations through a broad array of reconciliation, reporting, and payment servicing tools. UP Bill Payment solutions include industry-leading security, full payment card industry (“PCI”) compliance, and privacy practices.

Delivery Options

Our software solutions are offered to our customers through either a traditional term software license arrangement where the software is installed and operated on the customer premises or through a hosting arrangement where the solution is maintained and delivered through the cloud via our global data centers. Some are available through both options. Solutions delivered through the cloud are available in either a single-tenant environment, known as a Software as a Service (“SaaS”) offering, or in a multi-tenant environment, known as a Platform offering. Pricing and payment terms depend on which solutions the customer requires and their transaction volumes. Generally, customers are required to commit to a minimum contract of three to five years.

Partnerships and Industry Participation

We have two major types of third-party product partners: technology partners, with whom we work closely along with industry leaders who drive key industry trends and mandates, and business partners, with whom we either embed technology in ACI products, host third-party software in ACI’s cloud as a part of our ACI on Demand (“AOD”) offering, or jointly market solutions that include the products of other companies.

Technology partners help us add value to our solutions, stay abreast of current market conditions and industry developments such as standards. Technology partner organizations include Diebold, Inc. (“Diebold”), NCR Corporation (“NCR”), Wincor-Nixdorf, VISA, MasterCard, and SWIFT. In addition, ACI has membership in or participates in the relevant committees of a number of industry associations, such as the International Organization for Standardization (“ISO”), Interactive Financial eXchange Forum (“IFX”), International Payments Framework Association (“IPFA”), Banking Industry Architecture Network (“BIAN”), U.K. Cards Association, and the PCI Security Standards Council. These partnerships provide direction as it relates to the specifications that are used by the card schemes, and in some cases, manufacturers. These organizations typically look to ACI as a source of knowledge and experience to be shared in conjunction with creating and enhancing their standards. The benefit to ACI is in having the opportunity to influence these standards with concepts and ideas that will benefit ACI and ultimately our customers.

Business partner relationships extend our product portfolio, improve our ability to get our solutions to market and enhance our ability to deliver market-leading solutions. We share revenues with these business partners based on a number of factors related to overall value contribution in the delivery of the joint solution or payment type. The agreements with business partners include referral, resale, traditional original equipment manufacturer (“OEM”) relationships, and transaction fee based payment-enablement partnerships. These agreements generally grant ACI the right to create an integrated solution that we host or distribute, or provide ACI access to established payment networks or capabilities. The agreements are generally worldwide in scope and have a term of several years.

We have alliances with our technology partners HP, IBM, Microsoft Corporation, Red Hat, Inc., and Oracle USA, Inc. (“Oracle”), whose industry-leading hardware and software are utilized by ACI’s products. These partnerships allow us to understand developments in the partners’ technology and to utilize their expertise in topics like scalability and performance testing.

The following is a list of key business partners:

- Accuity, Inc.
- Actuate Corp.
- Bell ID
- Cardinal Commerce
- Clickatel
- DataOceans, LLC
- Discover*
- Experian Information Solutions, Inc.
- FairCom Corporation
- Fiserv, Inc.
- Fidelity National Information Services, Inc.
- GFKL*

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- Heirloom Computing
- Hewlett-Packard Company
- International Business Machines Corporation
- Ingenico Group
- Integrated Research Limited
- Intuit, Inc.
- iovation
- Jack Henry & Associates, Inc.
- TIBCO Software Inc.
- Lean Software Services, Inc.
- Microsoft Corporation
- Micro Focus Inc.
- Monex Deposit Company
- Monex Financial Services Limited
- Neustar, Inc.
- Oracle USA, Inc.
- PanIntelligence
- Paragon Application Systems, Inc.
- PayDirect*
- PayPal
- Payment21*
- IATA—Perseuss
- ProfitStars – Jack Henry & Associates, Inc.
- Quota Inc.
- Reliant Solutions
- Red Hat, Inc.
- RSA Security LLC, the Security Division of EMC Corporation
- Spectrum Message Services Pty Ltd
- Symantec Corporation
- tru-Rating
- ThreatMetrix, Inc.
- Vocalink Limited

* Denotes PAY.ON related partners.

Services

We offer our customers a wide range of professional services, including analysis, design, development, implementation, integration, and training. Our service professionals generally perform the majority of the work associated with installing and integrating our software products. In addition, we work with a limited number of systems integration and services partners, such as Accenture, LLC, Cognizant Technology Solutions Corporation, and Stanchion Payments Solution, for staff augmentation and coordinated co-prime delivery where appropriate.

We offer the following types of services for our customers:

- **Implementation Services.** We utilize a standard methodology to deliver customer project implementations across all products lines and delivery options. Within the process, we provide customers with a variety of services, including solution scoping reviews, project planning, training, site preparation, installation, product configuration, product customization, testing and go-live support, and project management throughout the project lifecycle. Implementation services are typically priced according to the level of technical expertise required.
- **Product support services.** These product-support-funded services are available to customers after a solution has been installed and are based on the relevant product support category. An extensive team of support analysts are available to assist customers.
- **Technical Services.** Our technical services are provided to customers who have licensed one or more of our software products. Services offered include programming and programming support, day-to-day systems operations, network operations, help desk staffing, quality assurance testing, problem resolution, system design, and performance planning and review. Technical services are typically priced according to the level of technical expertise required.

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- **Education Services.** ACI courses include both theory and practical sessions to allow students to work through real business scenarios and put their newly learned skills to use. This hands-on approach ensures that the knowledge is retained and the student is more productive upon their return to the workplace. ACI's education courses provide students with knowledge at all levels, to enhance and improve their understanding of ACI products. ACI also provides further, more in-depth technical courses that allow students to use practical labs to enhance what they have learned in the classroom. The ACI trainers' ability to understand customers' systems means ACI can also provide tailored course materials for individual customers. Depending upon products purchased, training may be conducted at a dedicated education facility at one of ACI's offices, online, or at the customer site.

Customer Support

We provide our customers with product support that is available 24 hours a day, seven days a week. If requested by a customer, the product support group can remotely access that customer's systems on a real-time basis. This allows the product support group to help diagnose and correct problems to enhance the continuous availability of a customer's business-critical systems. We offer our customers both a general maintenance plan and a premium option.

- **General Maintenance.** After software installation and project completion, we provide maintenance services to customers for a monthly product support fee. Maintenance services include:
 - 24-hour hotline for priority one ("P1") problem resolution
 - Online support portal (eSupport)
 - Vendor-required mandates and updates
 - Product documentation
 - Hardware operating system compatibility
 - User group membership
- **Premium Customer Support Program.** Under the premium customer service option, referred to as the Premium Customer Support Program, each customer is assigned an experienced technician(s) to work with its system. The technician(s) typically performs functions such as:
 - Configure and test software fixes
 - Retrofit custom software modifications ("CSMs") into new software releases
 - Answer questions and resolve problems related to the customer's implementation
 - Maintain a detailed CSM history
 - Monitor customer problems on ACI's HELP24 hotline database on a priority basis
 - Supply on-site support, available upon demand
 - Perform an annual system review/health check and capacity planning exercise

We provide new releases of our products on a periodic basis. New releases of our products, which often contain product enhancements, are typically provided at no additional fee for customers under maintenance agreements. Agreements with our customers permit us to charge for substantial product enhancements that are not provided as part of the maintenance agreement.

Competition

The electronic payments market is highly competitive and subject to rapid change. Competitive factors affecting the market for our products and services include product features, price, availability of customer support, ease of implementation, product and company reputation, and a commitment to continued investment in research and development.

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Our competitors vary by solution, geography, and market segment. Generally, our most significant competition comes from in-house information technology departments of existing and potential customers, as well as third-party electronic payments processors (some of whom are our customers). Many of these companies are significantly larger than us and have significantly greater financial, technical, and marketing resources.

Key competitors by solution include the following:

UP Retail Banking and UP Immediate Payments

The third-party software competitors in the UP Retail Banking and UP Immediate Payments segment are Clear2Pay, Computer Sciences Corporation, Fidelity National Information Services, Inc., Pegasystems Inc., OpenWay Group, and Total System Services, Inc. ("TSYS"), as well as small, regionally-focused companies such as, BPC Banking Technologies, PayEx Solutions AS, Financial Software and Systems, CR2, Lulus Payments Ltd., and Opus Software Solutions Private Limited. Primary electronic payment processing competitors in this area include global entities such as Atos Origin S.A., Fidelity National Information Services, Inc., First Data Corporation, NCR, SiNSYS, TSYS, VISA and MasterCard, as well as regional or country-specific processors.

UP Transaction Banking

Principal competitors for the UP Transaction Banking solutions are Digital Insight, Bottomline Technologies, ARGO, Fidelity National Information Services, Inc. and Fundtech Ltd, as well as payment processing companies First Data Corporation, Fidelity National Information Services, Inc., and Fiserv. Additional competitors include Bankserv, Clear2Pay, Dovetail Software, IBM, Logica Plc, and Tieto Corporation.

UP Merchant Payments and UP eCommerce Payments

Competitors in the UP Merchant Payments and UP eCommerce Payments segment come from both third-party software and service providers as well as service organizations run by major banks. Third-party software and service competitors include AJB Software Design, Inc., Retailix, Heartland Payment Systems, Inc., Ingenico Group, Adyen, Worldpay Inc., GlobalCollect, Cybersource, Square, Inc., Tender Retail Inc., and VeriFone Systems, Inc. Primary competition in this space are large third-party acquirer/processors and payment service providers that offer complete solutions to the retailer.

UP Payments Risk Management

Principal competitors for our payments fraud detection products are Actimize, Inc., Fair Isaac Corporation, BAE Systems Detica, Fidelity National Information Services, Inc., Fiserv, SAS Institute, Inc., Accertify (American Express), and Cybersource (Visa), as well as dozens of smaller companies focused on niches of this segment such as anti-money laundering.

UP Bill Payment

The principal competitors for bill payment are Fiserv, Fidelity National Information Services, Inc., Jack Henry & Associates, Inc., Western Union Holdings, Inc., TouchNet Information Systems, Inc., Kubra Customer Interaction Management, WorldPay, Inc., Forte Payment Systems, Point & Pay, LLC, Nelnet, Inc. and Affiliates, Higher One, Inc., Paymentus Corp., Aliaswire Inc., and Invoice Cloud, Inc., as well as smaller vertical-specific providers.

Research and Development

Our product development efforts focus on new products and improved versions of existing products. We facilitate user group meetings to help us determine our product strategy, development plans, and aspects of customer support. The user groups are generally organized geographically or by product lines. We believe that the timely development of new applications and enhancements is essential to maintain our competitive position in the market.

During the development of new products, we work closely with our customers and industry leaders to determine requirements. We work with device manufacturers, such as Diebold, NCR, and Wincor-Nixdorf, to ensure compatibility with the latest ATM technology. We work with network vendors, such as MasterCard, VISA, and SWIFT, to ensure compliance with new regulations or processing mandates. We work with computer hardware and software manufacturers, such as HP, IBM, Microsoft Corporation, and Oracle to ensure compatibility with new operating system releases and generations of hardware. Customers often provide additional information on requirements and serve as beta-test partners.

We have a continuous process to encourage and capture innovative product ideas. Such ideas include features as well as entire new products or service offerings. A Proof of Concept ("POC") may be conducted in order to validate the idea. If determined to be viable, the innovation is scheduled into a Product Roadmap for development and release.

Our total research and development expenses during the years ended December 31, 2016, 2015, and 2014 were \$169.9 million, \$145.9 million, and \$144.2 million, or 17%, 14%, and 14%, of total revenues, respectively.

Customers

We provide software products and services to customers in a range of industries worldwide, with financial institutions, retailers, and e-payment processors comprising our largest industry segments. As of December 31, 2016, we serve over 5,100 customers, including 18 of the top 20 banks worldwide, as measured by asset size, and more than 300 of the leading retailers globally, as measured by revenue, in over 80 countries on six continents. Of this total, approximately 4,600 are in the Americas reportable segment, 400 are in the EMEA reportable segment and 200 are in the Asia/Pacific reportable segment. No single customer accounted for more than 10% of our consolidated revenues for the years ended December 31, 2016, 2015, and 2014. No customer accounted for more than 10% of our accounts receivable balance as of December 31, 2016 and 2015.

Selling and implementation

Our primary method of distribution is direct sales by employees assigned to specific target segments. Headquartered in Naples, Florida, we have principal United States sales offices in Norcross, Omaha, Princeton, and Waltham. In addition, we have sales offices located outside the United States in Athens, Bahrain, Bangkok, Beijing, Bogota, Brussels, Buenos Aires, Cape Town, Caracas, Dubai, Gouda, Johannesburg, Kuala Lumpur, Madrid, Manila, Melbourne, Mexico City, Milan, Montevideo, Moscow, Mumbai, Munich, Naples, Paris, Quito, Riyadh, Sao Paulo, Shanghai, Singapore, Stockholm, Sulzbach, Sydney, Tokyo, Toronto, and Watford.

In addition, we use distributors and referral partners to supplement our direct sales force in countries where business practices or customs make it appropriate, or where it is more economical to do so. We generate a majority of our sales leads through existing relationships with vendors, direct marketing programs, customers and prospects, or through referrals. ACI's distributors, resellers and system integration partners are enabled to provide supplemental or complete product implementation and customization services directly to our customers or in a co-prime delivery model.

Current international distributors, resellers, and sales agents (collectively, "Channel Partners") for us during the year ended December 31, 2016 included:

- Accenture, LLC (United States)
- AGS Technology Inc. (India)
- ASI International (Colombia/Venezuela/Caribbean)
- CAPSYS Technologies, LLC (Russia/Eastern Europe)
- Channel Solutions Inc. (Philippines)
- DataOne Asia Co., Ltd. (Thailand)
- EFT Corporation (Sub-Saharan Africa)
- Fiserv, Inc. (United States)
- Interswitch Ltd. (Sub-Saharan Africa)
- JDA Software Group, Inc. (United States)
- Korea Computer Inc (Korea)
- Pactera (China)
- P.T. Mitra Integrasi Informatika (Indonesia)
- P.T. Abhimata Persada (Indonesia)
- STJ-CA, Inc. (United States)
- Stream IT Consulting Ltd. (Thailand)
- Syscom Computer Co., Ltd. (Shenzhen) (China)
- Syscom Computer Engineering Co. (Taiwan)
- Tomax Corp. (United States)
- Transaction Payment Solutions (Sub-Saharan Africa)

ACI ReD Shield channel partners during the year ended December 31, 2016 included:

- Altapay (Denmark)
- Amadeus (Spain)
- Australia Post (SecurePay) (Australia)
- Bambora (IP Payments) (Australia)
- Banwire (Mexico)
- Barclaycard (U.K.)
- Bitnet (United States)
- Card Access Services (Australia)

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- Citrus Pay (India)
- Commonwealth Bank of Australia (BPOINT) (Australia)
- Computop (Germany)
- Credit Call (European Union)
- Cubic Transportation (United States)
- Digital River (European Union)
- Easynollo (Italy)
- eCommera Ltd. (U.K.)
- Evo Payments (United States)
- eWay Pty Ltd. (Australia)
- Fat Zebra (Australia)
- Global E Online (Israel)
- Ingenico Group (Netherlands)
- Mastercard (U.K.)
- Mi Pay (U.K.)
- MNP Media Ltd. (U.K.)
- Navitaire (United States)
- Nostrum (U.K.)
- PayU South Africa (South Africa)
- Planet Payments (United States)
- PromisePay (Australia)
- Sagepay (U.K.)
- Secure Trading (U.K.)
- The Logic Group (U.K.)
- UOL Diveo (Brazil)
- VeriFone Systems, Inc. (United States and European Union)
- VixVerify (Australia)
- Worldline e-Payment Services (U.K.)

EBPP channel partners during the year ended December 31, 2016 included:

- ACH Payment Solutions
- Adirondack Solutions
- API Outsourcing
- Avitar & Assoc. of New England
- Black Knight Financial Services
- BS&A Software
- County Information Resources Agency
- CMC
- Donald R. Frey & Co.
- Ellucian
- ETA Data Direct
- FSSI
- Harris
- Interactive Intelligence
- LD Systems
- Megabyte Systems Inc.
- Megasys

- MoneyGram
- Ontario Systems
- Pay Plus (Dallas)
- RR Donnelley
- Shaw
- Sofbang

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- Solutions by Text
- SourceHOV
- Texas Association of Counties
- Thompson Reuters
- TransCentra
- 3 Point Alliance
- Semafone
- Smart Utility Systems

We distribute the products of other vendors where they complement our existing product lines. We are typically responsible for the sales and marketing of the vendor's products, and agreements with these vendors generally provide for revenue sharing based on relative responsibilities.

Proprietary Rights and Licenses

We rely on a combination of trade secret and copyright laws, license agreements, contractual provisions, and confidentiality agreements to protect our proprietary rights. We distribute our software products under software license agreements that typically grant customers nonexclusive licenses to use our products. Use of our software products is usually restricted to designated computers, specified locations and/or specified capacity, and is subject to terms and conditions prohibiting unauthorized reproduction or transfer of our software products. We also seek to protect the source code of our software as a trade secret and as a copyrighted work. Despite these precautions, there can be no assurance that misappropriation of our software products and technology will not occur.

In addition to our own products, we distribute, or act as a sales agent for, software developed by third parties. However, we typically are not involved in the development process used by these third parties. Our rights to those third-party products and the associated intellectual property rights are limited by the terms of the contractual agreement between us and the respective third party.

Although we believe that our owned and licensed intellectual property rights do not infringe upon the proprietary rights of third parties, there can be no assurance that third parties will not assert infringement claims against us. Further, there can be no assurance that intellectual property protection will be available for our products in all foreign countries.

Like many companies in the electronic commerce and other high-tech industries, third parties have in the past and may in the future assert claims or initiate litigation related to patent, copyright, trademark, or other intellectual property rights to business processes, technologies, and related standards that are relevant to us and our customers. These assertions have increased over time as a result of the general increase in patent claims assertions, particularly in the United States. Third parties may also claim that the third-party's intellectual property rights are being infringed by our customers' use of a business process method that utilizes products in conjunction with other products, which could result in indemnification claims against us by our customers. Any claim against us, with or without merit, could be time-consuming, result in costly litigation, cause product delivery delays, require us to enter into royalty or licensing agreements or pay amounts in settlement, or require us to develop alternative non-infringing technology. We could also be required to defend or indemnify our customers against such claims. A successful claim by a third party of intellectual property infringement or one of our customers could compel us to enter into costly royalty or license agreements, pay significant damages or even stop selling certain products and incur additional costs to develop alternative non-infringing technology.

Government Regulation

Certain of our solutions are subject to federal, state, and foreign regulations and requirements.

Oversight by Banking Regulators. As a provider of payment services to financial institutions, we are subject to regulatory oversight and examination by the Federal Financial Institutions Examination Council ("FFIEC"), an interagency body of the Federal Deposit Insurance Corporation, the Office of the Comptroller of the Currency, the Board of Governors of the Federal Reserve System, the National Credit Union Administration and various state regulatory authorities as part of the Multi-Region Data Processing Servicer Program ("MDPS"). The MDPS program includes technology suppliers who provide mission critical applications for a large number of financial institutions that are regulated by multiple regulatory agencies. Periodic information technology examination assessments are performed using FFIEC Interagency guidelines to identify potential risks that could adversely affect serviced financial institutions, determine compliance with applicable laws and regulations that affect the services provided to financial institutions and ensure the services we provide to financial institutions do not create systemic risk to the banking system or impact the safe and sound operation of the financial institutions we process. In addition, independent auditors annually review several of our operations to provide reports on internal controls for our clients' auditors and regulators. We are also subject to review under state and foreign laws and rules that regulate many of the same activities that are described above, including electronic data processing and back-office services for financial institutions and the use of consumer information.

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Money Transfer. Our EBPP affiliate is registered as a Money Services Business. Accordingly, we are subject to the USA Patriot Act and reporting requirements of the Bank Secrecy Act and U.S. Treasury Regulations. These businesses may also be subject to certain state and local licensing requirements. The Financial Crimes Enforcement Network, state attorneys general, and other agencies have enforcement responsibility over laws relating to money laundering, currency transmission, and licensing. In addition, most states have enacted statutes that require entities engaged in money transmission to register as a money transmitter with that jurisdiction's banking department. We have implemented policies, procedures, and internal controls that are designed to comply with all applicable anti-money laundering laws and regulations. ACI has also implemented policies, procedures, and internal controls that are designed to comply with the regulations and economic sanctions programs administered by the U.S. Treasury's Office of Foreign Assets Control ("OFAC"), which enforces economic and trade sanctions against targeted foreign countries, entities and individuals based on external threats to the U.S. foreign policy, national security, or economy; by other governments; or by global or regional multilateral organizations, such as the United Nations Security Council and the European Union as applicable.

Segment Information and Foreign Operations

We derive a significant portion of our revenues from foreign operations. For detail of revenue by geographic region see Note 11, *Segment Information*, in the Notes to Consolidated Financial Statements.

Employees

As of December 31, 2016, we had a total of approximately 4,111 employees of whom 2,047 were in the Americas, 1,213 were in EMEA, and 851 were in Asia/Pacific.

None of our employees are subject to a collective bargaining agreement. We believe that 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, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (the "Exchange Act"), are available free of charge on our website at www.aciworldwide.com as soon as reasonably practicable after we file such information electronically with the SEC. The information found on our website is not part of this or any other report we file with or furnish to the SEC. The public may read and copy any materials that we file with the SEC at the SEC's Public Reference Room at 100 F Street, Room 1580, NW, Washington DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at www.sec.gov.

Executive Officers of the Registrant

As of March 1, 2017, our executive officers, their ages and their positions were as follows.

<u>Name</u>	<u>Age</u>	<u>Position</u>
Philip G. Heasley	67	President, Chief Executive Officer and Director
Scott W. Behrens	45	Senior Executive Vice President, Chief Financial Officer
Daniel J. Frate	56	Group President, ACI On Demand
Carolyn B. Homberger	36	Group President, Global Sales
Craig S. Saks	46	Chief Operating Officer
Anthony M. Scotto, Jr.	60	Senior Executive Vice President, Chief of Technology
Dennis P. Byrnes	53	Executive Vice President, Chief Administrative Officer, General Counsel and Secretary

Mr. Heasley has been a director and our President and Chief Executive Officer since March 2005. Mr. Heasley has a comprehensive background in payment systems and financial services. From October 2003 to March 2005, Mr. Heasley served as Chairman and Chief Executive Officer of PayPower LLC, an acquisition and consulting firm specializing in financial services and payment services. Mr. Heasley served as Chairman and Chief Executive Officer of First USA Bank from October 2000 to November 2003. Prior to joining First USA Bank, from 1987 until 2000, Mr. Heasley served in various capacities for U.S. Bancorp, including Executive Vice President, and President and Chief Operating Officer. Mr. Heasley also serves on the National Infrastructure Advisory Council. Mr. Heasley holds a Master of Business Administration from the Bernard Baruch Graduate School of Business in New York and a Bachelor of Arts from Marist College in Poughkeepsie, New York.

Mr. Behrens serves as Senior Executive Vice President and Chief Financial Officer. Mr. Behrens joined ACI in June 2007 as our Corporate Controller and was appointed as Chief Accounting Officer in October 2007. Mr. Behrens was appointed Chief Financial Officer in December 2009. Mr. Behrens ceased serving as our Corporate Controller in December 2010. Mr. Behrens was appointed as Executive Vice President in March 2011 and promoted to Senior Executive Vice President in December of 2013. Prior to joining ACI,

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Mr. Behrens served as Senior Vice President, Corporate Controller and Chief Accounting Officer at SITEL Corporation from January 2005 to June 2007. He also served as Vice President of Financial Reporting at SITEL Corporation from April 2003 to January 2005. From 1993 to 2003, Mr. Behrens was with Deloitte & Touche, LLP, including two years as a Senior Audit Manager. Mr. Behrens holds a Bachelor of Science (Honors) from the University of Nebraska – Lincoln.

Mr. Frate serves as Group President, ACI On Demand. Prior to joining ACI in August of 2012, Mr. Frate was Executive Vice President at PNC Bank, where he led the retail banking products and pricing group. Mr. Frate joined PNC Bank through its acquisition of National City Corporation, where he served as Vice Chairman, leading the retail banking business. He joined National City in 2003. From 2001 to 2003, he served as President and Chief Operating Officer of Bank One Card Services. Prior to joining Bank One, Mr. Frate served as Vice Chairman of payment services at US Bank (1995 to 2001) and Executive Vice President of credit and services (1989 to 1995). Mr. Frate is a member of the Board of Directors at John Carroll University. Mr. Frate holds a Master of Science in Finance from Krannert School of Management at Purdue University and a Bachelor's degree in Economics from the School of Business at John Carroll University.

Mrs. Homberger serves as Group President, Global Sales. Mrs. Homberger joined ACI in December 2006. She has led the financial planning and analysis team and held other operational leadership positions at the Company. From 2002 to 2006, Mrs. Homberger held finance leadership roles and completed the Financial Management Program ("FMP") at GE Healthcare. Mrs. Homberger is Six Sigma Green Belt Certified and holds a Master of Business Administration degree from Fordham University and Bachelor of Science from Miami University.

Mr. Saks serves as Chief Operating Officer. Prior to joining ACI in February 2012, Mr. Saks was Senior Vice President of Shared Services at S1 Corporation, which was subsequently acquired by ACI. From 1999 to 2007, Mr. Saks served as the Chief Operating Officer at Fundamo. Mr. Saks holds a Master of Commerce in IT Management from the University of Cape Town and a Bachelor's degree in Accounting and Computer Science from the University of Port Elizabeth.

Mr. Scotto serves as Senior Executive Vice President, Chief of Technology. He joined ACI in March of 2010 and has more than 30 years of experience running global product development organizations. From 2006 to 2010, Mr. Scotto served as Vice President of product development at 170 Systems, Inc., which was acquired by Kofax in 2009. During his tenure at 170 Systems/Kofax he was responsible for scaling all aspects of development, including headcount, product strategy, development processes and integration with other key corporate functions. Prior to that, Mr. Scotto held executive positions in product development at Oracle, StorageNetworks, Inc., and EMC. Mr. Scotto holds an Executive Master of Business Administration from Northwestern University and a Bachelor of Science in Computer Science from the University of Connecticut.

Mr. Byrnes serves as Executive Vice President, Chief Administrative Officer, General Counsel and Secretary. He has served in that capacity since March 2011 and as General Counsel and Secretary since joining the Company in June 2003. Prior to that Mr. Byrnes served as an attorney in Bank One Corporation's technology group from 2002 to 2003 and before that with Sterling Commerce, an electronic commerce software and services company, from 1996. From 1991 to 1996 Mr. Byrnes was an attorney with Baker Hostetler. Mr. Byrnes holds a JD from The Ohio State University College of Law, a Master of Business Administration from Xavier University and a Bachelor of Science in engineering from Case Western Reserve University.

ITEM 1A. RISK FACTORS

Factors That May Affect Our Future Results or the Market Price of Our Common Stock

We operate in a rapidly changing technological and economic environment that presents numerous risks. Many of these risks are beyond our control and are driven by factors that often cannot be predicted. The following discussion highlights some of these risks.

The markets in which we compete are rapidly changing and highly competitive, and we may not be able to compete effectively.

The markets in which we compete are characterized by rapid change, evolving technologies and industry standards and intense competition. There is no assurance that we will be able to maintain our current market share or customer base. We face intense competition in our businesses and we expect competition to remain intense in the future. We have many competitors that are significantly larger than us and have significantly greater financial, technical and marketing resources, have well-established relationships with our current or potential customers, advertise aggressively or beat us to the market with new products and services. In addition, we expect that the markets in which we compete will continue to attract new competitors and new technologies. Increased competition in our markets could lead to price reductions, reduced profits, or loss of market share. The current global economic conditions could also result in increased price competition for our products and services.

To compete successfully, we need to maintain a successful research and development effort. If we fail to enhance our current products and develop new products in response to changes in technology and industry standards, bring product enhancements or new product developments to market quickly enough, or accurately predict future changes in our customers' needs and our competitors develop new technologies or products, our products could become less competitive or obsolete.

Our Universal Payments strategy could prove to be unsuccessful in the market.

Our UP solutions, including our UP BASE24-eps product, are strategic for us, in that they are designated to help us win new accounts, replace legacy payments systems on multiple hardware platforms, and help us transition our existing customers to a new, real-time, and open-systems product architecture. Our business, financial condition, cash flows and/or results of operations could be materially adversely affected if we are unable to generate adequate sales of Universal Payments solutions or if we are unable to successfully deploy them in production environments.

Our future profitability depends on demand for our products; lower demand in the future could adversely affect our business.

Our revenue and profitability depend on the overall demand for our products and services. Historically, a majority of our total revenues resulted from licensing our BASE24 product line and providing related services and maintenance. Any reduction in demand for, or increase in competition with respect to, the BASE24 product line could have a material adverse effect on our financial condition, cash flows and/or results of operations.

We have historically derived a substantial portion of our revenues from licensing of software products that operate on HP NonStop servers. Any reduction in demand for HP NonStop servers, or any change in strategy by HP related to support of its NonStop servers, could have a material adverse effect on our financial condition, cash flows and/or results of operations.

Consolidations and failures in the financial services industry may adversely impact the number of customers and our revenues in the future.

Mergers, acquisitions and personnel changes at key financial services organizations have the potential to adversely affect our business, financial condition, cash flows, and results of operations. Our business is concentrated in the financial services industry, making us susceptible to consolidation in, or contraction of the number of participating institutions within that industry. Consolidation activity among financial institutions has increased in recent years and the current financial conditions have resulted in even further consolidation and contraction as financial institutions have failed or have been acquired by or merged with other financial institutions. There are several potential negative effects of increased consolidation activity. Continuing consolidation and failure of financial institutions could cause us to lose existing and potential customers for our products and services. For instance, consolidation of two of our customers could result in reduced revenues if the combined entity were to negotiate greater volume discounts or discontinue use of certain of our products. Additionally, if a non-customer and a customer combine and the combined entity in turn decided to forego future use of our products, our revenues would decline.

Potential customers may be reluctant to switch to a new vendor, which may adversely affect our growth, both in the United States and internationally.

For banks, financial institutions and other potential customers of our products, switching from one vendor of core financial services software (or from an internally-developed legacy system) to a new vendor is a significant endeavor. Many potential customers believe switching vendors involves too many potential disadvantages such as disruption of business operations, loss of accustomed functionality, and increased costs (including conversion and transition costs). As a result, potential customers may resist change. We seek to overcome this resistance through value enhancing strategies such as a defined conversion/migration process, continued investment in the enhanced functionality of our software and system integration expertise. However, there can be no assurance that our strategies for overcoming potential customers' reluctance to change vendors will be successful, and this resistance may adversely affect our growth, both in the United States and internationally.

Our announcement of the maturity of certain legacy retail payment products may result in decreased customer investment in our products and our strategy to migrate customers to our next generation products may be unsuccessful which may adversely impact our business and financial condition, including the timing of revenue recognition associated with the legacy retail payment products.

Our announcement related to the maturity of certain retail payment engines may result in customer decisions not to purchase or otherwise invest in these engines, related products and/or services. Alternatively, the maturity of these products may result in delayed customer purchase decisions or the renegotiation of contract terms based upon scheduled maturity activities. In addition, our strategy related to migrating customers to our next generation products may be unsuccessful. Reduced investments in our products, deferral or delay in purchase commitments by our customers or our failure to successfully manage our migration strategy could have a material adverse effect on our business, liquidity and financial condition.

Furthermore, as a result of the maturity announcement, certain up-front fees associated with the legacy payment engines, including initial license, may become subject to ratable revenue recognition over time rather than up front at the time of contract. This will result in a delay in the recognition of these up-front fees. Additionally, customers may negotiate terms associated with their migration to BASE24-eps which may cause the recognition of revenue associated with the customer's legacy payment engine to be deferred pending the completion of the migration.

We may be unable to migrate customers from on premises to hosted software solutions.

We are engaged in a concerted effort to migrate customers from our historic on premises solutions to hosted software solutions. This business model continues to evolve, and we may not be able to retain customers, compete effectively, generate significant revenues or maintain the profitability of our hosted solutions. If we do not successfully execute our hosted solutions or anticipate the hosted solutions needs of our customers, our reputation could be harmed and our revenues and profitability could decline.

Failure to obtain renewals of customer contracts or obtain such renewals on favorable terms could adversely affect our results of operations and financial condition.

Failure to achieve favorable renewals of customer contracts could negatively impact our business. Our contracts with our customers generally run for a period of five years. At the end of the contract term, customers have the opportunity to renegotiate their contracts with us and to consider whether to engage one of our competitors to provide products and services. Failure to achieve high renewal rates on commercially favorable terms could adversely affect our results of operations and financial condition.

The delay or cancellation of a customer project or inaccurate project completion estimates may adversely affect our operating results and financial performance.

Any unanticipated delays in a customer project, changes in customer requirements or priorities during the project implementation period, or a customer's decision to cancel a project, may adversely impact our operating results and financial performance. In addition, during the project implementation period, we perform ongoing estimates of the progress being made on complex and difficult projects and documenting this progress is subject to potential inaccuracies. Changes in project completion estimates are heavily dependent on the accuracy of our initial project completion estimates and our ability to evaluate project profits and losses. Any inaccuracies or changes in estimates resulting from changes in customer requirements, delays or inaccurate initial project completion estimates may result in increased project costs and adversely impact our operating results and financial performance.

Our software products may contain undetected errors or other defects, which could damage our reputation with customers, decrease profitability, and expose us to liability.

Our software products are complex. Software typically contains bugs or errors that can unexpectedly interfere with the operation of the software products. Our software products may contain undetected errors or flaws when first introduced or as new versions are released. These undetected errors may result in loss of, or delay in, market acceptance of our products and a corresponding loss of sales or revenues. Customers depend upon our products for mission-critical applications, and these errors may hurt our reputation with customers. In addition, software product errors or failures could subject us to product liability, as well as performance and warranty claims, which could materially adversely affect our business, financial condition, cash flows and/or results of operations.

If our products and services fail to comply with legislation, government regulations, and industry standards to which our customers are subject, it could result in a loss of customers and decreased revenue.

Legislation, governmental regulation and industry standards affect how our business is conducted, and in some cases, could subject us to the possibility of future lawsuits arising from our products and services. Globally, legislation, governmental regulation and industry standards may directly or indirectly impact our current and prospective customers' activities, as well as their expectations and needs in relation to our products and services. For example, our products are affected by VISA, MasterCard and other major payment brand electronic payment standards that are generally updated twice annually. Beyond this, our products are effected by PCI Security Standards. As a provider of electronic data processing to financial institutions, we must comply with FFIEC regulations and are subject to FFIEC examinations.

In addition, action by government and regulatory authorities such as the Dodd-Frank Wall Street Reform and the Consumer Protection Act relating to financial regulatory reform and the European Union-wide digital privacy law (the "EU Data Privacy Law") (which imposes strict data privacy requirements and regulatory fines of up to 4% of "worldwide turnover" and is expected to become effective in 2018), as well as legislation and regulation related to credit availability, data usage, privacy, or other related regulatory developments could have an adverse effect on our customers and therefore could have a material adverse effect on our business, financial condition, cash flows and results of operations. The regulatory focus on privacy issues also continues to increase and worldwide laws and regulations concerning the handling of personal information are expanding and becoming more complex. Our failure, or perceived failure, to comply with laws and regulations concerning the handling of personal information could result in lost or restricted business, proceedings, actions or fines brought against us or levied by governmental entities or others, or could adversely affect our business and harm our reputation.

If we fail to comply with the complex regulations applicable to our payments business, we could be subject to liability or our revenues may be reduced.

Official Payments Corporation is licensed as a money transmitter in those states where such licensure is required. These licenses require us to demonstrate and maintain certain levels of net worth and liquidity, require us to file periodic reports [and subject us to inspections by state regulatory agencies.] In addition, our payment business is generally subject to federal regulation in the United

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States, including anti-money laundering regulations and certain restrictions on transactions to or from certain individuals or entities. The complexity of these regulations will continue to increase our cost of doing business. Any violations of these laws may also result in civil or criminal penalties against us and our officers or the prohibition against us providing money transmitter services in particular jurisdictions. We could also be forced to change or business practices or be required to obtain additional licenses or regulatory approvals that could cause us to incur substantial costs.

In addition, our customers must ensure that our services comply with the government regulations, including the EU Data Privacy Law, and industry standards that apply to their businesses. Federal, state, foreign or industry authorities could adopt laws, rules, or regulations affecting our customers' businesses that could lead to increased operating costs that may lead to reduced market acceptance. In addition, action by regulatory authorities relating to credit availability, data usage, privacy, or other related regulatory developments could have an adverse effect on our customers and, therefore, could have a material adverse effect on our business, financial condition, and results of operations.

If we fail to comply with privacy regulations imposed on providers of services to financial institutions, our business could be harmed.

As a provider of services to financial institutions, we may be bound by the same limitations on disclosure of the information we receive from our customers as apply to the financial institutions themselves. If we are subject to these limitations and we fail to comply with applicable regulations, including the EU Data Privacy Law, we could be exposed to suits for breach of contract or to governmental proceedings, our customer relationships and reputation could be harmed, and we could be inhibited in our ability to obtain new customers. In addition, if more restrictive privacy laws or rules are adopted in the future on the federal or state level, or, with respect to our international operations, by authorities in foreign jurisdictions on the national, provincial, state, or other level, that could have an adverse impact on our business.

Our risk management and information security programs are the subject of oversight and periodic reviews by the federal agencies that regulate our business. In the event that an examination of our information security and risk management functions results in adverse findings, such findings could be made public or communicated to our regulated financial institution customers, which could have a material adverse effect on our business.

If our security measures are breached or become infected with a computer virus, or if our services are subject to attacks that degrade or deny the ability of users to access our products or services, our business will be harmed by disrupting delivery of services and damaging our reputation.

As part of our business, we electronically receive, process, store, and transmit sensitive business information of our customers. Unauthorized access to our computer systems or databases could result in the theft or publication of confidential information or the deletion or modification of records or could otherwise cause interruptions in our operations. These concerns about security are increased when we transmit information over the Internet. Security breaches in connection with the delivery of our products and services, including products and services utilizing the Internet, or well-publicized security breaches, and the trend toward broad consumer and general public notification of such incidents, could significantly harm our business, financial condition, cash flows and/or results of operations. We cannot be certain that advances in criminal capabilities, discovery of new vulnerabilities, attempts to exploit vulnerabilities in our systems, data thefts, physical system or network break-ins or inappropriate access, or other developments will not compromise or breach the technology protecting our networks and confidential information. Computer viruses have also been distributed and have rapidly spread over the Internet. Computer viruses could infiltrate our systems, disrupting our delivery of services and making our applications unavailable. Any inability to prevent security breaches or computer viruses could also cause existing customers to lose confidence in our systems and terminate their agreements with us, and could inhibit our ability to attract new customers.

We may be unable to protect our intellectual property and technology.

To protect our proprietary rights in our intellectual property, we rely on a combination of contractual provisions, including customer licenses that restrict use of our products, confidentiality agreements and procedures, and trade secret and copyright laws. Despite such efforts, we may not be able to adequately protect our proprietary rights, or our competitors may independently develop similar technology, duplicate products, or design around any rights we believe to be proprietary. This may be particularly true in countries other than the United States because some foreign laws do not protect proprietary rights to the same extent as certain laws of the United States. Any failure or inability to protect our proprietary rights could materially adversely affect our business.

We also use a limited amount of software licensed by its authors or other third parties under so-called "open source" licenses and may continue to use such software in the future. Some of these licenses contain requirements that we make available source code for modifications or derivative works we create based upon the open source software, and that we license such modifications or derivative works under the terms of a particular open source license or other license granting third parties certain rights of further use. By the terms of certain open source licenses, we could be required to release the source code of our proprietary software if we combine our proprietary software with open source software in a certain manner. Additionally, the terms of many open source licenses have not been interpreted by United States or other courts, and there is a risk that these licenses could be construed in a manner that could

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impose unanticipated conditions or restrictions on our ability to commercialize our solutions. In addition to risks related to license requirements, usage of open source software can lead to greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or controls on origin of the software.

Our exposure to risks associated with the use of intellectual property may be increased for third-party products distributed by us or as a result of acquisitions since we have a lower level of visibility, if any, into the development process with respect to such third-party products and acquired technology or the care taken to safeguard against infringement risks.

We may be subject to increasing litigation over our intellectual property rights.

There has been a substantial amount of litigation in the software industry regarding intellectual property rights. Third parties have in the past, and may in the future, assert claims or initiate litigation related to exclusive patent, copyright, trademark or other intellectual property rights to business processes, technologies and related standards that are relevant to us and our customers. These assertions have increased over time as a result of the general increase in patent claims assertions, particularly in the United States. Because of the existence of a large number of patents in the electronic commerce field, the secrecy of some pending patents and the rapid issuance of new patents, it is not economical or even possible to determine in advance whether a product or any of its components infringes or will infringe on the patent rights of others. Any claim against us, with or without merit, could be time-consuming, result in costly litigation, cause product delivery delays, require us to enter into royalty or licensing agreements or pay amounts in settlement, or require us to develop alternative non-infringing technology.

We anticipate that software product developers and providers of electronic commerce solutions could increasingly be subject to infringement claims, and third parties may claim that our present and future products infringe upon their intellectual property rights. Third parties may also claim, and we are aware that at least two parties have claimed on several occasions, that our customers' use of a business process method which utilizes our products in conjunction with other products infringe on the third-party's intellectual property rights. These third-party claims could lead to indemnification claims against us by our customers. Claims against our customers related to our products, whether or not meritorious, could harm our reputation and reduce demand for our products. Where indemnification claims are made by customers, resistance even to unmeritorious claims could damage the customer relationship. A successful claim by a third-party of intellectual property infringement by us or one of our customers could compel us to enter into costly royalty or license agreements, pay significant damages, or stop selling certain products and incur additional costs to develop alternative non-infringing technology. Royalty or licensing agreements, if required, may not be available on terms acceptable to us or at all, which could adversely affect our business.

Certain payment funding methods expose us to the credit and/or operating risk of our clients.

When we process an automated clearing house or automated teller machine network payment transaction for certain clients, we occasionally transfer funds from our settlement account to the intended destination account before we receive funds from a client's source account. The vast majority of these occurrences are resolved quickly through normal processes. However, if they are not resolved and we are then unable to reverse the transaction that sent funds to the intended destination, a shortfall in our settlement account will be created. Although we have legal recourse against our clients for the amount of the shortfall, timing of recovery may be delayed by litigation or the amount of any recovery may be less than the shortfall. In either case, we would have to fund the shortfall in our settlement account from our corporate funds.

If we experience business interruptions or failure of our information technology and communication systems, the availability of our products and services could be interrupted which could adversely affect our reputation, business and financial condition.

Our ability to provide reliable service in a number of our businesses depends on the efficient and uninterrupted operation of our data centers, information technology and communication systems, and those of our external service providers. As we continue to grow our On Demand business, our dependency on the continuing operation and availability of these systems increases. Our systems and data centers, and those of our external service providers, could be exposed to damage or interruption from fire, natural disasters, power loss, telecommunications failure, unauthorized entry and computer viruses. Although we have taken steps to prevent system failures and we have installed back-up systems and procedures to prevent or reduce disruption, such steps may not be sufficient to prevent an interruption of services and our disaster recovery planning may not account for all eventualities. Further, our property and business interruption insurance may not be adequate to compensate us for all losses or failures that may occur.

An operational failure or outage in any of these systems, or damage to or destruction of these systems, which causes disruptions in our services, could result in loss of customers, damage to customer relationships, reduced revenues and profits, refunds of customer charges and damage to our brand and reputation and may require us to incur substantial additional expense to repair or replace damaged equipment and recover data loss caused by the interruption. Any one or more of the foregoing occurrences could have a material adverse effect on our reputation, business, financial condition, cash flows and results of operations.

We are engaged in offshore software development activities, which may not be successful and which may put our intellectual property at risk.

As part of our globalization strategy and to optimize available research and development resources, we utilize our Irish subsidiary to serve as the focal point for certain international product development and commercialization efforts. This subsidiary oversees remote software development operations in Romania and elsewhere, as well as manages certain of our intellectual property rights. In addition, we manage certain offshore development activities in India. While our experience to date with our offshore development centers has been positive, there is no assurance that this will continue. Specifically, there are a number of risks associated with this activity, including but not limited to the following:

- communications and information flow may be less efficient and accurate as a consequence of the time, distance and language differences between our primary development organization and the foreign based activities, resulting in delays in development or errors in the software developed;
- in addition to the risk of misappropriation of intellectual property from departing personnel, there is a general risk of the potential for misappropriation of our intellectual property that might not be readily discoverable;
- the quality of the development efforts undertaken offshore may not meet our requirements because of language, cultural and experiential differences, resulting in potential product errors and/or delays;
- potential disruption from the involvement of the United States in political and military conflicts around the world; and
- currency exchange rates could fluctuate and adversely impact the cost advantages intended from maintaining these facilities.

There are a number of risks associated with our international operations that could have a material impact on our operations and financial condition.

We derive a significant portion of our revenues from international operations and anticipate continuing to do so. As a result, we are subject to risks of conducting international operations. One of the principal risks associated with international operations is potentially adverse movements of foreign currency exchange rates. Our exposures resulting from fluctuations in foreign currency exchange rates may change over time as our business evolves and could have an adverse impact on our financial condition, cash flows and/or results of operations. We have not entered into any derivative instruments or hedging contracts to reduce exposure to adverse foreign currency changes.

Other potential risks include difficulties associated with staffing and management, reliance on independent distributors, longer payment cycles, potentially unfavorable changes to foreign tax rules, compliance with foreign regulatory requirements, effects of a variety of foreign laws and regulations, including restrictions on access to personal information, reduced protection of intellectual property rights, variability of foreign economic conditions, governmental currency controls, difficulties in enforcing our contracts in foreign jurisdictions, and general economic and political conditions in the countries where we sell our products and services. Some of our products may contain encrypted technology, the export of which is regulated by the United States government. Changes in U. S. and other applicable export laws and regulations restricting the export of software or encryption technology could result in delays or reductions in our shipments of products internationally. There can be no assurance that we will be able to successfully address these challenges.

Global economic conditions could reduce the demand for our products and services or otherwise adversely impact our cash flows, operating results and financial condition.

For the foreseeable future, we expect to derive most of our revenue from products and services we provide to the banking and financial services industries. The global electronic payments industry and the banking and financial services industries depend heavily upon the overall levels of consumer, business and government spending. The current economic conditions and the potential for increased or continuing disruptions in these industries as well as the general software sector could result in a decrease in consumers' use of banking services and financial service providers resulting in significant decreases in the demand for our products and services which could adversely affect our business and operating results. A lessening demand in either the overall economy, the banking and financial services industry or the software sector could also result in the implementation by banks and related financial service providers of cost reduction measures or reduced capital spending resulting in longer sales cycles, deferral or delay of purchase commitments for our products and increased price competition which could lead to a material decrease in our future revenues and earnings.

The volatility and disruption of the capital and credit markets and adverse changes in the global economy may negatively impact our liquidity and our ability to access financing.

While we intend to finance our operations and growth of our business with existing cash and cash flow from operations, if adverse global economic conditions persist or worsen, we could experience a decrease in cash from operations attributable to reduced demand for our products and services and as a result, we may need to borrow additional amounts under our existing credit facility or we may require additional financing for our continued operation and growth. However, due to the existing uncertainty in the capital and credit

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markets and the impact of the current economic conditions on our operating results, cash flows and financial conditions, the amount of available unused borrowings under our existing credit facility may be insufficient to meet our needs and/or our access to capital outside of our existing credit facility may not be available on terms acceptable to us or at all. Additionally, if one or more of the financial institutions in our syndicate were to default on its obligation to fund its commitment, the portion of the committed facility provided by such defaulting financial institution would not be available to us. There can be no assurance that alternative financing on acceptable terms would be available to replace any defaulted commitments.

We may not be successful in our appeal of the judgment in excess of \$46.5 million against us in the BHMI litigation.

On January 5, 2016, following a jury verdict that was returned against ACI Worldwide Corp., (“ACI Corp.”) one of our subsidiaries, for \$43.8 million in connection with counterclaims brought by BHMI in the District Court of Douglas County, Nebraska, the court entered a judgment against ACI Corp. for \$43.8 million for damages and \$2.7 million for attorney fees and costs. On March 31, 2016 we perfected our appeal of the dismissal of our claims against BHMI and oral arguments before the Nebraska Supreme Court are scheduled for March 3, 2017. However, there can be no assurance that we will be successful on appeal and that we will be able to overturn the judgment. There can further be no assurance that we will be successful in any new trial of the disputes in this litigation.

Our current determination is that we do not have a probable loss with respect to this litigation and that the amount of loss, if any, cannot be reasonably estimated. Accordingly, we have not accrued for a loss associated with this litigation. If our assessment of a probable loss is incorrect and the appeal is not resolved in our favor, or if we are unsuccessful in any subsequent retrial, we may have to make a substantial payment to BHMI. Alternatively, if during the course of our appeal or subsequent new trial, our assessment changes and we determine that a loss is probable and that the loss is reasonably estimable, we will be required to accrue for that potential loss.

Any payment to BHMI or accrual for a loss in this litigation could result in a material adverse effect on our business, financial condition, results of operations and cash flows, especially for the quarter and annual period in which the payment or accrual occurs.

We may become involved in litigation that could materially adversely affect our business financial condition, cash flows and/or results of operations.

From time to time, we are involved in litigation relating to claims arising out of our operations. Any claims, with or without merit, could be time-consuming and result in costly litigation. Failure to successfully defend against these claims could result in a material adverse effect on our business, financial condition, results of operations and/or cash flows.

We may face claims associated with the sale and transition of our Community Financial Services assets and liabilities.

On March 3, 2016, we completed the sale of our CFS related assets and liabilities to Fiserv. In connection with that sale we entered into a transaction agreement and a transition services agreement in which we undertook certain continuing obligations to effect the transition of the assets and liabilities to Fiserv. We could face claims under the transaction agreement, including based on our representations and warranties, covenants and retained liabilities. We could also face claims under the transition services agreement related to our obligations to provide transition services and assistance. Any such claim or claims could result in a material adverse effect on our business, financial condition, results of operations and cash flows.

If we engage in acquisitions, strategic partnerships or significant investments in new business, we will be exposed to risks which could materially adversely affect our business.

As part of our business strategy, we anticipate that we may acquire new products and services or enhance existing products and services through acquisitions of other companies, product lines, technologies and personnel, or through investments in, or strategic partnerships with, other companies. Any acquisition, investment or partnership, is subject to a number of risks. Such risks include the diversion of management time and resources, disruption of our ongoing business, potential overpayment for the acquired company or assets, dilution to existing stockholders if our common stock is issued in consideration for an acquisition or investment, incurring or assuming indebtedness or other liabilities in connection with an acquisition which may increase our interest expense and leverage significantly, lack of familiarity with new markets, and difficulties in supporting new product lines.

Further, even if we successfully complete acquisitions, we may encounter issues not discovered during our due diligence process, including product or service quality issues, intellectual property issues and legal contingencies, the internal control environment of the acquired entity may not be consistent with our standards and may require significant time and resources to improve and we may impair relationships with employees and customers as a result of migrating a business or product line to a new owner. We will also face challenges in integrating any acquired business. These challenges include eliminating redundant operations, facilities and systems, coordinating management and personnel, retaining key employees, customers and business partners, managing different corporate cultures, and achieving cost reductions and cross-selling opportunities. There can be no assurance that we will be able to fully integrate all aspects of acquired businesses successfully, realize synergies expected to result from the acquisition, advance our business strategy or fully realize the potential benefits of bringing the businesses together, and the process of integrating these acquisitions may further disrupt our business and divert our resources.

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In addition, under business combination accounting standards pursuant to ASC 805, *Business Combinations*, we recognize the identifiable assets acquired, the liabilities assumed and any non-controlling interests in acquired companies generally at their acquisition date fair values and, in each case, separately from goodwill. Goodwill as of the acquisition date is measured as the excess amount of consideration transferred, which is also generally measured at fair value, and the net of the acquisition date amounts of the identifiable assets acquired and the liabilities assumed. Our estimates of fair value are based upon assumptions believed to be reasonable but which are inherently uncertain. After we complete an acquisition, a number of factors could result in material goodwill impairment charges that could adversely affect our operating results.

Our failure to successfully manage acquisitions or investments, or successfully integrate acquisitions could have a material adverse effect on our business, financial condition, cash flows and/or results of operations. Correspondingly, our expectations related to the benefits related to our recent acquisitions, prior acquisitions or any other future acquisition or investment could be inaccurate.

Our balance sheet includes significant amounts of goodwill and intangible assets. The impairment of a significant portion of these assets could negatively affect our financial results.

Our balance sheet includes goodwill and intangible assets that represent a significant portion of our total assets at December 31, 2016. On at least an annual basis, we assess whether there have been impairments in the carrying value of goodwill and intangible assets. If the carrying value of the asset is determined to be impaired, then it is written down to fair value by a charge to operating earnings. An impairment of a significant portion of goodwill or intangible assets could materially negatively affect our results of operations.

Our current credit facility contains restrictions and other financial covenants that limit our flexibility in operating our business.

Our credit facility contains customary affirmative and negative covenants for credit facilities of this type that limit our ability to engage in specified types of transactions. These covenants limit our ability, and the ability of our subsidiaries, to, among other things: pay dividends on, repurchase or make distributions in respect of our capital stock or make other restricted payments; make certain investments; sell certain assets; create liens; incur additional indebtedness or issue certain preferred shares; consolidate, merge, sell or otherwise dispose of all or substantially all of our assets; and enter into certain transactions with our affiliates. Our credit facility also requires us to meet certain quarterly financial tests, including a maximum leverage ratio and a minimum interest coverage ratio. Our credit facility includes customary events of default, including, but not limited to, failure to pay principal or interest, breach of covenants or representations and warranties, cross-default to other indebtedness, judgment default and insolvency. If an event of default occurs under the credit facility, the lenders will be entitled to take various actions, including, but not limited to, demanding payment for all amounts outstanding. If adverse global economic conditions persist or worsen, we could experience decreased revenues from our operations attributable to reduced demand for our products and services and as a result, we could fail to satisfy the financial and other restrictive covenants to which we are subject under our existing credit facility, resulting in an event of default. If we are unable to cure the default or obtain a waiver, we will not be able to access our credit facility and there can be no assurance that we would be able to obtain alternative financing.

Our existing levels of debt and debt service requirements may adversely affect our financial condition or operational flexibility and prevent us from fulfilling our obligations under our outstanding indebtedness.

Our level of debt could have adverse consequences for our business, financial condition, operating results and operational flexibility, including the following: (i) the debt level may cause us to have difficulty borrowing money in the future for working capital, capital expenditures, acquisitions or other purposes; (ii) our debt level may limit operational flexibility and our ability to pursue business opportunities and implement certain business strategies; (iii) we use a large portion of our operating cash flow to pay principal and interest on our credit facility, which reduces the amount of money available to finance operations, acquisitions and other business activities; (iv) we have a higher level of debt than some of our competitors or potential competitors, which may cause a competitive disadvantage and may reduce flexibility in responding to changing business and economic conditions, including increased competition and vulnerability to general adverse economic and industry conditions; (v) our debt has a variable rate of interest, which exposes us to the risk of increased interest rates; (vi) there are significant maturities on our debt that we may not be able to fulfill or that may be refinanced at higher rates; and (vii) if we fail to satisfy our obligations under our outstanding debt or fail to comply with the financial or other restrictive covenants required under our credit facility, an event of default could result that would cause all of our debt to become due and payable and could permit the lenders under our credit facility to foreclose on the assets securing such debt.

Management's backlog estimate may not be accurate and may not generate the predicted revenues.

Estimates of future financial results are inherently unreliable. Our backlog estimates require substantial judgment and are based on a number of assumptions, including management's current assessment of customer and third party contracts that exist as of the date the estimates are made, as well as revenues from assumed contract renewals, to the extent that we believe that recognition of the related

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revenue will occur within the corresponding backlog period. A number of factors could result in actual revenues being less than the amounts reflected in backlog. Our customers or third party partners may attempt to renegotiate or terminate their contracts for a number of reasons, including mergers, changes in their financial condition, or general changes in economic conditions within their industries or geographic locations, or we may experience delays in the development or delivery of products or services specified in customer contracts. Actual renewal rates and amounts may differ from historical experiences used to estimate backlog amounts. Changes in foreign currency exchange rates may also impact the amount of revenue actually recognized in future periods. Accordingly, there can be no assurance that contracts included in backlog will actually generate the specified revenues or that the actual revenues will be generated within a 12-month or 60-month period. Additionally, because backlog estimates are operating metrics, the estimates are not required to be subject to the same level of internal review or controls as a generally accepted accounting principles (“GAAP”) financial measure.

We may face exposure to unknown tax liabilities, which could adversely affect our financial condition, cash flows and/or results of operations.

We are subject to income and non-income based taxes in the United States and in various foreign jurisdictions. Significant judgment is required in determining our worldwide income tax liabilities and other tax liabilities. In addition, we expect to continue to benefit from implemented tax-saving strategies. We believe that these tax-saving strategies comply with applicable tax law. If the governing tax authorities have a different interpretation of the applicable law and successfully challenge any of our tax positions, our financial condition, cash flows and/or results of operations could be adversely affected.

Our U.S. companies are the subject of an examination by the Internal Revenue Service as well as several state tax departments. Some of our foreign subsidiaries are currently the subject of a tax examination by the local taxing authorities. Other foreign subsidiaries could face challenges from various foreign tax authorities. It is not certain that the local authorities will accept our tax positions. We believe our tax positions comply with applicable tax law and intend to vigorously defend our positions. However, differing positions on certain issues could be upheld by foreign tax authorities, which could adversely affect our financial condition and/or results of operations.

Our revenue and earnings are highly cyclical, our quarterly results fluctuate significantly and we have revenue-generating transactions concentrated in the final weeks of a quarter which may prevent accurate forecasting of our financial results and cause our stock price to decline.

Our revenue and earnings are highly cyclical causing significant quarterly fluctuations in our financial results. Revenue and operating results are usually strongest during the third and fourth fiscal quarters ending September 30 and December 31 primarily due to the sales and budgetary cycles of our customers. We experience lower revenues, and possible operating losses, in the first and second quarters ending March 31 and June 30. Our financial results may also fluctuate from quarter to quarter and year to year due to a variety of factors, including changes in product sales mix that affect average selling prices; and the timing of customer renewals (any of which may impact the pattern of revenue recognition).

In addition, large portions of our customer contracts are consummated in the final weeks of each quarter. Before these contracts are consummated, we create and rely on forecasted revenues for planning, modeling and earnings guidance. Forecasts, however, are only estimates and actual results may vary for a particular quarter or longer periods of time. Consequently, significant discrepancies between actual and forecasted results could limit our ability to plan, budget or provide accurate guidance, which could adversely affect our stock price. Any publicly-stated revenue or earnings projections are subject to this risk.

Our stock price may be volatile.

No assurance can be given that operating results will not vary from quarter to quarter, and past performance may not accurately predict future performance. Any fluctuations in quarterly operating results may result in volatility in our stock price. Our stock price may also be volatile, in part, due to external factors such as announcements by third parties or competitors, inherent volatility in the technology sector, variability in demand from our existing customers, failure to meet the expectations of market analysts, the level of our operating expenses and changing market conditions in the software industry. In addition, the financial markets have experienced significant price and volume fluctuations that have particularly affected the stock prices of many technology companies and financial services companies, and these fluctuations sometimes are unrelated to the operating performance of these companies. Broad market fluctuations, as well as industry-specific and general economic conditions may adversely affect the market price of our common stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

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ITEM 2. PROPERTIES

We lease office space in Naples, Florida, for our principal executive headquarters. The Naples lease expires in 2027. We also lease office space in Omaha, Nebraska, for our principal product development group, sales and support groups for the Americas, as well as our corporate, accounting, and administrative functions. The Omaha lease continues through 2028. Our EMEA headquarters is located in Watford, England. The lease for the Watford facility expires at the end of 2023. Our Asia/Pacific headquarters is located in Singapore, with the lease for this facility expiring in fiscal 2020. We also lease office space in numerous other locations in the United States and in many other countries.

We believe that our current facilities are adequate for our present and short-term foreseeable needs and that additional suitable space will be available as required. We also believe that we will be able to renew leases as they expire or secure alternate suitable space. See Note 15, *Commitments and Contingencies*, in the Notes to Consolidated Financial Statements for additional information regarding our obligations under our facilities leases.

ITEM 3. LEGAL PROCEEDINGS

From time to time, we are involved in various litigation matters arising in the ordinary course of our business.

On September 23, 2015, a jury verdict was returned against ACI Corp., a subsidiary of the Company, for \$43.8 million in connection with counterclaims brought by BHMI in the District Court of Douglas County, Nebraska. On September 21, 2012, ACI Corp. had sued BHMI for misappropriation of ACI Corp.'s trade secrets. The jury found that ACI Corp. had not met its burden of proof regarding these claims. On March 6, 2013, BHMI asserted counterclaims for breach of a non-disclosure agreement, tortious interference and violation of the Nebraska anti-monopoly statute, all of which were alleged to arise out of ACI Corp.'s filing of its lawsuit. On September 23, 2015, the jury found for BHMI on its counterclaims and awarded \$43.8 million in damages. On January 5, 2016, the court entered a judgment against ACI Corp. for \$43.8 million for damages and \$2.7 million for attorney fees and costs. ACI Corp. disagrees with the verdicts and judgment, and after the trial court denied ACI Corp.'s post-judgment motions, on March 31, 2016, ACI Corp. perfected an appeal of the dismissal of its claims against BHMI and the judgment in favor of BHMI on its counterclaims, and oral arguments before the Nebraska Supreme Court are scheduled for March 3, 2017. While there necessarily can be no assurance of the result of the litigation, the Company has determined that it does not have a probable loss with respect to this litigation and that the amount of loss, if any, cannot be reasonably estimated. Accordingly, the Company has not accrued for this litigation.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

Our common stock trades on The NASDAQ Global Select Market under the symbol ACIW. The following table sets forth, for the periods indicated, the high and low sale prices of our common stock as reported by The NASDAQ Global Select Market:

	Year ended December 31, 2016		Year ended December 31, 2015	
	High	Low	High	Low
Fourth quarter	\$20.04	\$17.01	\$24.36	\$20.96
Third quarter	\$19.85	\$17.87	\$24.40	\$20.72
Second quarter	\$21.78	\$18.54	\$25.59	\$21.48
First quarter	\$20.79	\$16.23	\$21.90	\$17.84

As of February 24, 2016, there were 295 holders of record of our common stock. A substantially greater number of holders of our common stock are "street name" or beneficial holders, whose shares are held of record by banks, brokers, and other financial institutions.

Dividends

We have never declared nor paid cash dividends on our common stock. We do not presently anticipate paying cash dividends. However, any future determination relating to our dividend policy will be made at the discretion of our board of directors and will depend upon our financial condition, capital requirements, and earnings, as well as other factors the board of directors may deem relevant. The terms of our current Credit Facility may restrict the payment of dividends subject to us meeting certain financial metrics and being in compliance with the events of default provisions of the agreement.

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Issuer Purchases of Equity Securities

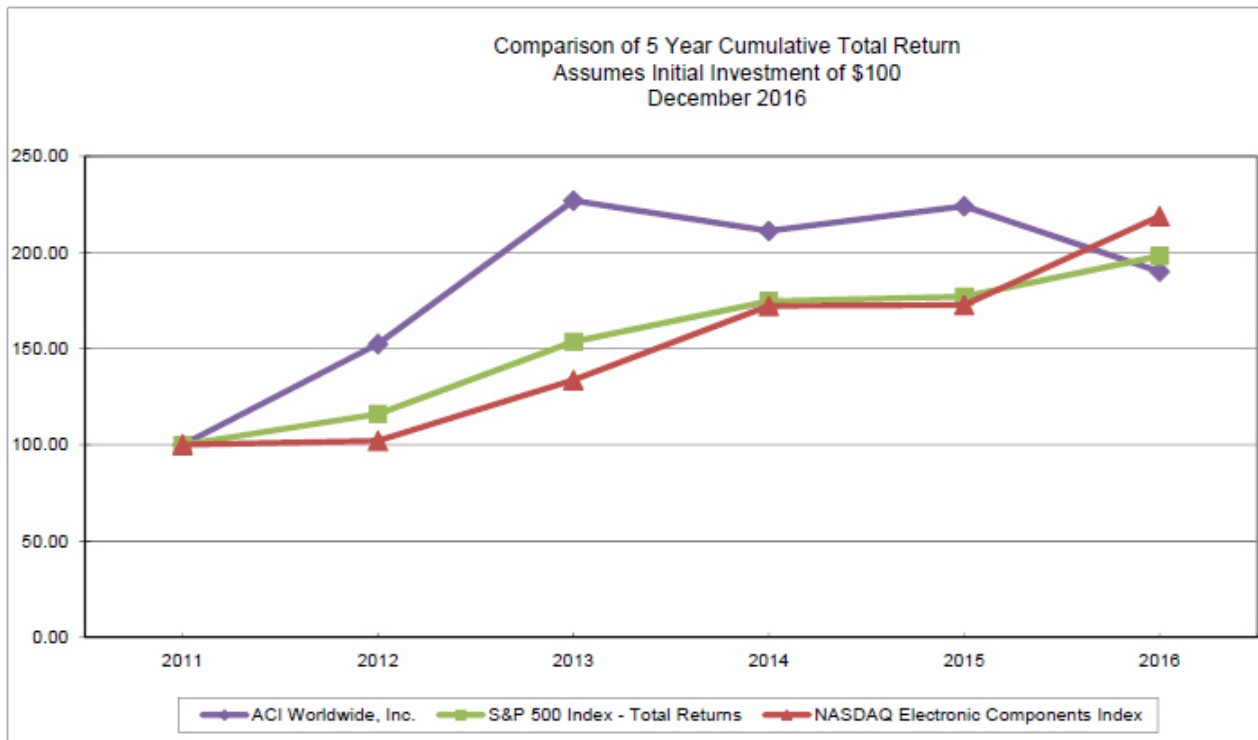
The following table provides information regarding our repurchases of common stock during the three months ended December 31, 2016:

<u>Period</u>	<u>Total Number of Shares Purchased</u>	<u>Average Price Paid per Share</u>	<u>Total Number of Shares Purchased as Part of Publicly Announced Program</u>	<u>Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program</u>
October 1, 2016 through October 31, 2016	—	\$ —	—	\$ 78,235,000
November 1, 2016 through November 30, 2016	—	—	—	78,235,000
December 1, 2016 through December 31, 2016	—	—	—	78,235,000
Total	—	\$ —	—	—

In fiscal 2005, we announced that our Board of Directors approved a stock repurchase program authorizing us, from time to time as market and business conditions warrant, to acquire up to \$80.0 million of our common stock, and that we intended to use existing cash and cash equivalents to fund these repurchases. Our Board of Directors approved an increase of \$30.0 million, \$100.0 million, and \$52.1 million to the stock repurchase program in May 2006, March 2007, and February 2012, respectively, bringing the total of the approved program to \$262.1 million. On September 13, 2012, our Board of Directors approved the repurchase of up to 7,500,000 shares of our common stock, or up to \$113.0 million, in place of the remaining repurchase amounts previously authorized. In July, 2013 and again on February 24, 2014, our Board of Directors approved an additional \$100.0 million for stock repurchases for a total additional \$200.0 million. Approximately \$78.2 million remains available at December 31, 2016. There is no guarantee as to the exact number of shares that will be repurchased by us. Repurchased shares are returned to the status of authorized but unissued shares of common stock. In March 2005, our Board of Directors approved a plan under Rule 10b5-1 of the Securities Exchange Act of 1934 to facilitate the repurchase of shares of common stock under the existing stock repurchase program. Under our Rule 10b5-1 plan, we have delegated authority over the timing and amount of repurchases to an independent broker who does not have access to inside information about the Company. Rule 10b5-1 allows us, through the independent broker, to purchase shares at times when we ordinarily would not be in the market because of self-imposed trading blackout periods, such as the time immediately preceding the end of the fiscal quarter through a period three business days following our quarterly earnings release.

Stock Performance Graph and Cumulative Total Return

The following table shows a line-graph presentation comparing cumulative stockholder return on an indexed basis with a broad equity market index and either a nationally-recognized industry standard or an index of peer companies selected by us. We selected the S&P 500 Index and the NASDAQ Electronic Components Index for comparison.



The graph above assumes that a \$100 investment was made in our common stock and each index on December 31, 2011, and that all dividends were reinvested. Also included are the respective investment returns based upon the stock and index values as of the end of each year during such five-year period. The information was provided by Zacks Investment Research, Inc. of Chicago, Illinois.

The stock performance graph disclosure above is not considered “filed” with the SEC under the Securities and Exchange Act of 1934, as amended, and is not incorporated by reference in any past or future filing by us under the Securities Exchange Act of 1934, as amended, or the Securities Act of 1933, as amended, unless specifically referenced.

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data has been derived from our consolidated financial statements. This data should be read together with Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations”, and the consolidated financial statements and related notes included elsewhere in this Annual Report. The financial information below is not necessarily indicative of the results of future operations. Future results could differ materially from historical results due to many factors, including those discussed in Item 1A in the section entitled “Risk Factors.”

	2016 (1)	2015 (2)	Years Ended December 31, 2014 (3) 2013 (4)		2012 (5)
	(in thousands, except per share data)				
Income Statement Data:					
Total revenues	\$1,005,701	\$1,045,977	\$1,016,149	\$ 864,928	\$ 666,579
Net income	\$ 129,535	\$ 85,436	\$ 67,560	\$ 63,868	\$ 48,846
Earnings per share:					
Basic	\$ 1.10	\$ 0.73	\$ 0.59	\$ 0.54	\$ 0.42
Diluted	\$ 1.09	\$ 0.72	\$ 0.58	\$ 0.53	\$ 0.41
Shares used in computing earnings per share:					
Basic	117,533	117,465	114,798	117,885	116,089
Diluted	118,847	118,919	116,771	120,054	119,716
Balance Sheet Data:					
	2016 (1)	2015 (2)	As of December 31, 2014 (3) 2013 (4)		2012 (5)
Working capital (8)	\$ 31,625	\$ (2,360)	\$ (4,672)	\$ 43,922	\$ 55,359
Total assets (8)	1,902,295	1,975,788	1,830,172	1,659,948	1,240,798
Current portion of debt (6)(8)	90,323	89,710	81,108	42,037	17,500
Debt (long-term portion) (6) (7)(8)	656,063	845,639	795,194	700,136	358,976
Stockholders’ equity	754,917	654,400	581,405	543,694	534,357

- (1) The consolidated balance sheet and statement of income for the year ended December 31, 2016 reflects the sale of CFS assets and liabilities as discussed in Note 3, *Divestiture*.
- (2) The consolidated balance sheet and statement of income for the year ended December 31, 2015 includes the acquisition of PAY.ON as discussed in Note 2, *Acquisitions*.
- (3) The consolidated balance sheet and statement of income for the year ended December 31, 2014 includes the acquisition of ReD as discussed in Note 2, *Acquisitions*.
- (4) The consolidated balance sheet and statement of income for the year ended December 31, 2013 includes the acquisitions of Official Payments Holdings, Inc. (“OPAY”) and all its subsidiaries, Online Resources Corporation (“ORCC”) and all its subsidiaries, and Profesionales en Transacciones Electronicas S.A. – Venezuela (“PTESA-V”), 100% of Profesionales en Transacciones Electronicas S.A. – Ecuador (“PTESA-E”), and the ACI related assets of Profesionales en Transacciones Electronicas S.A. – Colombia (“PTESA-C”), collectively “PTESA”.
- (5) The consolidated balance sheet and statement of income for the year ended December 31, 2012 includes the acquisitions of Distra Pty Ltd., North Data Uruguay S.A., and S1 Corporation.
- (6) During the year ended December 31, 2015, we increased the Revolving Credit Facility by \$181.0 million to fund the acquisition of PAY.ON and related transaction expenses. During the year ended December 31, 2014, we increased the Term Credit Facility by \$150.0 million to fund the acquisition of ReD. In addition, we drew a net additional \$44.0 million on our Revolving Credit Facility during the year ended December 31, 2014 partially used to fund the acquisition of ReD and the related transaction costs. During the year ended December 31, 2013, we increased the Term Credit Facility by \$300.0 million to fund the acquisition of ORCC and amended our Credit Agreement to extend the term to 2018. We also added \$300.0 million in Senior Notes during the year ended December 31, 2013, all of which is due in August 2020. See Note 5, *Debt*, for further discussion.

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- (7) During the year-ended December 31, 2012, the Company financed a five-year license agreement for certain internally-used software for \$14.8 million with annual payments through April 2016. During the year ended December 31, 2015, we financed multiple three-year license agreements for certain internally-used software for a total value of \$20.4 million with payments due through November 2018. Of this amount, \$20.2 million remains outstanding at December 31, 2015 with \$11.7 million included in other current liabilities and \$8.5 million included in other non-current liabilities in our consolidated balance sheet. At December 31, 2016, \$9.0 million remains outstanding with \$7.3 million included in other current liabilities and \$1.7 million included in other non-current liabilities in our consolidated balance sheet.
- (8) In April 2015, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2015-03, *Simplifying the Presentation of Debt Issuance Costs*, which states that entities should present the debt issuance costs in the balance sheet as a direct deduction from the related debt liability rather than as an asset. The Company has adopted ASU 2015-03 as of January 1, 2016 and applied retrospectively. The adoption of this standard resulted in the reclassification in the consolidated balance sheets as of December 31, 2015, 2014, 2013, and 2012 of \$5.6 million, \$6.2 million, \$5.3 million, and \$0.0 million from other current assets to current portion of long-term debt and \$8.8 million, \$14.3 million, \$16.6 million, and \$10.1 million from other noncurrent assets to long-term debt, respectively.

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

OVERVIEW

ACI Worldwide, the Universal Payments (“UP”) company, powers electronic payments for more than 5,100 organizations around the world. More than 1,000 of the largest financial institutions and intermediaries, as well as thousands of global merchants, rely on ACI to execute \$14 trillion each day in payments and securities. In addition, thousands of organizations utilize our electronic bill presentment and payment services. Through our comprehensive suite of software and SaaS-based and Platform-based solutions, we deliver real-time, immediate payments capabilities, and enable a complete omni-channel payments experience.

Our products are sold and supported through distribution networks covering three geographic regions – the Americas, EMEA, and Asia/Pacific. Each distribution network has its own globally coordinated sales force and supplements its sales force with independent reseller and/or distributor networks. These products and solutions are used globally by financial institutions, retailers and billers and intermediaries, such as third-party electronic payment processors, payment associations, switch interchanges and a wide range of transaction-generating endpoints, including ATMs, retail POS terminals, bank branches, mobile phones, tablets, corporations and Internet commerce sites. Accordingly, our business and operating results are influenced by trends such as information technology spending levels, the growth rate of the electronic payments industry, mandated regulatory changes, and changes in the number and type of customers in the financial services industry. Our products are marketed under the ACI Worldwide, ACI Universal Payment, and ACI UP brands.

We derive a majority of our revenues from domestic operations and believe we have large opportunities for growth in international markets as well as continued expansion domestically in the United States. Refining our global infrastructure is a critical component of driving our growth. We have launched a globalization strategy which includes elements intended to streamline our supply chain and maximize expertise in several geographic locations to support a growing international customer base and competitive needs. We utilize our Irish subsidiaries to manage certain of our intellectual property rights and to oversee and manage certain international product development and commercialization efforts. We recently increased our hosting capabilities with a new data center in Ireland allowing our hosted solutions to be more-broadly offered in the European market. We also continue to grow centers of expertise in Timisoara, Romania and Pune and Bangalore in India, as well as key operational centers such as Capetown, South Africa and in multiple locations in the United States.

Key trends that currently impact our strategies and operations include:

Increasing electronic payment transaction volumes. Electronic payment volumes continue to increase around the world, taking market share from traditional cash and check transactions. The Boston Consulting Group predicts that electronic payment transactions will grow in volume at an annual rate of 6.7%, from 481 billion in 2016 to 624.6 billion in 2020, with varying growth rates based on the type of payment and part of the world. We leverage the growth in transaction volumes through the licensing of new systems to customers whose older systems cannot handle increased volume and through the licensing of capacity upgrades to existing customers.

Adoption of real-time payments. Customer expectations, from both consumers and corporate, are driving the payments world to more real-time delivery. In the U.K., payments sent through the traditional ACH multi-day batch service can now be sent through the Faster Payments service giving almost immediate access to the funds, and this is being considered and implemented in several

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countries including Australia and the United States. In the U.S. market, NACHA is gradually moving with phase 1 of Same Day ACH. Corporate customers expect real-time information on the status of their payments instead of waiting for an end-of-day report. Regulators expect banks to be monitoring key measures like liquidity in real time. ACI's focus has always been on the real-time execution of transactions and delivery of information through real-time tools, such as dashboards, so our experience will be valuable in addressing this trend.

Increasing competition. The electronic payments market is highly competitive and subject to rapid change. Our competition comes from in-house information technology departments, third-party electronic payment processors, and third-party software companies located both within and outside of the United States. Many of these companies are significantly larger than us and have significantly greater financial, technical, and marketing resources. As electronic payment transaction volumes increase, third-party processors tend to provide competition to our solutions, particularly among customers that do not seek to differentiate their electronic payment offerings or are eliminating banks from the payments service, reducing the need for our solutions. As consolidation in the financial services industry continues, we anticipate that competition for those customers will intensify.

Adoption of cloud technology. In an effort to leverage lower-cost computing technologies, some financial institutions, merchants, and electronic payment processors are seeking to transition their systems to make use of cloud technology. Our investments provide us the grounding to deliver cloud capabilities in the future. Market sizing data from Ovum indicates that spend on hosted payment systems is growing faster than spend on installed applications.

Electronic payments fraud and compliance. As electronic payment transaction volumes increase, organized criminal organizations continue to find ways to commit a growing volume of fraudulent transactions using a wide range of techniques. Financial institutions, merchants and electronic payment processors continue to seek ways to leverage new technologies to identify and prevent fraudulent transactions and other attacks such as denial of service attacks. Due to concerns with international terrorism and money laundering, financial institutions in particular are being faced with increasing scrutiny and regulatory pressures. We continue to see opportunity to offer our fraud detection solutions to help customers manage the growing levels of electronic payments fraud and compliance activity.

Adoption of smartcard technology. In many markets, card issuers are being required to issue new cards with embedded chip technology, with the liability shift going into effect in 2015 in the United States. Chip-based cards are more secure, harder to copy, and offer the opportunity for multiple functions on one card (e.g., debit, credit, electronic purse, identification, health records, etc.). This results in greater card-not-present fraud (e.g., fraud at eCommerce sites).

Single Euro Payments Area. The SEPA, primarily focused on the European economic community and the U.K., is designed to facilitate lower costs for cross-border payments and reduce timeframes for settling electronic payment transactions. Recent moves to set an end date for the transition to SEPA payment mechanisms will drive more volume to these systems with the potential to cause banks to review the capabilities of the systems supporting these payments. Our retail and transaction banking solutions facilitate key functions that help financial institutions address these mandated regulations.

European Payment Service Directive (PSD2). PSD2, which was ratified by the European Parliament in 2015, will force member states to implement new payments regulation before 2017. The XS2A provision effectively creates a new market opportunity where banks in European Union member countries must provide open API standards to customer data, thus allowing authorized third-party providers to enter the market.

Financial institution consolidation. Consolidation continues on a national and international basis, as financial institutions seek to add market share and increase overall efficiency. Such consolidations have increased, and may continue to increase, in their number, size, and market impact as a result of recent economic conditions affecting the banking and financial industries. There are several potential negative effects of increased consolidation activity. Continuing consolidation of financial institutions may result in a smaller number of existing and potential customers for our products and services. Consolidation of two of our customers could result in reduced revenues if the combined entity were to negotiate greater volume discounts or discontinue use of certain of our products. Additionally, if a non-customer and a customer combine and the combined entity decides to forego future use of our products, our revenue would decline. Conversely, we could benefit from the combination of a non-customer and a customer when the combined entity continues use of our products and, as a larger combined entity, increases its demand for our products and services. We tend to focus on larger financial institutions as customers, often resulting in our solutions being the solutions that survive in the consolidated entity.

Global vendor sourcing. Global and regional financial institutions, merchants and processors are aiming to reduce the costs in supplier management by picking suppliers who can service them across all their geographies instead of allowing each country operation to choose suppliers independently. Our global footprint from both a customer and a delivery perspective enable us to be successful in this global sourced market. However, projects in these environments tend to be more complex and therefore of higher risk.

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Electronic payments convergence. As electronic payment volumes grow and pressures to lower overall cost per transaction increase, financial institutions are seeking methods to consolidate their payments processing across the enterprise. We believe that the strategy of using service-oriented architectures to allow for re-use of common electronic payment functions, such as authentication, authorization, routing and settlement, will become more common. Using these techniques, financial institutions will be able to reduce costs, increase overall service levels, enable one-to-one marketing in multiple bank channels, leverage volumes for improved pricing and liquidity, and manage enterprise risk. Our product strategy is, in part, focused on this trend, by creating integrated payment functions that can be re-used by multiple bank channels, across both the consumer and wholesale bank. While this trend presents an opportunity for us, it may also expand the competition from third-party electronic payment technology and service providers specializing in other forms of electronic payments. Many of these providers are larger than us and have significantly greater financial, technical and marketing resources.

Mobile banking and payments. There is a growing demand for the ability to carry out banking services or make payments using a mobile phone. Recent statistics from Javelin Strategy & Research, a subsidiary of Greenwich Associates, show that 50% of adults in the United States use their phone for mobile banking. The use of phones for mobile banking is expected to grow to 81% in 2020. Our customers have been making use of existing products to deploy mobile banking, mobile payments, and mobile commerce solutions for their customers in many countries. In addition, ACI has invested in mobile products of our own and via partnerships to support mobile functionality in the marketplace.

Electronic bill payment and presentment. EBPP encompasses all facets of bill payment, including biller direct, where customers initiate payments on biller websites, the consolidator model, where customers initiate payments on a financial institution's website, and walk-in bill payment, as one might find in a convenience store. The EBPP market continues to grow as consumers move away from traditional forms of paper-based payments. According to Aite Group, the number of households paying at biller websites is 96 million or 77% of U.S. households. The biller-direct segment is seeing strong growth as billers migrate these services to outsourcers, such as ACI, from legacy systems built in house. We believe that EBPP remains ripe for outsourcing, as a significant amount of biller-direct transactions are still processed in house. As billers seek to manage costs and improve efficiency, we believe that they will continue to look to third-party EBPP vendors that can offer a complete solution for their billing needs.

The banking, financial services, and payment industries have come under increased scrutiny from federal, state, and foreign lawmakers and regulators in response to the crises in the financial markets and the global recession. In particular, the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), which was signed into law July 21, 2010, represents a comprehensive overhaul of the U.S. financial services industry and requires the implementation of many regulations that have a direct impact on our customers and potential customers. This is not limited to the United States. In April 2014, the European Commission voted to adopt a number of amendments with regards to the Payment Services Directive, placing further pressure on industry incumbents.

These regulatory changes may create both opportunities and challenges for us. The application of the new regulations on our customers could create an opportunity for us to market our product capabilities and the flexibility of our solutions to assist our customers in addressing these regulations. At the same time, these regulatory changes may have an adverse impact on our operations and our financial results as we adjust our activities in light of increased compliance costs and customer requirements. It is currently too difficult to predict the long-term extent to which the Dodd-Frank Act, Payment Services Directive or the resulting regulations will impact our business and the businesses of our current and potential customers.

Several other factors related to our business may have a significant impact on our operating results from year to year. For example, the accounting rules governing the timing of revenue recognition in the software industry are complex and it can be difficult to estimate when we will recognize revenue generated by a given transaction. Factors such as maturity of the software product licensed, payment terms, creditworthiness of the customer, and timing of delivery or acceptance of our products often cause revenues related to sales generated in one period to be deferred and recognized in later periods. For arrangements in which services revenue is deferred, related direct and incremental costs may also be deferred. Additionally, while the majority of our contracts are denominated in the U.S. dollar, a substantial portion of our sales are made, and some of our expenses are incurred, in the local currency of countries other than the United States. Fluctuations in currency exchange rates in a given period may result in the recognition of gains or losses for that period.

We continue to seek ways to grow through organic sources, partnerships, alliances, and acquisitions. We continually look for potential acquisitions designed to improve our solutions' breadth or provide access to new markets. As part of our acquisition strategy, we seek acquisition candidates that are strategic, capable of being integrated into our operating environment and financially accretive to our financial performance.

Divestiture

Community Financial Services

On March 3, 2016, we completed the sale of our CFS related assets and liabilities, a part of the Americas segment, to Fiserv for \$200.0 million. The sale of CFS, which was not strategic to our long-term strategy, is part of the Company's ongoing efforts to expand as a provider of software products and SaaS-based and Platform-based solutions facilitating real-time electronic and eCommerce payments for large financial institutions, intermediaries, retailers, and billers worldwide. The sale included employees' agreements and customer contracts as well as technology assets and intellectual property.

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For the year ended December 31, 2016, we recognized a net after-tax gain of \$93.4 million on sale of assets to Fiserv.

Backlog

Included in backlog estimates are all license, maintenance, services, and hosting fees specified in executed contracts, as well as revenues from assumed contract renewals to the extent that we believe recognition of the related revenue will occur within the corresponding backlog period. We have historically included assumed renewals in backlog estimates based upon automatic renewal provisions in the executed contract and our historic experience with customer renewal rates.

Our 60-month backlog estimate represents expected revenues from existing customers using the following key assumptions:

- Maintenance fees are assumed to exist for the duration of the license term for those contracts in which the committed maintenance term is less than the committed license term.
- License, facilities management, and software hosting arrangements are assumed to renew at the end of their committed term at a rate consistent with our historical experiences.
- Non-recurring license arrangements are assumed to renew as recurring revenue streams.
- Foreign currency exchange rates are assumed to remain constant over the 60-month backlog period for those contracts stated in currencies other than the U.S. dollar.
- Our pricing policies and practices are assumed to remain constant over the 60-month backlog period.

In computing our 60-month backlog estimate, the following items are specifically not taken into account:

- Anticipated increases in transaction, account, or processing volumes in customer systems.
- Optional annual uplifts or inflationary increases in recurring fees.
- Services engagements, other than facilities management and software hosting engagements, are not assumed to renew over the 60-month backlog period.
- The potential impact of merger activity within our markets and/or customers.

We review our customer renewal experience on an annual basis. The impact of this review and subsequent update may result in a revision to the renewal assumptions used in computing the 60-month and 12-month backlog estimates. In the event a revision to renewal assumptions is determined to be necessary, prior periods will be adjusted for comparability purposes.

The following table sets forth our 60-month backlog estimate, by geographic region, as of December 31, 2016, September 30, 2016, June 30, 2016, March 31, 2016, and December 31, 2015 (in millions). As a result of the sale of CFS assets and the related customer contracts, 60-month backlog decreased \$355.5 million during the three months ended March 31, 2016. Dollar amounts reflect foreign currency exchange rates as of each period end.

	<u>December 31, 2016</u>	<u>September 30, 2016</u>	<u>June 30, 2016</u>	<u>March 31, 2016</u>	<u>December 31, 2015</u>
Americas	\$ 2,872	\$ 2,847	\$2,794	\$ 2,783	\$ 3,086
EMEA	831	920	924	922	898
Asia/Pacific	313	325	329	325	318
Total	<u>\$ 4,016</u>	<u>\$ 4,092</u>	<u>\$4,047</u>	<u>\$ 4,030</u>	<u>\$ 4,302</u>
	<u>December 31, 2016</u>	<u>September 30, 2016</u>	<u>June 30, 2016</u>	<u>March 31, 2016</u>	<u>December 31, 2015</u>
Committed	\$ 1,930	\$ 1,750	\$1,715	\$ 1,744	\$ 1,876
Renewal	2,086	2,342	2,332	2,286	2,426
Total	<u>\$ 4,016</u>	<u>\$ 4,092</u>	<u>\$4,047</u>	<u>\$ 4,030</u>	<u>\$ 4,302</u>

Included in our 60-month backlog estimates are amounts expected to be recognized during the initial license term of customer contracts (“Committed Backlog”) and amounts expected to be recognized from assumed renewals of existing customer contracts (“Renewal Backlog”). Amounts expected to be recognized from assumed contract renewals are based on our historical renewal experience.

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We also estimate 12-month backlog, segregated between monthly recurring and non-recurring revenues, using a methodology consistent with the 60-month backlog estimate. Monthly recurring revenues include all monthly license fees, maintenance fees, and processing services fees. Non-recurring revenues include other software license fees and services fees. Amounts included in our 12-month backlog estimate assume renewal of one-time license fees on a monthly fee basis if such renewal is expected to occur in the next 12 months. The following table sets forth our 12-month backlog estimate, by geographic region, as of December 31, 2016 and 2015 (in millions). For all periods reported, approximately 80% of our 12-month backlog estimate is committed backlog and approximately 20% of our 12-month backlog estimate is renewal backlog. As a result of the sale of CFS assets and the related customer contracts, 12-month backlog decreased \$79.8 million. Dollar amounts reflect currency exchange rates as of each period end.

	December 31, 2016			December 31, 2015		
	Monthly Recurring	Non- Recurring	Total	Monthly Recurring	Non- Recurring	Total
Americas	\$ 543	\$ 33	\$576	\$ 598	\$ 60	\$658
EMEA	143	33	176	160	31	191
Asia/Pacific	50	14	64	54	15	69
Total	<u>\$ 736</u>	<u>\$ 80</u>	<u>\$816</u>	<u>\$ 812</u>	<u>\$ 106</u>	<u>\$918</u>

Estimates of future financial results require substantial judgment and are based on a number of assumptions as described above. These assumptions may turn out to be inaccurate or wrong, including for reasons outside of management's control. For example, our customers may attempt to renegotiate or terminate their contracts for a number of reasons, including mergers, changes in their financial condition, or general changes in economic conditions in the customer's industry or geographic location, or we may experience delays in the development or delivery of products or services specified in customer contracts which may cause the actual renewal rates and amounts to differ from historical experiences. Changes in foreign currency exchange rates may also impact the amount of revenue actually recognized in future periods. Accordingly, there can be no assurance that amounts included in backlog estimates will actually generate the specified revenues or that the actual revenues will be generated within the corresponding 12-month or 60-month period. Additionally, because backlog estimates are operating metrics, the estimates are not required to be subject to the same level of internal review or controls as a financial measure in accordance with generally accepted account principals in the United States.

RESULTS OF OPERATIONS

The following tables present the consolidated statements of income as well as the percentage relationship to total revenues of items included in our Consolidated Statements of Income (amounts in thousands):

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015**Revenues**

	2016				2015	
	Amount	% of Total Revenue	\$ Change vs 2015	% Change vs 2015	Amount	% of Total Revenue
Revenues:						
Initial license fees (ILFs)	\$ 203,156	20%	\$ 28,840	17%	\$ 174,316	17%
Monthly license fees (MLFs)	70,310	7%	(6,579)	-9%	76,889	7%
License	273,466	27%	22,261	9%	251,205	24%
Maintenance	233,476	23%	(8,419)	-3%	241,895	23%
Services	87,470	9%	(19,350)	-18%	106,820	10%
Hosting	411,289	41%	(34,768)	-8%	446,057	43%
Total revenues	\$1,005,701	100%	\$(40,276)	-4%	\$1,045,977	100%

Total revenue for the year ended December 31, 2016 decreased \$40.3 million, or 4%, as compared to the same period in 2015. The decrease is the result of an \$8.4 million, or 3%, decrease in maintenance revenue, a \$19.4 million, or 18%, decrease in services revenue, and a \$34.8 million, or 8%, decrease in hosting revenue, partially offset by a \$22.3 million, or 9%, increase in license revenue.

The decrease in total revenue for the year ended December 31, 2016 as compared to the year ended December 31, 2015 was due to a \$66.4 million, or 9%, decrease in the Americas reportable segment, partially offset by a \$10.6 million, or 4%, increase in the EMEA reportable segment, and a \$15.5 million, or 18%, increase in the Asia/Pacific reportable segment.

The CFS divestiture resulted in a \$79.2 million decrease in total revenue for year ended December 31, 2016. Total revenue was \$13.5 million lower for the year ended December 31, 2016, compared to the same period in 2015 due to the impact of foreign currencies weakening against the U.S. dollar. The addition of PAY.ON contributed \$13.6 million of additional revenue for the year ended December 31, 2016, compared to the same period in 2015. Excluding the impact of CFS, foreign currency, and the addition of PAY.ON, total revenue for the year ended December 31, 2016, increased \$38.8 million, or 4%, compared to the same period in 2015 primarily as a result of an increase in initial license fees and hosting partially offset by decreases in maintenance and services.

License Revenue

Customers purchase the right to license ACI software for the term of their agreement which is generally 60 months. Within these agreements are specified capacity limits typically based on customer transaction volume. ACI employs measurement tools that monitor the number of transactions processed by customers and if contractually specified limits are exceeded, additional fees are charged for the overage. Capacity overages may occur at varying times throughout the term of the agreement depending on the product, the size of the customer, and the significance of customer transaction volume growth. Depending on specific circumstances, multiple overages or no overages may occur during the term of the agreement.

Initial License Revenue

Initial license revenue includes license and capacity revenues that do not recur on a monthly or quarterly basis. Included in initial license revenue are license and capacity fees that are recognizable at the inception of the agreement and license and capacity fees that are recognizable at interim points during the term of the agreement, including those that are recognizable annually due to negotiated customer payment terms. Initial license revenue increased by \$28.8 million, or 17%, during the year ended December 31, 2016, as compared to the same period in 2015 with the Americas, EMEA, and Asia/Pacific reportable segments increasing by \$5.3 million, \$10.6 million, and \$12.9 million, respectively.

The increase in initial license revenue was primarily driven by an increase in capacity-related and non-capacity related license revenue of \$24.1 million and \$4.7 million, respectively, for the year ended December 31, 2016, compared to the same period in 2015. The increase in capacity-related license revenue was attributable to the timing and relative size of capacity events during the year ended December 31, 2016, as compared to the same period in 2015. The increase in non-capacity related license revenue was largely attributable to the execution of several license renewal arrangements and the release of deferred revenue for several large complex projects during the year ended December 31, 2016, as compared to the same period in 2015.

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Total initial license revenue was \$3.6 million lower for the year ended December 31, 2016, compared to the same period in 2015 due to the impact of foreign currencies weakening against the U.S. dollar. Excluding the impact of foreign currency, total initial license revenue for the year ended December 31, 2016, increased \$32.5 million, or 19%, compared to the same period in 2015.

Monthly License Revenue

Monthly license revenue is license and capacity revenue that is paid monthly or quarterly due to negotiated customer payment terms as well as initial license and capacity fees that are recognized as revenue ratably over an extended period as monthly license revenue. Monthly license revenue decreased \$6.6 million, or 9%, during the year ended December 31, 2016, as compared to the same period in 2015, with the Americas and Asia/Pacific reportable segments decreasing by \$5.7 million and \$0.9 million, respectively, and the EMEA reportable segment remaining relatively flat.

The CFS divestiture resulted in decreased monthly license revenue of \$4.5 million during the year ended December 31, 2016. Total monthly license revenue was \$1.1 million lower for the year ended December 31, 2016, compared to the same period in 2015 due to the impact of foreign currencies weakening against the U.S. dollar. Excluding the impact of CFS and foreign currency, total monthly license revenue for the year ended December 31, 2016, was relatively flat compared to the same period in 2015.

Maintenance Revenue

Maintenance revenue includes standard and premium maintenance and any post contract support fees received from customers for the provision of product support services. Maintenance revenue during the year ended December 31, 2016, as compared to the same period in 2015, decreased \$8.4 million, or 3%. Maintenance revenue decreased in the Americas, EMEA, and Asia/Pacific reportable segments by \$2.9 million, \$4.1 million, and \$1.4 million, respectively. The decrease in maintenance revenue is primarily driven by the timing of maintenance renewals and related revenue recognition.

Total maintenance revenue was \$4.9 million lower for the year ended December 31, 2016, as compared to the same period in 2015 due to the impact of foreign currencies weakening against the U.S. dollar. The CFS divestiture resulted in decreased maintenance revenue of \$0.7 million during the year ended December 31, 2016. Excluding the impact of foreign currency and CFS, total maintenance revenue for the year ended December 31, 2016, decreased \$2.8 million, or 1%, compared to the same period in 2015.

Services Revenue

Services revenue includes fees earned through implementation services, professional services, and facilities management services. Implementation services include product installations, product configurations, and custom software modifications (“CSMs”). Professional services include business consultancy, technical consultancy, on-site support services, CSMs, product education, and testing services. These services include new customer implementations as well as existing customer migrations to new products or new releases of existing products. During the period in which non-essential services revenue is being deferred, direct and incremental costs related to the performance of these services are also being deferred. During the period in which essential services revenue is being deferred, direct and indirect costs related to the performance of these services are also being deferred.

Services revenue during the year ended December 31, 2016 as compared to the same period in 2015 decreased by \$19.4 million, or 18%. Implementation and professional services decreased in the Americas and EMEA reportable segments by \$13.8 million and \$9.8 million, respectively, and was partially offset by an increase in the Asia/Pacific reportable segment of \$4.2 million.

The CFS divestiture resulted in decreased services revenue of \$3.3 million during the year ended December 31, 2016. Total services revenue was \$1.6 million lower for the year ended December 31, 2016, as compared to the same period in 2015 due to the impact of foreign currencies weakening against the U.S. dollar. Excluding the impact of CFS and foreign currency, total services revenue for the year ended December 31, 2016, decreased \$14.4 million, or 13%, compared to the same period in 2015. During 2015, we completed several large, complex projects that resulted in recognition of services revenue as the work was performed and the projects were completed. The number and magnitude of such projects was lower in 2016. Additionally, our customers continue to transition from on premise to hosted software solutions. Services work performed in relation to our hosted software solutions is recognized over a longer service period and is classified as hosting.

Hosting Revenue

Hosting revenue includes fees earned through SaaS-based and Platform-based arrangements. All revenue from hosting and on-demand arrangements that does not qualify for treatment as a separate unit of accounting, which includes set-up fees, implementation or customization services, and product support services, are included in hosting revenue.

Hosting revenue during the year ended December 31, 2016 as compared to the same period in 2015 decreased \$34.8 million, or 8%. Hosting revenue decreased \$49.2 million in the Americas reportable segment partially offset by increases of \$13.7 million and \$0.7 million in the EMEA and Asia/Pacific reportable segments, respectively.

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The CFS divestiture resulted in decreased hosting revenue of \$70.3 million during the year ended December 31, 2016. Total hosting revenue was \$2.1 million lower for the year ended December 31, 2016, compared to the same period in 2015 due to the impact of foreign currencies weakening against the U.S. dollar. The addition of PAY.ON contributed \$13.6 million in hosted revenue for the year ended December 31, 2016, compared to the same period in 2015. Excluding the impact of CFS, foreign currency, and the addition of PAY.ON, total hosting revenue for the year ended December 31, 2016, increased \$24.0 million, or 5%, compared to the same period in 2015, which is primarily attributed to new customers adopting our on demand or hosted offerings and existing customers adding new functionality or increasing transactions processed or customers enrolled.

Operating Expenses

	2016				2015	
	Amount	% of Total Revenue	\$ Change vs 2015	% Change vs 2015	Amount	% of Total Revenue
Operating expenses:						
Cost of license	\$ 22,345	2%	\$ (900)	-4%	\$ 23,245	2%
Cost of maintenance, services and hosting	422,569	42%	(26,485)	-6%	449,054	43%
Research and development	169,900	17%	23,976	16%	145,924	14%
Selling and marketing	118,082	12%	(11,325)	-9%	129,407	12%
General and administrative	113,617	11%	26,198	30%	87,419	8%
Depreciation and amortization	89,521	9%	6,541	8%	82,980	8%
Total operating expenses	<u>\$936,034</u>	<u>93%</u>	<u>\$ 18,005</u>	<u>2%</u>	<u>\$918,029</u>	<u>88%</u>

Total operating expenses for the year ended December 31, 2016 increased \$18.0 million, or 2%, as compared to the same period of 2015 excluding the gain on sale of CFS assets.

The CFS divestiture resulted in a \$73.1 million decrease in total operating expenses for the year ended December 31, 2016. Total operating expenses were \$13.8 million lower for the year ended December 31, 2016, compared to the same period in 2015, due to the impact of foreign currencies weakening against the U.S. dollar. There were \$28.6 million of incremental operating expenses related to the operations of PAY.ON for the year ended December 31, 2016 compared to the same period in 2015. Excluding the impact of CFS, foreign currency, and the addition of PAY.ON, operating expenses increased \$76.3 million, or 9%, for the year ended December 31, 2016 principally reflecting higher cost of maintenance, services and hosting, research and development, and general and administrative expenses.

Cost of License

The cost of license for our products sold includes third-party software royalties as well as the amortization of purchased and developed software for resale. In general, the cost of license for our products is minimal because we internally develop most of the software components, the cost of which is reflected in research and development expense as it is incurred as technological feasibility coincides with general availability of the software components.

Cost of license decreased \$0.9 million, or 4%, for the year ended December 31, 2016, compared to the same period in 2015. Cost of license decreased \$1.4 million as a result of the CFS divestiture and was \$0.6 million lower due to the impact of foreign currencies weakening against the U.S. dollar for the year ended December 31, 2016, compared to the same period in 2015. Excluding the impact of CFS and foreign currency cost of license increased \$1.1 million, or 5%, primarily due to an increase in amortization of purchased and developed software for sale.

Cost of Maintenance, Services and Hosting

Cost of maintenance, services and hosting includes costs to provide hosting services and both the costs of maintaining our software products as well as the service costs required to deliver, install, and support software at customer sites. Maintenance costs include the efforts associated with providing the customer with upgrades, 24-hour help desk, post go-live (remote) support, and production-type support for software that was previously installed at a customer location. Service costs include human resource costs and other incidental costs such as travel and training required for both pre go-live and post go-live support. Such efforts include project management, delivery, product customization and implementation, installation support, consulting, configuration, and on-site support. Hosting costs include payment card interchange fees, assessments payable to banks, and payment card processing fees.

Cost of maintenance, services and hosting decreased \$26.5 million, or 6%, for the year ended December 31, 2016, compared to the same period in 2015. The CFS divestiture resulted in a decrease of \$50.0 million in cost of maintenance, services and hosting for the year ended December 31, 2016 compared to the same period in 2015. Cost of maintenance, services and hosting was approximately \$5.1 million lower due to the impact of foreign currencies weakening against the U.S. dollar. There was \$3.5 million of incremental

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cost of maintenance, services and hosting related to the operations of PAY.ON for the year ended December 31, 2016. Excluding the impact of CFS, foreign currency, and the addition of PAY.ON, cost of maintenance, services and hosting increased \$25.1 million, or 6%, for the year ended December 31, 2016, primarily due to a \$14.2 million increase in interchange processing fees, a \$3.9 million increase in personnel and related expenses, a \$4.5 million decrease in net deferred expenses, and a \$2.5 million increase in stock-based compensation.

Research and Development

Research and development (“R&D”) expenses are primarily human resource costs related to the creation of new products, improvements made to existing products as well as compatibility with new operating system releases and generations of hardware.

R&D increased \$24.0 million, or 16%, for the year ended December 31, 2016, compared to the same period in 2015. There were \$11.9 million of incremental R&D related to the operations of PAY.ON for the year ended December 31, 2016 compared to the same period in 2015. The CFS divestiture resulted in a decrease of \$5.8 million in R&D for the year ended December 31, 2016 compared to the same period in 2015. R&D was approximately \$2.3 million lower due to the impact of foreign currencies weakening against the U.S. dollar. Excluding the impact of PAY.ON, CFS, and foreign currency, R&D increased \$20.1 million, or 15%, for the year ended December 31, 2016, primarily due to a \$14.1 million increase in personnel and related expenses, a \$4.5 million increase in stock-based compensation, and a \$1.5 million decrease in net deferred expenses.

Selling and Marketing

Selling and marketing includes both the costs related to selling our products to current and prospective customers as well as the costs related to promoting the Company, its products and the research efforts required to measure customers’ future needs and satisfaction levels. Selling costs are primarily the human resource and travel costs related to the effort expended to license our products and services to current and potential clients within defined territories and/or industries as well as the management of the overall relationship with customer accounts. Selling costs also include the costs associated with assisting distributors in their efforts to sell our products and services in their respective local markets. Marketing costs include costs needed to promote the Company and its products as well as perform or acquire market research to help us better understand what products our customers are looking for in the future. Marketing costs also include the costs associated with measuring customers’ opinions toward the Company, our products and personnel.

Selling and marketing decreased \$11.3 million, or 9%, for the year ended December 31, 2016, compared to the same period in 2015. The CFS divestiture resulted in a decrease in selling and marketing of \$7.2 million. Selling and marketing was \$2.9 million lower for the year ended December 31, 2016, compared to the same period in 2015, due to the impact of foreign currencies weakening against the U.S. dollar. There were \$3.4 million of incremental selling and marketing expenses related to the operations of PAY.ON for the year ended December 31, 2016. Excluding the impact of CFS, foreign currency, and the addition of PAY.ON, selling and marketing decreased \$4.6 million, or 4%, for the year ended December 31, 2016 primarily due to a decrease in personnel and related expenses.

General and Administrative

General and administrative expenses are primarily human resource costs including executive salaries and benefits, personnel administration costs, and the costs of corporate support functions such as legal, administrative, human resources, and finance and accounting.

General and administrative increased \$26.2 million, or 30%, for the year ended December 31, 2016, compared to the same period in 2015. The CFS divestiture resulted in a decrease in general and administrative of \$5.0 million for the year ended December 31, 2016 compared to the same period in 2015. General and administrative expenses were approximately \$2.2 million lower due to the impact of foreign currencies weakening against the U.S. dollar. There were \$2.0 million of incremental operating expenses related to the operations of PAY.ON for the year ended December 31, 2016. Excluding the impact of CFS, foreign currency, and the addition of PAY.ON, general and administrative increased \$31.4 million, or 39%, for the year ended December 31, 2016, primarily due to a \$11.9 million increase in stock-based compensation expense, a \$8.3 million increase in professional fees, a \$5.4 million increase in significant transaction related expenditures, and a \$5.8 million increase in personnel and related expenses.

Gain on Sale of CFS Assets

On March 3, 2016, we completed the sale of our CFS related assets and liabilities to Fiserv for \$200.0 million and recognized a pre-tax gain of \$151.5 million for the year ended December 31, 2016.

Depreciation and Amortization

Depreciation and amortization increased \$6.5 million, or 8%, for the year ended December 31, 2016, compared to the same period in 2015. There was \$7.8 million of incremental depreciation and amortization related to the operations of PAY.ON for the year ended December 31, 2016 compared to the same period in 2015. The CFS divestiture resulted in a \$3.6 million decrease in depreciation and amortization for the year ended December 31, 2016 compared to the same period in 2015. Depreciation and amortization was

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approximately \$0.9 million lower due to the impact of foreign currencies weakening against the U.S. dollar. Excluding the impact of PAY.ON, CFS, and foreign currency, depreciation and amortization increased \$3.1 million, or 4%, due to an increase in capital expenditures during the past year.

Other Income and Expense

	2016				2015	
	Amount	% of Total Revenue	\$ Change vs 2015	% Change vs 2015	Amount	% of Total Revenue
Other income (expense):						
Interest expense	\$(40,184)	-4%	\$ 1,188	-3%	\$(41,372)	-4%
Interest income	530	0%	144	37%	386	0%
Other, net	4,105	0%	(22,306)	-84%	26,411	3%
Total other income (expense)	\$(35,549)	-4%	\$(20,974)	144%	\$(14,575)	-1%

Interest expense for the year ended December 31, 2016 decreased \$1.2 million, or 3%, as compared to the same period in 2015 primarily due to lower comparative debt balances.

Other, net consists of foreign currency gain (loss) and other non-operating items. Foreign currency gain for the year ended December, 2016 and 2015 were \$4.1 million and \$1.9 million, respectively. We realized a \$24.5 million gain from the sale of our holdings in Yodlee, Inc. ("Yodlee") stock during the year ended December 31, 2015, which did not reoccur in 2016.

Income Taxes

	2016				2015	
	Amount	% of Total Revenue	\$ Change vs 2015	% Change vs 2015	Amount	% of Total Revenue
Income tax expense	\$56,046	6%	\$28,109	101%	\$27,937	3%
Effective income tax rate		30%				25%

The effective tax rates for the years ended December 31, 2016 and 2015 were approximately 30% and 25%, respectively. Our effective tax rate each year varies from our federal statutory rate because we operate in multiple foreign countries where we apply their tax laws and rates which vary from those that we apply to the income we generate from our domestic operations. Of the foreign jurisdictions in which we operate, our December 31, 2016 effective tax rate was most impacted by our operations in Ireland, , South Africa, and the United Kingdom and our December 31, 2015 effective tax rate was most impacted by our operations in Ireland, Netherlands, South Africa, and the United Kingdom. Our effective rate is increased by the inclusion of certain foreign earnings in our U.S. tax return. In addition to the tax benefit from foreign operations that are taxed at lower rates than the domestic rate, the effective tax rate for the year ended December 31, 2016 was also reduced by net release of \$9.0 million in valuation allowance primarily related to U.S. foreign tax credits. The effective tax rate for the year ended December 31, 2015 was reduced by an \$8.6 million benefit related to the Company's investment in Yodlee and change in the related valuation allowance. The effective tax rate for the year ended December 31, 2015 was increased by an unrecognized tax benefit increase of \$3.0 million.

Year Ended December 31, 2015 Compared to Year Ended December 31, 2014
Revenues

	2015				2014	
	Amount	% of Total Revenue	\$ Change vs 2014	% Change vs 2014	Amount	% of Total Revenue
Revenues:						
Initial license fees (ILFs)	\$ 174,316	17%	\$ 30,893	22%	\$ 143,423	14%
Monthly license fees (MLFs)	76,889	7%	(14,845)	-16%	91,734	9%
License	251,205	24%	16,048	7%	235,157	23%
Maintenance	241,895	23%	(14,098)	-6%	255,993	25%
Services	106,820	10%	1,236	1%	105,584	10%
Hosting	446,057	43%	26,642	6%	419,415	41%
Total revenues	\$1,045,977	100%	\$ 29,828	3%	\$1,016,149	100%

Total revenue for the year ended December 31, 2015 increased \$29.8 million, or 3%, as compared to the same period in 2014. The increase is the result of a \$16.0 million, or 7%, increase in license revenue, a \$1.2 million, or 1%, increase in services revenue, and a \$26.6 million, or 6%, increase in hosting revenue partially offset by a \$14.1 million, or 6%, decrease in maintenance revenue.

The increase in total revenue for the year ended December 31, 2015 as compared to the year ended December 31, 2014 was due to a \$8.8 million, or 1%, increase in the Americas reportable segment, a \$19.7 million, or 9%, increase in the EMEA reportable segment, and a \$1.3 million, or 2%, increase in the Asia/Pacific reportable segment.

The addition of PAY.ON and ReD contributed \$27.6 million of the increase in total revenue for the year ended December 31, 2015. Total revenue was \$25.0 million lower in 2015 as compared to 2014 due to the impact of foreign currencies weakening against the U.S. dollar. Excluding the impact of the addition of PAY.ON, ReD, and foreign currency, total revenue for the year ended December 31, 2015, increased \$27.2 million, or 3%, compared to the same period in 2014, primarily due to increased license revenue.

Initial License Revenue

Initial license revenue increased by \$30.9 million, or 22%, during the year ended December 31, 2015, as compared to the same period in 2014 with the Americas, EMEA, and Asia/Pacific reportable segments increasing by \$2.9 million, \$23.2 million, and \$4.8 million, respectively.

The increase in initial license revenue was primarily driven by an increase in capacity related license revenue of \$34.7 million partially offset by a decrease in non-capacity related license revenue of \$3.8 million for the year ended December 31, 2015, compared to the same period in 2014. The increase in capacity related license revenue was attributable to the timing and relative size of capacity events as compared to the same period in 2014. The decrease in non-capacity related license revenue was largely attributable to the execution of several license renewal arrangements and the release of deferred revenue for several large complex projects during the year ended December 31, 2014, as compared to the same period in 2015.

Total initial license revenue was \$4.1 million lower in 2015 as compared to 2014 due to the impact of foreign currencies weakening against the U.S. dollar. ReD contributed an incremental \$0.3 million in initial license revenue for the year ended December 31, 2015, compared to the same period in 2014. Excluding the impact of foreign currency and ReD, total initial license revenue for the year ended December 31, 2015, increased \$34.7 million, or 24%, compared to the same period in 2014.

Monthly License Revenue

Monthly license revenue decreased \$14.8 million, or 16%, during the year ended December 31, 2015, as compared to the same period in 2014 with the Americas, EMEA, and Asia/Pacific reportable segments decreasing by \$9.8 million, \$3.7 million, and \$1.3 million, respectively. The decrease in monthly license revenue is primarily due to a decrease in the amount of initial license revenue that was being recognized ratably over an extended period during the year ended December 31, 2015, as compared to the same period in 2014. Monthly license revenue was also impacted by the recognition of cumulative monthly license fee revenue related to large, complex projects that were completed and recognized during the year ended December 31, 2014, that did not reoccur during the same period in 2015.

Total monthly license revenue was \$2.3 million lower for the year ended December 31, 2015, compared to the same period in 2014 due to the impact of foreign currencies weakening against the U.S. dollar. Excluding the impact of foreign currency, total monthly license revenue for the year ended December 31, 2015, decreased \$12.5 million, or 14%, compared to the same period in 2014.

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Maintenance Revenue

Maintenance revenue during the year ended December 31, 2015, as compared to the same period in 2014, decreased \$14.1 million, or 6%. Maintenance revenue decreased in the Americas, EMEA, and Asia/Pacific reportable segments by \$0.9 million, \$12.0 million, and \$1.1 million, respectively. The decrease in maintenance revenue is a result of deferred revenue related to large, complex projects that were released during the year ended December 31, 2014, that did not reoccur during the same period in 2015.

Total maintenance revenue was \$11.2 million lower in 2015 as compared to 2014 due to the impact of foreign currencies weakening against the U.S. dollar. ReD contributed an incremental \$1.4 million of maintenance revenue during the year ended December 31, 2015, compared to the same period in 2014. Excluding the impact of foreign currency and ReD, total maintenance revenue for the year ended December 31, 2015, decreased \$4.3 million, or 2%, compared to the same period in 2014.

Services Revenue

Services revenue during the year ended December 31, 2015 as compared to the same period in 2014 increased by \$1.2 million, or 1%. Implementation and professional services increased in the Americas reportable segment by \$6.3 million and was partially offset by decreases in the EMEA and Asia/Pacific reportable segments of \$3.1 million and \$2.0 million, respectively.

Total services revenue was \$5.5 million lower in 2015 as compared to 2014 due to the impact of foreign currencies weakening against the U.S. dollar. ReD contributed an incremental \$0.3 million of services revenue during the year ended December 31, 2015, compared to the same period in 2014. Excluding the impact of foreign currency and ReD, total services revenue for the year ended December 31, 2015, increased \$6.4 million, or 6%, compared to the same period in 2014. Services revenue was impacted by the recognition of revenue related to large, complex projects that were completed and recognized during the year ended December 31, 2015, that did not occur in the same period in 2014. This was partially offset by the Company's customers continuing to transition from on premise to hosted software solutions. Services work performed in relation to the Company's hosted software solutions is recognized over a longer service period and is classified as hosting revenue.

Hosting Revenue

Hosting revenue during the year ended December 31, 2015 as compared to the same period in 2014 increased \$26.6 million, or 6%. The increase was primarily due to incremental ReD revenue of \$22.7 million and an additional \$2.9 million in revenue from the acquisition of PAY.ON during the year ended December 31, 2015. Total hosting revenue was \$1.8 million lower in the year ended December 31, 2015, compared to the same period in 2014 due to the impact of foreign currencies weakening against the U.S. dollar. Excluding the impact of ReD, PAY.ON, and foreign currency, total hosting revenue for the year ended December 31, 2015, increased \$2.8 million compared to the same period in 2014.

Operating Expenses

	2015				2014	
	Amount	% of Total Revenue	\$ Change vs 2014	% Change vs 2014	Amount	% of Total Revenue
Operating expenses:						
Cost of license	\$ 23,245	2%	\$ (1,320)	-5%	\$ 24,565	2%
Cost of maintenance, services and hosting	449,054	43%	18,863	4%	430,191	42%
Research and development	145,924	14%	1,717	1%	144,207	14%
Selling and marketing	129,407	12%	17,360	15%	112,047	11%
General and administrative	87,419	8%	(7,646)	-8%	95,065	9%
Depreciation and amortization	82,980	8%	11,078	15%	71,902	7%
Total operating expenses	<u>\$918,029</u>	<u>88%</u>	<u>\$40,052</u>	<u>5%</u>	<u>\$877,977</u>	<u>86%</u>

Total operating expenses for the year ended December 31, 2015 increased \$40.1 million, or 5%, as compared to the same period of 2014, primarily due to \$34.2 million of incremental operating costs related to ReD and PAY.ON. Total operating expenses were \$27.1 million lower for the year ended December 31, 2015, compared to the same period in 2014, due to the impact of foreign currencies weakening against the U.S. dollar. Excluding these impacts, total operating expenses increased \$33.0 million for the year ended December 31, 2015, primarily due to increases in cost of maintenance, services and hosting, selling and marketing, and depreciation and amortization, partially offset by decreased cost of license and general and administrative.

Cost of License

Cost of software licenses decreased \$1.3 million, or 5%, during the year ended December 31, 2015, compared to the same period in 2014, primarily due to a decrease in third-party royalty fees.

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Cost of Maintenance, Services and Hosting

Cost of maintenance, services and hosting increased \$18.9 million, or 4%, during the year ended December 31, 2015 compared to the same period in 2014, primarily due to \$16.3 million of incremental operating expenses related to the added operations of ReD and PAY.ON. Cost of maintenance, services and hosting was \$9.1 million lower due to the impact of foreign currencies weakening against the U.S. dollar. Excluding the impact of ReD, PAY.ON, and foreign currency, the cost of maintenance, services and hosting increased \$11.8 million, or 3%, in the year ended December 31, 2015, compared to the same period in 2014 primarily due to \$11.6 million of higher interchange processing fees.

Research and Development

R&D increased \$1.7 million, or 1%, during the year ended December 31, 2015, compared to the same period in 2014. Included in R&D was \$7.2 million of incremental expenses related to the added operations of ReD and PAY.ON. In addition, there were approximately \$2.3 million and \$1.6 million of significant transaction related expenses incurred for the year ended December 31, 2015 and December 31, 2014, respectively. R&D was \$5.3 million lower due to the impact of foreign currencies weakening against the U.S. dollar. Excluding the impact of ReD, PAY.ON, changes in significant transaction related expenses, and foreign currency, R&D decreased \$0.8 million, or 1%, due to a decrease in personnel and related expenses, net of a \$0.8 million increase in share-based compensation expense.

Selling and Marketing

Selling and marketing increased \$17.4 million, or 15%, during the year ended December 31, 2015, compared to the same period in 2014. Selling and marketing was \$6.1 million lower due to the impact of foreign currencies weakening against the U.S. dollar. There were \$1.2 million of incremental selling and marketing related to the added operations of ReD and PAY.ON. Excluding the impact of foreign currency, ReD, and PAY.ON, the cost of sales and marketing increased \$22.2 million, or 21%, for the year ended December 31, 2015, compared to the same period in 2014, primarily due to a \$6.6 million increase in sales commission expenses from increased sales, a \$4.0 million increase in advertising and promotional expenses, and a \$5.6 million increase in personnel and related expenses, of which \$1.4 million was an increase in share-based compensation expense.

General and Administrative

General and administrative decreased \$7.6 million, or 8%, during the year ended December 31, 2015. General and administrative was \$5.0 million lower due to the impact of foreign currencies weakening against the U.S. dollar. There were \$0.8 million of incremental expenses related to the added operations of ReD and PAY.ON. In addition, there were approximately \$12.7 million and \$21.3 million of significant transaction related expenses incurred for the year ended December 31, 2015 and December 31, 2014, respectively. Excluding the impact of foreign currency, ReD and PAY.ON, and changes in significant transaction related expenses, total general and administrative increased \$5.2 million, or 5%, as a result of a \$4.1 million increase in share-based compensation expense and a \$1.4 million increase in bad debt expense.

Depreciation and Amortization

Depreciation and amortization increased \$11.1 million, or 15%, during the year ended December 31, 2015, compared to the same period in 2014. There was approximately \$6.9 million of incremental expense related to the added operations of ReD and PAY.ON for the year ended December 31, 2015, compared to the same period in 2014. Excluding the impact of ReD and PAY.ON, depreciation and amortization increased \$4.2 million, or 6%, due to an increase in capital expenditures during the year.

Other Income and Expense

	2015				2014	
	<u>Amount</u>	<u>% of Total Revenue</u>	<u>\$ Change vs 2014</u>	<u>% Change vs 2014</u>	<u>Amount</u>	<u>% of Total Revenue</u>
Other income (expense):						
Interest expense	\$(41,372)	-4%	\$ (1,634)	4%	\$(39,738)	-4%
Interest income	386	0%	(189)	-33%	575	0%
Other, net	26,411	3%	26,651	N/A	(240)	0%
Total other income (expense)	<u>\$(14,575)</u>	<u>-1%</u>	<u>\$24,828</u>	<u>-63%</u>	<u>\$(39,403)</u>	<u>-4%</u>

Interest expense for the year ended December 31, 2015 increased \$1.6 million, or 4%, as compared to the same period in 2014 due to the additional drawing on the Revolving Credit Facility to fund the ReD and PAY.ON acquisitions. Interest income for the year ended December 31, 2015 decreased \$0.2 million as compared to the same period in 2014.

Other, net included a \$24.5 million gain from the sale of Yodlee common stock during the year ended December 31, 2015. Foreign currency gains for the year ended December 31, 2015 were \$1.9 million compared to losses of \$0.1 million for the same period in 2014.

Income Taxes

	2015				2014	
	<u>Amount</u>	<u>% of Total Revenue</u>	<u>\$ Change vs 2014</u>	<u>% Change vs 2014</u>	<u>Amount</u>	<u>% of Total Revenue</u>
Income tax expense	\$27,937	3%	\$(3,272)	-10%	\$31,209	3%
Effective Income tax rate		25%				32%

The effective tax rates for the years ended December 31, 2015 and 2014 were approximately 25% and 32%, respectively. Our effective tax rate each year varies from our federal statutory rate because we operate in multiple foreign countries where we apply their tax laws and rates which vary from those that we apply to the income we generate from our domestic operations. Of the foreign jurisdictions in which we operate, our December 31, 2015 effective tax rate was most impacted by our operations in Ireland, Netherlands, South Africa, and the United Kingdom and our December 31, 2014 effective tax rate was most impacted by our operations in Ireland, South Africa, and the United Kingdom. Our effective rate is increased by the inclusion of certain foreign earnings in our US tax return. In addition to the tax benefit from foreign operations that are taxed at lower rates than the domestic rate, the effective tax rate for the year ended December 31, 2015 was also reduced by a \$8.6 million benefit related to the Company's investment in Yodlee and change in the related valuation allowance. The effective tax rate for the year ended December 31, 2015 was increased by an unrecognized tax benefit increase of \$3.0 million. The effective tax rate for the year ended December 31, 2014 was reduced by a \$3.4 million benefit related to Research and Development tax incentives and increased by the recording of \$3.5 million additional valuation allowance primarily related to foreign tax credits.

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The following table presents revenues and income before income taxes for the periods indicated by geographic region (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Revenues:			
Americas	\$ 644,149	\$ 710,561	\$ 701,767
EMEA	261,160	250,568	230,879
Asia/Pacific	100,392	84,848	83,503
	<u>\$ 1,005,701</u>	<u>\$ 1,045,977</u>	<u>\$ 1,016,149</u>
Income before income taxes:			
Americas	\$ 206,689	\$ 111,382	\$ 143,379
EMEA	176,958	132,518	116,120
Asia/Pacific	62,422	41,658	38,853
Corporate	(260,488)	(172,185)	(199,583)
	<u>\$ 185,581</u>	<u>\$ 113,373</u>	<u>\$ 98,769</u>

Reportable segment results are impacted by both direct expenses and allocated shared function costs such as global product development, global customer operations and global product management. Shared function costs are allocated to the geographic reportable segments as a percentage of revenue or as a percentage of headcount. All administrative costs that are not directly attributable or reasonably allocable to a geographic segment as well as amortization on acquired intangibles are reported in the Corporate line item.

Excluding the \$79.2 million impact of the CFS divestiture, 2016 revenue increased \$38.9 million. The increase was primarily driven by increased license and hosting revenues and the addition of PAY.ON partially offset by decreases in maintenance and services revenue. The CFS divestiture resulted in a pre-tax gain of approximately \$151.5 million in the Americas segment. The increase in the Corporate loss before income taxes is due to the \$24.5 million gain on the sale of Yodlee stock recognized in 2015 that did not repeat in 2016 as well as increased stock compensation expense and other professional fees.

The increase in 2015 revenues for the Americas geographic segment is primarily due to the incremental revenue from ReD as well as increases in hosting and services revenue. The Americas income before taxes decreased primarily as a result of a \$11.8 million increase in interchange fees in 2015 compared to 2014 as well as an increase in personnel related expenses in the Americas. The EMEA segment revenue increased as a result of an increase in license and hosting revenue partially offset by a decrease in maintenance and services revenue, which drove the increase in income before taxes. The Asia/Pacific segment's income before taxes increased primarily as a result of foreign currency fluctuations. The Corporate line item's decrease in loss before income taxes is due to the gain on sale of Yodlee common stock for \$24.5 million, which is partially offset by an increase of \$1.8 million in interest expense in 2015 compared to 2014.

LIQUIDITY AND CAPITAL RESOURCES

General

Our primary liquidity needs are: (i) to fund normal operating expenses; (ii) to meet the interest and principal requirements of our outstanding indebtedness; (iii) to fund cash portions of acquisitions, (iv) to fund capital expenditures and lease payments, and (v) to fund stock repurchases. We believe these needs will be satisfied using cash flow generated by our operations, our cash and cash equivalents, and available borrowings under our Credit Agreement.

As of December 31, 2016, we had \$75.8 million in cash and cash equivalents. Cash and cash equivalents consist of highly liquid investments with original maturities of three months or less.

As of December 31, 2016, \$60.2 million of the \$75.8 million of cash and cash equivalents was held by our foreign subsidiaries. If these funds were needed for our operations in the United States, we would be required to accrue and pay U.S. taxes to repatriate these funds. However, our intent is to permanently reinvest these funds outside the United States and our current plans do not demonstrate a need to repatriate them to fund our U.S. operations.

Cash Flows

The following table sets forth summary cash flow data for the periods indicated (amounts in thousands).

	Years Ended December 31,		
	2016	2015	2014
Net cash provided by (used in):			
Operating activities	\$ 99,830	\$ 187,994	\$ 160,833
Investing activities	129,633	(199,961)	(240,690)
Financing activities	(251,076)	44,640	66,275

2016 compared to 2015

Net cash flows provided by operating activities for the year ended December 31, 2016 was \$99.8 million compared to \$188.0 million during the same period in 2015. The comparative period decrease was primarily due to the timing of customer billings and receipts for the year ended December 31, 2016, compared to the same period in 2015. Our current policy is to use our operating cash flow primarily to meet interest and principal payments on outstanding debt, as well as for funding capital expenditures, lease payments, acquisitions, and stock repurchases.

During 2016, we received net proceeds of \$199.5 million from the sale of the CFS related assets. In addition, we used \$63.1 million to purchase software, property and equipment as compared to \$48.9 million during the same period in 2015. The increase is primarily driven by proceeds used to build out the Company's new data center in Ireland. We received proceeds of \$35.3 million on our sale of our holdings in Yodlee common stock during the year ended December 31, 2015. In addition, during the year ended December 31, 2015, we used \$179.4 million of cash, net of \$1.6 million in cash acquired, to acquire PAY.ON.

During 2016, we used the proceeds from the CFS divestiture to partially fund the repayment of \$166.0 million on the revolver portion of the Credit Facility and \$95.3 million of the term portion of the Credit Facility. We used \$60.1 million to repurchase shares of common stock during the year ended December 31, 2016. In addition, during the year ended December 31, 2016, we received proceeds of \$12.3 million from the exercises of stock options and the issuance of common stock under our 1999 Employee Stock Purchase Plan, as amended, and used \$3.0 million for the repurchase of restricted stock and performance shares for tax withholdings. We received proceeds of \$298.0 million and repaid \$164.0 million on the Revolving Credit Facility during the year ended December 31, 2015. We repaid \$87.4 million on the Term Credit Facility during the year ended December 31, 2015.

We may decide to use cash to acquire new products and services or enhance existing products and services through acquisitions of other companies, product lines, technologies and personnel, or through investments in other companies.

We believe that our existing sources of liquidity, including cash on hand and cash provided by operating activities, will satisfy our projected liquidity requirements, which primarily consists of working capital requirements, for the next twelve months and foreseeable future.

2015 compared to 2014

Net cash flows provided by operating activities for the year ended December 31, 2015 was \$188.0 million compared to \$160.8 million during the same period in 2014. The comparative period increase was primarily due to higher non-cash expenses for share based compensation, depreciation and amortization, and stronger collections from customers in 2015 compared to the same period in 2014. Our current policy is to use our operating cash flow primarily to meet interest and principal payments on outstanding debt, as well as for funding capital expenditures, lease payments, acquisitions and stock repurchases.

During 2015, we used \$179.4 million of cash, net of \$1.6 million in cash acquired, to acquire PAY.ON. We received proceeds of \$35.3 million from the sale of available-for-sale securities and we used \$55.9 million to purchase software, property and equipment, and other investments during the year ended December 31, 2015. During 2014, we paid \$204.3 million, net of \$0.8 million in cash acquired, to acquire ReD. In addition, we used \$36.4 million to purchase software, property and equipment, and other investments during the year ended December 31, 2014.

We received proceeds of \$298.0 million and repaid \$164.0 million on the Revolving Credit Facility during the year ended December 31, 2015. We repaid \$87.4 million on the Term Credit Facility during the year ended December 31, 2015. In addition, during the year ended December 31, 2015, we received proceeds of \$15.3 million from the exercises of stock options and the issuance of common stock under our 1999 Employee Stock Purchase Plan, as amended, and used \$4.6 million for the repurchase of restricted stock and performance shares for tax withholdings. In 2014, we used \$70.0 million to repurchase common stock. We received proceeds of \$150.0 million and repaid \$57.4 million on the Term Credit Facility during the year ended December 31, 2014. We received proceeds of \$169.5 million and repaid \$125.5 million on the Revolving Credit Facility during the year ended December 31, 2014.

Debt

Credit Agreement

As of December 31, 2016, we had \$88.0 million and \$365.3 million outstanding under our Revolving and Term Credit Facility portions of our Credit Agreement, respectively, with up to \$154.5 million of unused borrowings under the Revolving Credit Facility. The amount of unused borrowings actually available varies in accordance with the terms of the agreement. The Credit Agreement contains certain affirmative and negative covenants, including limitations on the incurrence of indebtedness, asset dispositions, mergers, advances, acquisitions, investments, dividends and other restricted payments, liens, transactions with affiliates, and change in nature of the business. The Credit Agreement also contains financial covenants relating to maximum permitted leverage ratio and the minimum fixed charge coverage ratio. The Credit Agreement does not contain any subjective acceleration features and does not have any required payment or principal reduction schedule and is included as a long-term liability in our consolidated balance sheet. On June 30, 2016, the Company requested and obtained a waiver to the application of the Consolidated Fixed Charge Coverage Ratio covenant in the Credit Agreement for the fiscal quarters ending June 30, 2016, September 30, 2016, and December 31, 2016. On November 2, 2016, the Company obtained an amendment to the Consolidated Net Leverage Ratio covenant in the Credit Agreement from 3.75 to 4.00 for the fiscal quarter ended September 30, 2016. As of December 31, 2016, and at all time during the period, the Company was in compliance with all other financial debt covenants. The interest rate in effect at December 31, 2016 for our Credit Agreement was 3.27%.

Subsequent Event

On February 24, 2017, we entered into an amended and restated credit agreement (the "Amended Credit Agreement") with a syndicate of financial institutions, as lenders, and Bank of America, N.A. ("BoFA"), as Administrative Agent, providing for revolving loans, swingline loans, letters of credit, and a term loan. The Amended Credit Agreement's terms and conditions are substantially the same as the Credit Agreement with the following exceptions: (i) the aggregate term loan commitment shall be \$415.0 million, (ii) the aggregate revolving credit commitment shall be \$500.0 million, and (iii) the maturity date is extended to February 24, 2022.

Letter of Credit

On February 29, 2016, the Company entered into a standby letter of credit (the "Letter of Credit"), under the terms of the Credit Agreement, for \$25.0 million. On October 26, 2016, the Letter of Credit was renewed at \$7.5 million, which expires on June 30, 2017. At any time the Company may request to close the Letter of Credit. The Letter of Credit reduces the maximum available borrowings under our Revolving Credit Facility to \$242.5 million. Upon expiration of the Letter of Credit, maximum borrowings will return to \$250.0 million.

Senior Notes

On August 20, 2013, we completed a \$300.0 million offering of 6.375% Senior Notes due in 2020 (the "Senior Notes") at an issue price of 100% of the principal amount in a private placement for resale to qualified institutional buyers. The Senior Notes bear an interest rate of 6.375% per annum, payable semi-annually in arrears on August 15 and February 15 of each year. The Senior Notes will mature on August 15, 2020.

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Stock Repurchase Program

As of September 12, 2012, our Board of Directors had approved a stock repurchase program authorizing us, from time to time as market and business conditions warrant, to acquire up to \$262.1 million of our common stock. On September 13, 2012, our Board of Directors approved the repurchase of up to 7,500,000 shares of our common stock, or up to \$113.0 million, in place of the remaining repurchase amounts previously authorized. In July 2013 and again on February 24, 2014, our Board of Directors approved an additional \$100.0 million for the stock repurchase program, for a total of an additional \$200.0 million.

The Company repurchased 3,020,926 shares for \$60.1 million under the program during the year ended December 31, 2016. Under the program to date, the Company has repurchased 40,129,393 shares for approximately \$455.9 million. The maximum remaining authorized for purchase under the stock repurchase program was approximately \$78.2 million as of December 31, 2016.

There is no guarantee as to the exact number of shares that will be repurchased by us. Repurchased shares are returned to the status of authorized but unissued shares of common stock. In March 2005, our Board of Directors approved a plan under Rule 10b5-1 of the Securities Exchange Act of 1934 to facilitate the repurchase of shares of common stock under the existing stock repurchase program. Under our Rule 10b5-1 plan, we have delegated authority over the timing and amount of repurchases to an independent broker who does not have access to inside information about the Company. Rule 10b5-1 allows us, through the independent broker, to purchase shares at times when we ordinarily would not be in the market because of self-imposed trading blackout periods, such as the time immediately preceding the end of the fiscal quarter through a period three business days following our quarterly earnings release.

Contractual Obligations and Commercial Commitments

We lease office space and equipment under operating leases that run through October 2028. Additionally, we have entered into a Credit Agreement that matures in 2018 and have issued Senior Notes that mature in 2020.

Contractual obligations as of December 31, 2016 are as follows (in thousands):

	Total	Payments due by Period			More than 5 years
		Less than 1 year	1-3 years	3-5 years	
Contractual Obligations					
Operating lease obligations	\$ 91,158	\$ 16,206	\$ 30,300	\$19,080	\$ 25,572
Term credit facility	365,290	95,293	269,997	—	—
Revolving credit facility	88,000	—	88,000	—	—
Senior notes	300,000	—	300,000	—	—
Term credit facility interest (1)	16,207	10,776	5,431	—	—
Revolving credit facility interest (1)	4,796	2,878	1,918	—	—
Senior Notes Interest (2)	66,938	19,125	47,813	—	—
Financed internally used software (3)	9,049	7,308	1,741	—	—
Total	<u>\$941,438</u>	<u>\$ 151,586</u>	<u>\$745,200</u>	<u>\$19,080</u>	<u>\$ 25,572</u>

(1) Based upon the Credit Facility debt outstanding and interest rate in effect at December 31, 2016 of 3.27%.

(2) Based upon Senior Notes issued of \$300.0 million at per annum rate of 6.375%.

(3) During the year ended December 31, 2015, we financed multiple three-year license agreements for certain internally-used software for a total value of \$20.4 million with payments due through November 2018. Of this amount, \$9.0 million remains outstanding at December 31, 2016 with \$7.3 million included in other current liabilities and \$1.7 million included in other non-current liabilities in our consolidated balance sheet.

We are unable to reasonably estimate the ultimate amount or timing of settlement of our reserves for income taxes under Accounting Standards Codification (“ASC”) 740, *Income Taxes*. The liability for unrecognized tax benefits at December 31, 2016 is \$24.3 million.

Off-Balance Sheet Arrangements

Settlement Accounts

We enter into agreements with certain clients to process payment funds on their behalf. When an automated clearing house or automated teller machine network payment transaction is processed, a transaction is initiated to withdraw funds from the designated source account and deposit them into a settlement account, which is a trust account maintained for the benefit of our clients. A simultaneous transaction is initiated to transfer funds from the settlement account to the intended destination account. These “back to back” transactions are designed to settle at the same time, usually overnight, such that we receive the funds from the source at the same time as it sends the funds to their destination. However, due to the transactions being with various financial institutions there may be timing differences that result in float balances. These funds are maintained in accounts for the benefit of our clients which are

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separate from our corporate assets. As we do not take ownership of the funds, the settlement accounts are not included in our balance sheet. We are entitled to interest earned on the fund balances. The collection of interest on these settlement accounts is considered in our determination of our fee structure for clients and represents a portion of the payment for services performed by us. The amount of settlement funds as of December 31, 2016 and 2015 were \$270.0 million and \$260.2 million, respectively.

We do not have any other obligations that meet the definition of an off-balance sheet arrangement and that have or are reasonably likely to have a material effect on our consolidated financial statements.

Critical Accounting Policies and Estimates

The preparation of the consolidated financial statements requires that we make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We base our estimates on historical experience and other assumptions that we believe to be proper and reasonable under the circumstances. We continually evaluate the appropriateness of estimates and assumptions used in the preparation of our consolidated financial statements. Actual results could differ from those estimates.

The following key accounting policies are impacted significantly by judgments, assumptions and estimates used in the preparation of the consolidated financial statements. See Note 1, *Nature of Business and Summary of Significant Accounting Policies*, in the Notes to Consolidated Financial Statements for a further discussion of revenue recognition and other significant accounting policies.

Revenue Recognition

For software license arrangements for which services rendered are primarily related to installation of core software and are not considered essential to the functionality of the software, we recognize revenue upon delivery, provided (1) there is persuasive evidence of an arrangement, (2) collection of the fee is considered probable, and (3) the fee is fixed or determinable. In most arrangements, because vendor-specific objective evidence of fair value does not exist for the license element, we use the residual method to determine the amount of revenue to be allocated to the license element. Under the residual method, the fair value of all undelivered elements, such as post contract customer support or other products or services, is deferred and subsequently recognized as the products are delivered or the services are performed, with the residual difference between the total arrangement fee and revenues allocated to undelivered elements being allocated to the delivered element. For software license arrangements in which we have concluded that collectability issues may exist, revenue is recognized as cash is collected, provided all other conditions for revenue recognition have been met. In making the determination of collectability, we consider the creditworthiness of the customer, economic conditions in the customer's industry and geographic location, and general economic conditions.

Our sales focus continues to shift to more complex arrangements involving multiple products. As a result of this shift to more complex, multiple product arrangements, absent other factors, we initially experience an increase in deferred revenue and a corresponding decrease in current period revenue due to differences in the timing of revenue recognition for the respective products. Revenues from more complex arrangements involving our newer products are typically recognized upon acceptance or first production use by the customer or are recognized over an extended implementation period. For those arrangements where revenues are being deferred and we determine that related direct and incremental costs are recoverable, such costs are deferred and subsequently expensed as the revenues are recognized.

When a software license arrangement includes services to provide significant modification or customization of software, those services are considered essential to the functionality of the software and are not considered to be separable from the software. Accounting for such services delivered over time is referred to as contract accounting. Under contract accounting, we generally use the percentage-of-completion method. Under the percentage-of-completion method, we record revenue for the software license and services over the development and implementation period, with the percentage of completion generally measured by the percentage of labor hours incurred to-date to estimated total labor hours for each contract. Estimated total labor hours for each contract are based on the project scope, complexity, skill level requirements, and similarities with other projects of similar size and scope. For those contracts subject to contract accounting, estimates of total revenue and profitability under the contract consider amounts due under extended payment terms. We recognize revenue under these arrangements based on the lesser of payments that become due or the revenue calculated under the percentage-of-completion method based on progress toward completion in a given reporting period. For arrangements where we believe it is assured that no loss will be incurred under the arrangement and fair value for maintenance services does not exist, all revenue is deferred until services are completed.

Certain of our arrangements are through unrelated distributors or sales agents. In these situations, we evaluate additional factors such as the financial capabilities, the distribution capabilities, and risks of rebates, returns, or credits in determining whether revenue should be recognized upon sale to the distributor or sales agent ("sell-in") or upon distribution to an end-customer ("sell-through"). Judgment is required in evaluating the facts and circumstances of our relationship with the distributor or sales agent as well as our operating history and practices that can impact the timing of revenue recognition related to these arrangements.

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We may execute more than one contract or agreement with a single customer. The separate contracts or agreements may be viewed as one multiple-element arrangement or separate arrangements for revenue recognition purposes. We evaluate whether the agreements were negotiated as part of a single project, whether the products or services are interrelated or interdependent, whether fees in one arrangement are tied to performance in another arrangement, and whether elements in one arrangement are essential to the functionality in another arrangement in order to reach appropriate conclusions regarding whether such arrangements are related or separate. Those conclusions can impact the timing of revenue recognition related to those arrangements.

Allowance for Doubtful Accounts

We maintain a general allowance for doubtful accounts based on our historical experience, along with additional customer-specific allowances. We regularly monitor credit risk exposures in our accounts receivable. In estimating the necessary level of our allowance for doubtful accounts, management considers the aging of our accounts receivable, the creditworthiness of our customers, economic conditions within the customer's industry, and general economic conditions, among other factors. Should any of these factors change, the estimates made by management would also change, which in turn would impact the level of our future provision for doubtful accounts. Specifically, if the financial condition of our customers were to deteriorate, affecting their ability to make payments, additional customer-specific provisions for doubtful accounts may be required. Also, should deterioration occur in general economic conditions, or within a particular industry or region in which we have a number of customers, additional provisions for doubtful accounts may be recorded to reserve for potential future losses. Any such additional provisions would reduce operating income in the periods in which they were recorded.

Intangible Assets and Goodwill

Our business acquisitions typically result in the recording of intangible assets, and the recorded values of those assets may become impaired in the future. As of December 31, 2016 and December 31, 2015 our intangible assets, excluding goodwill, net of accumulated amortization, were \$203.6 million and \$256.9 million, respectively. The determination of the value of such intangible assets requires management to make estimates and assumptions that affect the consolidated financial statements. We assess potential impairments to intangible assets when there is evidence that events or changes in circumstances indicate that the carrying amount of an asset may not be recovered. Judgments regarding the existence of impairment indicators and future cash flows related to intangible assets are based on operational performance of our businesses, market conditions, and other factors. Although there are inherent uncertainties in this assessment process, the estimates and assumptions used, including estimates of future cash flows, volumes, market penetration and discount rates, are consistent with our internal planning. If these estimates or their related assumptions change in the future, we may be required to record an impairment charge on all or a portion of our intangible assets. Furthermore, we cannot predict the occurrence of future impairment-triggering events nor the impact such events might have on our reported asset values. Future events could cause us to conclude that impairment indicators exist and that intangible assets associated with acquired businesses are impaired. Any resulting impairment loss could have an impact on our results of operations.

Other intangible assets are amortized using the straight-line method over periods ranging from three years to 20 years.

As of December 31, 2016 and 2015, our goodwill was \$909.7 million and \$913.3 million, respectively. In accordance with ASC 350, *Intangibles – Goodwill and Other*, we assess goodwill for impairment annually during the fourth quarter of our fiscal year using October 1 balances or when there is evidence that events or changes in circumstances indicate that the carrying amount of the asset may not be recovered. We evaluate goodwill at the reporting unit level and have identified our reportable segments, Americas, EMEA, and Asia/Pacific, as our reporting units. Recoverability of goodwill is measured using a discounted cash flow model incorporating discount rates commensurate with the risks involved. Use of a discounted cash flow model is common practice in impairment testing in the absence of available transactional market evidence to determine the fair value.

The key assumptions used in the discounted cash flow valuation model include discount rates, growth rates, cash flow projections and terminal value rates. Discount rates, growth rates and cash flow projections are the most sensitive and susceptible to change as they require significant management judgment. Discount rates are determined by using a weighted average cost of capital ("WACC"). The WACC considers market and industry data as well as Company-specific risk factors. Operational management, considering industry and Company-specific historical and projected data, develops growth rates and cash flow projections for each reporting unit. Terminal value rate determination follows common methodology of capturing the present value of perpetual cash flow estimates beyond the last projected period assuming a constant WACC and low long-term growth rates. If the calculated fair value is less than the current carrying value, impairment of the reporting unit may exist. If the recoverability test indicates potential impairment, we calculate an implied fair value of goodwill for the reporting unit. The implied fair value of goodwill is determined in a manner similar to how goodwill is calculated in a business combination. If the implied fair value of goodwill exceeds the carrying value of goodwill assigned to the reporting unit, there is no impairment. If the carrying value of goodwill assigned to a reporting unit exceeds the implied fair value of the goodwill, an impairment charge is recorded to write down the carrying value. The calculated fair value substantially exceeded the current carrying value for all reporting units. No reporting units were deemed to be at risk of failing Step 1 of the goodwill impairment test under ASC 350.

Business Combinations

We apply the provisions of ASC 805, *Business Combinations*, in the accounting for our acquisitions. It requires us to recognize separately from goodwill the assets acquired and the liabilities assumed at their acquisition date fair values. Goodwill as of the acquisition date is measured as the excess of consideration transferred and the net of the acquisition date fair values of the assets

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acquired and the liabilities assumed. While we use our best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date, our estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to our consolidated statements of income.

Critical estimates in valuing certain intangible assets include but are not limited to future expected cash flows from customer relationships, covenants not to compete and acquired developed technologies; brand awareness and market position, as well as assumptions about the period of time the brand will continue to be used in our product portfolio; and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates.

Other estimates associated with the accounting for acquisitions may change as additional information becomes available regarding the assets acquired and liabilities assumed, as more fully discussed in Note 2, *Acquisitions*, to the consolidated financial statements.

Stock-Based Compensation

Under the provisions of ASC 718, *Compensation – Stock Compensation*, stock-based compensation cost for stock option awards is estimated at the grant date based on the award's fair value as calculated by the Black-Scholes option-pricing model and is recognized as expense ratably over the requisite service period. We recognize stock-based compensation costs for only those awards that are probable of vesting. The Black-Scholes option-pricing model requires various highly judgmental assumptions including volatility and expected option life. If any of the assumptions used in the Black-Scholes model change significantly, stock-based compensation expense may differ materially for future awards from that recorded for existing awards.

On March 23, 2016, the Company's Board of Directors (the "Board") approved the 2016 Equity and Performance Incentive Plan (the "2016 Incentive Plan"). The 2016 Incentive Plan is intended to meet the Company's objective of balancing stockholder concerns about dilution with the need to provide appropriate incentives to achieve Company performance objectives. The 2016 Incentive Plan was adopted by the stockholders on June 14, 2016. Following the adoption of the 2016 Incentive Plan, the 2005 Equity and Performance Incentive Plan, as amended (the "2005 Incentive Plan") was terminated. Termination of the 2005 Incentive Plan did not affect any equity awards outstanding under the 2005 Incentive Plan.

Supplemental options granted pursuant to the 2005 Incentive Plan are granted at an exercise price not less than the market value per share of the Company's common stock on the date of the grant. These options vest, if at all, based upon (i) tranche one—any time after the third anniversary date if the stock has traded at 133% of the exercise price for at least 20 consecutive trading days, (ii) tranche two—any time after the fourth anniversary date if the stock has traded at 167% of the exercise price for at least 20 consecutive trading days, and (iii) tranche three—any time after the fifth anniversary date if the stock has traded at 200% of the exercise price for at least 20 consecutive trading days. The employees must also remain employed with us as of the anniversary date in order for the options to vest. The exercise price of the supplemental stock options is the closing market price on the date the awards were granted. In order to determine the grant date fair value of the supplemental stock options, a Monte Carlo simulation model was used.

Long term incentive program performance share awards ("LTIP Performance Shares") were granted during the years ended December 31, 2016 and 2015, pursuant to our 2005 Incentive Plan. These awards are earned, if at all, based on the achievement over a specified period of performance goals related to certain performance metrics. In order to determine compensation expense to be recorded for these LTIP Performance Shares, each quarter management evaluates the probability that the target performance goals will be achieved, if at all, and the anticipated level of attainment.

During the years ended December 31, 2016, 2015, and 2014, pursuant to our 2016 Incentive Plan and 2005 Incentive Plan, we granted restricted share awards ("RSAs"). These awards have requisite service periods of three years and vest in increments of 33% on the anniversary dates of grants. Under each arrangement, stock is issued without direct cost to the employee. We estimate the fair value of the RSAs based upon the market price of our stock at the date of grant. The RSA grants provide for the payment of dividends on our common stock, if any, to the participant during the requisite service period (vesting period) and the participant has voting rights for each share of common stock.

During the year ended December 31, 2015, pursuant to our 2005 Incentive Plan, we granted Performance-Based Restricted Share Awards ("PBRsAs"). The PBRSA grants provide for the payment of dividends on our common stock, if any, to the participant during the requisite service period (vesting period) and the participant has voting rights for each share of common stock. These PBRSA awards are earned, if at all, based upon the achievement of performance goals over a specific period (the "Performance Period") and completion of the service period. In no event will any of the PBRSA shares become earned if our earnings before income tax, depreciation, and amortization ("EBITDA") is below a predetermined minimum threshold level at the conclusion of the Performance Period. Assuming achievement of the predetermined EBITDA threshold level, up to 150% of the PBRSA shares may be earned upon achievement of performance goals equal to or exceeding the maximum target levels for the performance goals over the Performance

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Period. Management will evaluate, on a quarterly basis, the probability that the threshold performance goals will be achieved, if at all, and the anticipated level of attainment in order to determine the amount of compensation costs to record in the consolidated financial statements. We recognize compensation expense for PBRsAs on a straight-line basis over the requisite service periods.

During the year ended December 31, 2016, pursuant to our 2005 Incentive Plan, we granted Retention Restricted Share Awards (“Retention RSAs”). The Retention RSA awards granted to named executive officers have a requisite service period (vesting period) of 1.3 years and vest 50% on July 1, 2016 and 50% on July 1, 2017. Retention RSA awards granted to employees other than named executive officers have a vesting period of 0.8 years and vest 50% on July 1, 2016 and 50% on January 1, 2017. Under each agreement, stock is issued without direct cost to the employee. We estimate the fair value of the Retention RSAs based upon the market price of the Company’s stock at the date of grant. The Retention RSA grants provide for the payment of dividends on our common stock, if any, to the participant during the requisite service period and the participant has voting rights for each share of common stock. We recognize compensation expense for Retention RSAs on a straight-line basis over the requisite service period.

The assumptions utilized in the Black-Scholes and Monte Carlo simulation option-pricing models as well as the description of the plans the stock-based awards are granted under are described in further detail in Note 12, *Stock-Based Compensation Plans*, in the Notes to Consolidated Financial Statements.

Accounting for Income Taxes

Accounting for income taxes requires significant judgments in the development of estimates used in income tax calculations. Such judgments include, but are not limited to, the likelihood we would realize the benefits of net operating loss carryforwards and/or foreign tax credit carryforwards, the adequacy of valuation allowances, and the rates used to measure transactions with foreign subsidiaries. As part of the process of preparing our consolidated financial statements, we are required to estimate our income taxes in each of the jurisdictions in which we operate. The judgments and estimates used are subject to challenge by domestic and foreign taxing authorities.

We account for income taxes in accordance with ASC 740, *Income Taxes*. As part of our process of determining current tax liability, we exercise judgment in evaluating positions we have taken in our tax returns. We periodically assess our tax exposures and establish, or adjust, estimated unrecognized benefits for probable assessments by taxing authorities, including the IRS, and various foreign and state authorities. Such unrecognized tax benefits represent the estimated provision for income taxes expected to ultimately be paid. It is possible that either domestic or foreign taxing authorities could challenge those judgments or positions and draw conclusions that would cause us to incur tax liabilities in excess of, or realize benefits less than, those currently recorded. In addition, changes in the geographical mix or estimated amount of annual pretax income could impact our overall effective tax rate.

To the extent recovery of deferred tax assets is not more likely than not, we record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. Although we have considered future taxable income along with prudent and feasible tax planning strategies in assessing the need for a valuation allowance, if we should determine that we would not be able to realize all or part of our deferred tax assets in the future, an adjustment to deferred tax assets would be charged to income in the period any such determination was made. Likewise, in the event we are able to realize our deferred tax assets in the future in excess of the net recorded amount, an adjustment to deferred tax assets would increase income in the period any such determination was made.

New Accounting Standards Recently Adopted

For information with respect to recent accounting pronouncements and the impact of these pronouncements on our consolidated financial statements see Note 1, *Nature of Business and Summary of Significant Accounting Policies*, in the Notes to Consolidated Financial Statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Excluding the impact of changes in interest rates and the uncertainty in the global financial markets, there have been no material changes to our market risk for the year ended December 31, 2016. We conduct business in all parts of the world and are thereby exposed to market risks related to fluctuations in foreign currency exchange rates. The U.S. dollar is the single largest currency in which our revenue contracts are denominated. Thus, any decline in the value of local foreign currencies against the U.S. dollar results in our products and services being more expensive to a potential foreign customer, and in those instances where our goods and services have already been sold, may result in the receivables being more difficult to collect. Additionally, any decline in the value of the U.S. dollar in jurisdictions where the revenue contracts are denominated in U.S. dollars and operating expenses are incurred in local currency will have an unfavorable impact to operating margins. We at times enter into revenue contracts that are denominated in the country’s local currency, principally in Australia, Canada, the United Kingdom and other European countries. This practice serves as a natural hedge to finance the local currency expenses incurred in those locations. We have not entered into any foreign currency hedging transactions. We do not purchase or hold any derivative financial instruments for the purpose of speculation or arbitrage.

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The primary objective of our cash investment policy is to preserve principal without significantly increasing risk. Based on our cash investments and interest rates on these investments at December 31, 2016, and if we maintained this level of similar cash investments for a period of one year, a hypothetical ten percent increase or decrease in effective interest rates would increase or decrease interest income by less than \$0.1 million annually.

We had approximately \$753.3 million of debt outstanding at December 31, 2016 with \$300.0 million in Senior Notes and \$453.3 million outstanding under our Credit Facility. Our Senior Notes are fixed-rate long-term debt obligations with a 6.375% interest rate. Our Credit Facility has a floating rate which was 3.27% at December 31, 2016. The potential increase (decrease) in interest expense for the Credit Facility from a hypothetical ten percent increase (decrease) in effective interest rates would be approximately \$1.5 million.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The required consolidated financial statements and notes thereto are included in this Annual Report and are listed in Part IV, Item 15.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None

ITEM 9A. CONTROLS AND PROCEDURES

a) Evaluation of Disclosure Controls and Procedures

Our management, under the supervision of and with the participation of the Chief Executive Officer and Chief Financial Officer, performed an evaluation of the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the “Exchange Act”)) as of the end of the period covered by this report, December 31, 2016.

In connection with our evaluation of disclosure controls and procedures, we have concluded that our disclosure controls and procedures are effective as of December 31, 2016.

b) Management’s Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of our consolidated financial statements for external purposes in accordance with United States Generally Accepted Accounting Principles (“U.S. GAAP”). Under the supervision of, and with the participation of our Chief Executive Officer and Chief Financial Officer, management assessed the effectiveness of internal control over financial reporting as of December 31, 2016. Management based its assessment on criteria established in “Internal Control Integrated Framework (2013)” issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on this evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2016.

The effectiveness of our internal control over financial reporting as of December 31, 2016 has been audited by Deloitte & Touche, LLP, an independent registered public accounting firm, and Deloitte & Touche, LLP has issued an attestation report on our internal control over financial reporting.

c) Changes in Internal Control over Financial Reporting

There have been no additional changes during our quarter ended December 31, 2016 in our internal control over financial reporting (as defined in Rules 13a-15(f) under the Exchange Act) that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
ACI Worldwide, Inc.
Omaha, Nebraska

We have audited the internal control over financial reporting of ACI Worldwide, Inc. and subsidiaries (the “Company”) as of December 31, 2016, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. 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 conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company’s internal control over financial reporting is a process designed by, or under the supervision of, the company’s principal executive and principal financial officers, or persons performing similar functions, and effected by the company’s board of directors, management, and other personnel 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 the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements as of and for the year ended December 31, 2016 of the Company and our report dated March 1, 2017 expressed an unqualified opinion on those financial statements.

/s/ DELOITTE & TOUCHE LLP

Omaha, Nebraska
March 1, 2017

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information under the heading “Executive Officers of the Registrant” in Part 1, Item 1 of this Form 10-K is incorporated herein by reference.

The information required by this item with respect to our directors is included in the section entitled “Nominees” under “Proposal 1 – Election of Directors” in our Proxy Statement for the Annual Meeting of Stockholders to be held on June 14, 2017 (the “2017 Proxy Statement”) and is incorporated herein by reference.

Information included in the section entitled “Section 16(a) Beneficial Ownership Reporting Compliance” in our 2017 Proxy Statement is incorporated herein by reference.

Information related to the audit committee and the audit committee financial expert is included in the section entitled “Report of Audit Committee” in our 2017 Proxy Statement and is incorporated herein by reference. In addition, the information included in the sections entitled “Board Committees and Committee Meetings,” “Shareholder Recommendations for Director Nominees” and “Shareholder Nomination Process” within the “Corporate Governance” section of our 2017 Proxy Statement is incorporated herein by reference.

Code of Business Conduct and Code of Ethics

We have adopted a Code of Business Conduct and Ethics for our directors, officers (including our principal executive officer, principal financial officer, principal accounting officer and controller) and employees. We have also adopted a Code of Ethics for the Chief Executive Officer and Senior Financial Officers (the “Code of Ethics”), which applies to our Chief Executive Officer, our Chief Financial Officer, our Chief Accounting Officer, Controller, and persons performing similar functions. The full text of both the Code of Business Conduct and Ethics and Code of Ethics is published on our website at www.aciworldwide.com in the “Investors – Corporate Governance” section. We intend to disclose future amendments to, or waivers from, certain provisions of the Code of Business Conduct and Ethics and the Code of Ethics on our website promptly following the adoption of such amendment or waiver.

ITEM 11. EXECUTIVE COMPENSATION

Information included in the sections entitled “Director Compensation,” “Compensation Discussion and Analysis,” “Compensation Committee Report,” “Executive Compensation” and “Compensation Committee Interlocks and Insider Participation” in our 2017 Proxy Statement is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information included in the sections entitled “Information Regarding Security Ownership” in our 2017 Proxy Statement is incorporated herein by reference.

Information included in the section entitled “Information Regarding Equity Compensation Plans” in our 2017 Proxy Statement is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

Information included in the section entitled “Certain Relationships and Related Transactions,” in our 2017 Proxy Statement is incorporated herein by reference.

Information included in the sections entitled “Director Independence” and “Board Committees and Committee Meetings” in the “Corporate Governance” section of our 2017 Proxy Statement is incorporated by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information included in the sections entitled “Independent Registered Public Accounting Firm Fees” and “Pre-Approval of Audit and Non-Audit Services” under “Proposal 2 – Ratification of Appointment of the Company’s Independent Registered Public Accounting Firm” in our 2017 Proxy Statement is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

Documents filed as part of this annual report on Form 10-K:

(1) Financial Statements. The following index lists consolidated financial statements and notes thereto filed as part of this annual report on Form 10-K:

	<u>Page</u>
Report of Independent Registered Public Accounting Firm – Deloitte & Touche LLP	54
Consolidated Balance Sheets as of December 31, 2016 and 2015	55
Consolidated Statements of Income for each of the three years in the period ended December 31, 2016	56
Consolidated Statements of Comprehensive Income for each of the three years in the period ended December 31, 2016	57
Consolidated Statements of Stockholders' Equity for each of the three years in the period ended December 31, 2016	58
Consolidated Statements of Cash Flows for each of the three years in the period ended December 31, 2016	59
Notes to Consolidated Financial Statements	60

(2) Financial Statement Schedules. All schedules have been omitted because they are not applicable or the required information is included in the consolidated financial statements or notes thereto.

(3) Exhibits. A list of exhibits filed or furnished with this report on Form 10-K (or incorporated by reference to exhibits previously filed by ACI) is provided in the accompanying Exhibit Index.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
ACI Worldwide, Inc.
Omaha, Nebraska

We have audited the accompanying consolidated balance sheets of ACI Worldwide, Inc. and subsidiaries (the “Company”) as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, stockholders’ equity, and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of ACI Worldwide, Inc. and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company’s internal control over financial reporting as of December 31, 2016, based on the criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 1, 2017, expressed an unqualified opinion on the Company’s internal control over financial reporting.

/s/ DELOITTE & TOUCHE LLP

Omaha, Nebraska
March 1, 2017

ACI WORLDWIDE, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share amounts)

	December 31, 2016	December 31, 2015
ASSETS		
Current assets		
Cash and cash equivalents	\$ 75,753	\$ 102,239
Receivables, net of allowances of \$3,873 and \$5,045, respectively	268,162	219,116
Recoverable income taxes	4,614	12,048
Prepaid expenses	25,884	27,461
Other current assets	33,578	21,637
Total current assets	<u>407,991</u>	<u>382,501</u>
Noncurrent assets		
Property and equipment, net	78,950	60,630
Software, net	185,496	237,941
Goodwill	909,691	913,261
Intangible assets, net	203,634	256,925
Deferred income taxes, net	77,479	90,872
Other noncurrent assets	39,054	33,658
TOTAL ASSETS	<u>\$ 1,902,295</u>	<u>\$ 1,975,788</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	\$ 42,873	\$ 55,420
Employee compensation	47,804	31,213
Current portion of long-term debt	90,323	89,710
Deferred revenue	105,191	128,559
Income taxes payable	11,334	4,734
Other current liabilities	78,841	75,225
Total current liabilities	<u>376,366</u>	<u>384,861</u>
Noncurrent liabilities		
Deferred revenue	49,863	42,081
Long-term debt	653,595	834,449
Deferred income taxes, net	26,349	28,067
Other noncurrent liabilities	41,205	31,930
Total liabilities	<u>1,147,378</u>	<u>1,321,388</u>
Commitments and contingencies (Note 15)		
Stockholders' equity		
Preferred stock; \$0.01 par value; 5,000,000 shares authorized; no shares issued at December 31, 2016 and 2015	—	—
Common stock; \$0.005 par value; 280,000,000 shares authorized; 140,525,055 shares issued at December 31, 2016 and 2015	702	702
Additional paid-in capital	600,344	561,379
Retained earnings	545,731	416,851
Treasury stock, at cost, 23,188,258 and 21,491,285 shares at December 31, 2016 and 2015, respectively	(297,760)	(252,956)
Accumulated other comprehensive loss	(94,100)	(71,576)
Total stockholders' equity	<u>754,917</u>	<u>654,400</u>
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	<u>\$ 1,902,295</u>	<u>\$ 1,975,788</u>

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

ACI WORLDWIDE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(in thousands, except per share amounts)

	FOR THE YEARS ENDED DECEMBER 31,		
	2016	2015	2014
Revenues			
License	\$ 273,466	\$ 251,205	\$ 235,157
Maintenance	233,476	241,895	255,993
Services	87,470	106,820	105,584
Hosting	411,289	446,057	419,415
Total revenues	<u>1,005,701</u>	<u>1,045,977</u>	<u>1,016,149</u>
Operating expenses			
Cost of license (1)	22,345	23,245	24,565
Cost of maintenance, services and hosting (1)	422,569	449,054	430,191
Research and development	169,900	145,924	144,207
Selling and marketing	118,082	129,407	112,047
General and administrative	113,617	87,419	95,065
Gain on sale of CFS assets	(151,463)	—	—
Depreciation and amortization	89,521	82,980	71,902
Total operating expenses	<u>784,571</u>	<u>918,029</u>	<u>877,977</u>
Operating income	<u>221,130</u>	<u>127,948</u>	<u>138,172</u>
Other income (expense)			
Interest expense	(40,184)	(41,372)	(39,738)
Interest income	530	386	575
Other, net	4,105	26,411	(240)
Total other income (expense)	<u>(35,549)</u>	<u>(14,575)</u>	<u>(39,403)</u>
Income before income taxes	185,581	113,373	98,769
Income tax expense	56,046	27,937	31,209
Net income	<u>\$ 129,535</u>	<u>\$ 85,436</u>	<u>\$ 67,560</u>
Earnings per common share			
Basic	\$ 1.10	\$ 0.73	\$ 0.59
Diluted	\$ 1.09	\$ 0.72	\$ 0.58
Weighted average common shares outstanding			
Basic	117,533	117,465	114,798
Diluted	118,847	118,919	116,771

(1) The cost of software license fees excludes charges for depreciation but includes amortization of purchased and developed software for resale. The cost of maintenance, services and hosting fees excludes charges for depreciation.

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

ACI WORLDWIDE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

	FOR THE YEARS ENDED DECEMBER 31,		
	2016	2015	2014
Net income	\$ 129,535	\$ 85,436	\$ 67,560
Other comprehensive income (loss):			
Unrealized gain on available-for-sale securities	—	1,488	22,977
Reclassification of unrealized gain to a realized gain on available-for-sale securities	—	(24,465)	—
Foreign currency translation adjustments	(22,524)	(28,716)	(19,545)
Total other comprehensive income (loss):	(22,524)	(51,693)	3,432
Comprehensive income	\$ 107,011	\$ 33,743	\$ 70,992

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

ACI WORLDWIDE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except share amounts)

	Common Stock	Additional Paid-in Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income (Loss)	Total
Balance as of December 31, 2013	\$ 698	\$ 542,697	\$263,855	\$ (240,241)	\$ (23,315)	\$543,694
Net Income	—	—	67,560	—	—	67,560
Other comprehensive income	—	—	—	—	3,432	3,432
Stock-based compensation	—	11,045	—	—	—	11,045
Shares issued and forfeited, net, under stock plans including income tax benefits	—	(2,029)	—	32,823	—	30,794
Repurchase of 3,578,427 shares of common stock	—	—	—	(70,000)	—	(70,000)
Repurchase of restricted stock and performance shares for tax withholdings	—	—	—	(5,120)	—	(5,120)
Balance as of December 31, 2014	698	551,713	331,415	(282,538)	(19,883)	581,405
Net Income	—	—	85,436	—	—	85,436
Other comprehensive loss	—	—	—	—	(51,693)	(51,693)
Stock-based compensation	—	18,380	—	—	—	18,380
Shares issued and forfeited, net, under stock plans including income tax benefits	—	(14,089)	—	34,231	—	20,142
Issuance of 476,750 shares under stock plan portion of PAY.ON acquisition agreement	3	(3)	—	—	—	—
Issuance of 227,917 shares of common stock for acquisition of PAY.ON	1	5,378	—	—	—	5,379
Repurchase of restricted stock and performance shares for tax withholdings	—	—	—	(4,649)	—	(4,649)
Balance as of December 31, 2015	702	561,379	416,851	(252,956)	(71,576)	654,400
Net Income	—	—	129,535	—	—	129,535
Other comprehensive loss	—	—	—	—	(22,524)	(22,524)
Stock-based compensation	—	43,613	—	—	—	43,613
Shares issued and forfeited, net, under stock plans including income tax benefits	—	(5,204)	—	18,260	—	13,056
Repurchase of 3,020,926 shares of common stock	—	—	—	(60,089)	—	(60,089)
Repurchase of restricted stock and performance shares for tax withholdings	—	—	—	(2,975)	—	(2,975)
Cumulative effect of accounting change, ASU 2016-09 (Note 1)	—	556	(655)	—	—	(99)
Balance as of December 31, 2016	<u>\$ 702</u>	<u>\$ 600,344</u>	<u>\$545,731</u>	<u>\$ (297,760)</u>	<u>\$ (94,100)</u>	<u>\$754,917</u>

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

ACI WORLDWIDE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	FOR THE YEARS ENDED DECEMBER 31,		
	2016	2015	2014
Cash flows from operating activities:			
Net income	\$ 129,535	\$ 85,436	\$ 67,560
Adjustments to reconcile net income to net cash flows from operating activities:			
Depreciation	22,584	21,656	20,506
Amortization	80,870	75,775	66,177
Amortization of deferred debt issuance costs	5,567	6,244	5,877
Deferred income taxes	17,702	19,328	8,437
Stock-based compensation expense	43,613	18,380	11,045
Gain on sale of available-for-sale equity securities	—	(24,465)	—
Gain on sale of CFS assets	(151,463)	—	—
Other	806	2,725	1,852
Changes in operating assets and liabilities, net of impact of acquisitions:			
Receivables	(76,460)	(11,355)	(30,643)
Accounts payable	(13,920)	8,557	(3,422)
Accrued employee compensation	18,060	(1,998)	(6,360)
Current income taxes	14,510	(8,244)	10,968
Deferred revenue	3,015	(4,513)	15,738
Other current and noncurrent assets and liabilities	5,411	468	(6,902)
Net cash flows from operating activities	<u>99,830</u>	<u>187,994</u>	<u>160,833</u>
Cash flows from investing activities:			
Purchases of property and equipment	(40,812)	(27,283)	(17,627)
Purchases of software and distribution rights	(22,268)	(21,622)	(17,273)
Proceeds from sale of available-for-sale equity securities	—	35,311	—
Proceeds from sale of CFS assets	199,481	—	—
Acquisition of businesses, net of cash acquired	232	(179,367)	(204,290)
Other	(7,000)	(7,000)	(1,500)
Net cash flows from investing activities	<u>129,633</u>	<u>(199,961)</u>	<u>(240,690)</u>
Cash flows from financing activities:			
Proceeds from issuance of common stock	2,987	3,104	2,780
Proceeds from exercises of stock options	9,325	12,175	16,461
Repurchases of common stock	(60,089)	—	(70,000)
Repurchase of restricted stock and performance shares for tax withholdings	(2,975)	(4,649)	(5,120)
Proceeds from revolving credit facility	76,000	298,000	169,500
Proceeds from term portion of credit agreement	—	—	150,000
Repayments of revolving credit facility	(166,000)	(164,000)	(125,500)
Repayment of term portion of credit agreement	(95,293)	(87,352)	(57,449)
Payments on other debt and capital leases	(14,376)	(12,638)	(8,344)
Payment for debt issuance costs	(655)	—	(4,662)
Distribution to noncontrolling interest	—	—	(1,391)
Net cash flows from financing activities	<u>(251,076)</u>	<u>44,640</u>	<u>66,275</u>
Effect of exchange rate fluctuations on cash	(4,873)	(7,735)	(4,176)
Net increase (decrease) in cash and cash equivalents	(26,486)	24,938	(17,758)
Cash and cash equivalents, beginning of period	102,239	77,301	95,059
Cash and cash equivalents, end of period	<u>\$ 75,753</u>	<u>\$ 102,239</u>	<u>\$ 77,301</u>
Supplemental cash flow information			
Income taxes paid, net	\$ 19,081	\$ 24,036	\$ 23,082
Interest paid	\$ 35,053	\$ 35,183	\$ 33,269

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business and Summary of Significant Accounting Policies

Nature of Business

ACI Worldwide, Inc., a Delaware corporation, and its subsidiaries (collectively referred to as “ACI” or the “Company”), develop, market, install, and support a broad line of software products and services primarily focused on facilitating electronic payments. In addition to its own products, the Company distributes, or acts as a sales agent for software developed by third parties. These products and services are used principally by financial institutions, retailers, and electronic-payment processors, both in domestic and international markets.

Consolidated Financial Statements

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. Recently acquired subsidiaries that are included in the Company’s consolidated financial statements as of the date of their acquisition include: PAY.ON AG and its subsidiaries (collectively, “PAY.ON”) acquired during the year ended December 31, 2015, and Retail Decisions Europe Limited (“ReD Europe”) and all its subsidiaries and Retail Decisions, Inc. (“ReD, Inc.”) (collectively, “ReD”) acquired during the year ended December 31, 2014. All intercompany balances and transactions have been eliminated.

Capital Stock

The Company’s outstanding capital stock consists of a single class of common stock. Each share of common stock is entitled to one vote upon each matter subject to a stockholders vote and to dividends if and when declared by the Board of Directors.

Noncontrolling Interest

On April 10, 2014, the Company dissolved its partnership based in South Africa with Cornastone Technology Investments (Proprietary) Limited (“CTI”). As a result, the Company paid CTI approximately \$1.5 million during the year-ended December 31, 2014 for CTI’s noncontrolling interest and loan balance.

Use of Estimates

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

Revenue Recognition, Receivables and Deferred Revenue

License. The Company recognizes license revenue in accordance with Accounting Standards Codification (“ASC”) 985-605, *Revenue Recognition: Software*. For software license arrangements for which services rendered are primarily related to installation of core software and are not considered essential to the functionality of the software, the Company recognizes revenue upon delivery, provided (i) there is persuasive evidence of an arrangement, (ii) collection of the fee is considered probable and (iii) the fee is fixed or determinable. In most arrangements, vendor-specific objective evidence (“VSOE”) of fair value does not exist for the license element; therefore, the Company uses the residual method under ASC 985-605 to determine the amount of revenue to be allocated to the license element. Under ASC 985-605, the fair value of all undelivered elements, such as post contract customer support (maintenance or “PCS”) or other products or services, is deferred and subsequently recognized as the products are delivered or the services are performed, with the residual difference between the total arrangement fee and revenues allocated to undelivered elements being allocated to the delivered element.

When a software license arrangement includes services to provide significant modification or customization of software, those services are considered essential to the functionality of the software and are not separable from the software. These arrangements are accounted for in accordance with ASC 605-35, *Revenue Recognition: Construction-Type and Production-Type Contracts*, generally referred to as contract accounting. Under contract accounting, the Company generally uses the percentage-of-completion method. For those contracts subject to percentage-of-completion contract accounting, estimates of total revenue and profitability under the contract consider amounts due under extended payment terms. The Company recognizes revenue under these arrangements based on the lesser of payments that become due or the revenue calculated under the percentage-of-completion method. Under the percentage-of-completion method, the Company records revenue for the license and services over the development and implementation period, with the percentage of completion generally measured by the percentage of labor hours incurred to-date to estimated total labor hours for each contract. In the event project profitability is assured and estimable within a range, percentage-of-completion revenue recognition is computed using the lowest level of profitability in the range. If it is determined that a loss will result from the performance of a contract, the entire amount of the loss is recognized in the period in which it is determined that a loss will result.

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For software license arrangements in which a significant portion of the fee is due more than 12 months after delivery or when payment terms are significantly beyond the Company's standard business practice, the license is deemed not to be fixed or determinable. For software license arrangements in which the fee is not considered fixed or determinable, the license is recognized as revenue as payments become due and payable, provided all other conditions for revenue recognition have been met. For software license arrangements in which the Company has concluded that collection of the fees is not probable, revenue is recognized as cash is collected, provided all other conditions for revenue recognition have been met. In making the determination of collectability, the Company considers the creditworthiness of the customer, economic conditions in the customer's industry and geographic location, and general economic conditions.

ASC 985-605 requires the seller of software that includes PCS to establish VSOE of fair value of the undelivered element of the contract in order to account separately for the PCS revenue. The Company has traditionally established VSOE of the fair value of PCS by reference to stated renewals, expressed in dollar terms, or separate sales with consistent pricing of PCS expressed in percentage terms. In determining whether a stated renewal is not substantive, the Company considers factors such as whether the period of the initial PCS term is relatively long when compared to the term of the software license or whether the PCS renewal rate is significantly below the Company's normal pricing practices. In determining whether PCS pricing is consistent, the Company considers the population of separate sales that are within a reasonably narrow range of the median within the identified market segment over the trailing 12 month period.

For those software license arrangements that include customer-specific acceptance provisions, such provisions are generally presumed to be substantive and the Company does not recognize revenue until the earlier of the receipt of a written customer acceptance, objective demonstration that the delivered product meets the customer-specific acceptance criteria or the expiration of the acceptance period. The Company recognizes revenues on such arrangements upon the earlier of receipt of written acceptance or the first production use of the software by the customer. In the absence of customer-specific acceptance provisions, software license arrangements generally grant customers a right of refund or replacement only if the licensed software does not perform in accordance with its published specifications. If the Company's product history supports an assessment by management that the likelihood of non-acceptance is remote, the Company recognizes revenue when all other criteria of revenue recognition are met.

For software license arrangements in which the Company acts as a sales agent for another company's products, revenues are recorded on a net basis. These include arrangements in which the Company does not take title to the products, is not responsible for providing the product or service, earns a fixed commission, or assumes credit risk only to the extent of its commission. For software license arrangements in which the Company acts as a distributor of another company's product, and in certain circumstances, modifies or enhances the product, revenues are recorded on a gross basis. These include arrangements in which the Company takes title to the products and is responsible for providing the product or service.

For software license arrangements in which the Company utilizes a third-party distributor or sales agent, the Company recognizes revenue on a sell-in basis when business practices and operating history indicate that there is no risk of returns, rebates, or credits and there are no other risks related to the distributor or sales agents' ability to honor payment or distribution commitments. For other arrangements in which any of the above factors indicate that there are risks of returns, rebates, or credits or any other risks related to the distributors' or sales agents' ability to honor payment or distribution commitments, the Company recognizes revenue on a sell-through basis.

For software license arrangements in which the Company permits the customer to receive unspecified future software products during the software license term, the Company recognizes revenue ratably over the license term, provided all other revenue recognition criteria have been met. For software license arrangements in which the Company grants the customer a right to exchange the original software product for specified future software products with more than minimal differences in features, functionality, and/or price, during the license term, revenue is recognized upon the earlier of delivery of the additional software products or at the time the exchange right lapses. For customers granted a right to exchange the original software product for specified future software products where the Company has determined price, feature, and functionality differences are minimal, the exchange right is accounted for as a like-kind exchange and revenue is recognized upon delivery of the currently licensed product. For software license arrangements in which the customer is charged variable license fees based on usage of the product, the Company recognizes revenue as usage occurs over the term of the licenses, provided all other revenue recognition criteria have been met.

Certain of the Company's software license arrangements include PCS terms that fail to achieve VSOE of fair value due to non-substantive renewal periods, or contain a range of possible non-substantive PCS renewal amounts. For these arrangements, VSOE of fair value of PCS does not exist and revenues for the software license, PCS and services, if applicable, are considered to be one accounting unit and are therefore recognized ratably over the longer of the contractual service term or PCS term once the delivery of both services has commenced. The Company typically classifies revenues associated with these arrangements in accordance with the contractually specified amounts, which approximate fair value assigned to the various elements, including software license, maintenance and services, if applicable.

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This allocation methodology has been applied to the following amounts included in revenues in the consolidated statements of income from arrangements for which VSOE of fair value does not exist for each undelivered element (in thousands):

	Years Ended December 31,		
	2016	2015	2014
License	\$ 6,759	\$ 7,797	\$22,211
Maintenance	3,268	3,801	7,699
Services	268	321	13
Total	<u>\$10,295</u>	<u>\$11,919</u>	<u>\$29,923</u>

Maintenance. The Company typically enters into multi-year time-based software license arrangements that vary in length but are generally five years. These arrangements include an initial (bundled) PCS term of one year with subsequent renewals for additional years within the initial license period. The Company establishes VSOE of the fair value of PCS by reference to stated renewals for all identified market segments. For arrangements in which the Company looks to substantive renewal rates to evidence VSOE of fair value of PCS and in which the PCS renewal rate and term are substantive, VSOE of fair value of PCS is determined by reference to the stated renewal rate. For these arrangements, PCS revenues are recognized ratably over the PCS term specified in the contract. In arrangements where VSOE of fair value of PCS cannot be determined (for example, a time-based software license with a duration of one year or less or when the range of possible PCS renewal amounts is not sufficiently narrow or is significantly below the Company's normal pricing practices), the Company recognizes revenue for the entire arrangement ratably over the longer of the initial PCS term or the services term (if any).

For those arrangements that meet the criteria to be accounted for under contract accounting, the Company determines whether VSOE of fair value exists for the PCS element. For those arrangements in which VSOE of fair value exists for the PCS element, PCS is accounted for separately and the balance of the arrangement is accounted for under ASC 985-605. For those arrangements in which VSOE of fair value does not exist for the PCS element all revenue is deferred until such time as the services are complete. Once services are complete, revenue is then recognized ratably over the remaining PCS period.

Services. The Company provides various professional services to customers, primarily project management, software implementation and software modification services. Revenues from arrangements to provide professional services are generally recognized as the related services are performed.

For those arrangements in which services revenue is deferred and the Company determines that the direct costs of services are recoverable, such costs are deferred and subsequently expensed in proportion to the related services revenue as it is recognized. For those arrangements that are accounted for under contract accounting, the Company accumulates and defers all direct and indirect costs allocable to the arrangement. For those arrangements that are not accounted for under contract accounting, the Company accumulates and defers all direct and incremental costs attributable to the arrangement.

Hosting. In accordance with ASC 605-25, *Revenue Recognition – Multiple-Element Arrangements*, a multiple-deliverable arrangement is separated into more than one unit of accounting if the delivered item(s) has value to the customer on a standalone basis, and if the arrangement includes a general right of return relative to the delivered item(s), delivery or performance of undelivered item(s) is considered probable and substantially in the control of the Company. If these criteria are not met, the arrangement is accounted for as a single unit of accounting which would result in revenue being recognized ratably over the contract term or being deferred until the earlier of when such criteria are met or when the last undelivered element is delivered. If these criteria are met for each, the arrangement consideration is allocated to the separate units of accounting based on each unit's relative selling price. The selling price for each element is based upon the following selling price hierarchy: VSOE if available, third party evidence ("TPE") if VSOE is not available, or estimated selling price if neither VSOE nor TPE is available.

The Company enters into hosting-related arrangements that may consist of multiple service deliverables including initial implementation and setup services, on-going support services, and other services. The Company's hosted products operate in a highly regulated and controlled environment which requires a highly specialized and unique set of initial implementation and setup services prior to the commencement of hosting-related services. Due to the essential and specialized nature of the implementation and setup services, these services do not qualify as separate units of accounting separate from the hosting service as the delivered services do not have value to the customer on a stand-alone basis. The on-going support and other services are considered as separate units of accounting as are add-on products that do not impact the availability of functionality currently in use. The total arrangement consideration is allocated to each of the separate units of accounting based on their relative selling price and revenue is recognized over their respective service periods.

Hosting revenue also includes fees paid by our clients as a part of the electronic bill presentment and payment products. Fees may be paid by our clients or directly by their customers and may be a percentage of the underlying transaction amount, a fixed fee per executed transaction or a monthly fee for each customer enrolled. Hosting costs include payment card interchange fees, assessments payable to banks and payment card processing fees.

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Multiple Arrangements. The Company may execute more than one contract or agreement with a single customer. The separate contracts or agreements may be viewed as one multiple-element arrangement or separate agreements for revenue recognition purposes. The Company evaluates whether the agreements were negotiated as part of a single project, whether the products or services are interrelated or interdependent, whether fees in one arrangement are tied to performance in another arrangement, and whether elements in one arrangement are essential to the functionality in another arrangement in order to reach appropriate conclusions regarding whether such arrangements are related or separate. The conclusions reached can impact the timing of revenue recognition related to those arrangements.

Deferred Revenue. Deferred revenue includes amounts currently due and payable from customers, and payments received from customers, for software licenses, maintenance, hosting and/or services in advance of recording the related revenue.

Receivables and Concentration of Credit Risk. Receivables represent amounts billed and amounts earned that are to be billed in the near future. Included in accrued receivables are services and software hosting revenues earned in the current period but billed in the following period.

	December 31,	
	2016	2015
Billed Receivables	\$250,116	\$192,045
Allowance for doubtful accounts	(3,873)	(5,045)
Billed, net	246,243	187,000
Accrued Receivables	21,919	32,116
Receivables, net	<u>\$268,162</u>	<u>\$219,116</u>

No customer accounted for more than 10% of the Company's consolidated receivables balance as of December 31, 2016 or 2015.

The Company maintains a general allowance for doubtful accounts based on historical experience, along with additional customer -specific allowances. The Company regularly monitors credit risk exposures in accounts receivable. In estimating the necessary level of our allowance for doubtful accounts, management considers the aging of accounts receivable, the creditworthiness of customers, economic conditions within the customer's industry, and general economic conditions, among other factors.

The following reflects activity in the Company's allowance for doubtful accounts receivable (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Balance, beginning of period	\$(5,045)	\$(4,806)	\$(4,459)
Provision (increase) decrease	(1,595)	(2,425)	(1,049)
Amounts written off, net of recoveries	2,551	2,088	1,053
Foreign currency translation adjustments and other	216	98	(351)
Balance, end of period	<u>\$(3,873)</u>	<u>\$(5,045)</u>	<u>\$(4,806)</u>

Provision (increases) decreases recorded in general and administrative expenses during the years ended December 31, 2016, 2015, and 2014, reflect increases (decreases) in the allowance for doubtful accounts based upon collection experience in the geographic regions in which the Company conducts business, net of collection of customer-specific receivables which were previously reserved for as doubtful of collection.

Cash and Cash Equivalents

The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents. The Company's cash and cash equivalents includes holdings in checking, savings, money market, and overnight sweep accounts, all of which have daily maturities, as well as time deposits with maturities of three months or less at the date of purchase. The carrying amounts of cash and cash equivalents on the consolidated balance sheets approximate fair value.

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Other Current Assets and Other Current Liabilities

	December 31,	
	2016	2015
Settlement deposits	\$10,496	\$ 5,357
Settlement receivables	14,327	7,961
Other	8,755	8,319
Total other current assets	<u>\$33,578</u>	<u>\$21,637</u>

	December 31,	
	2016	2015
Settlement payables	\$24,016	\$11,250
Accrued interest	7,356	7,501
Vendor financed licenses	9,213	15,723
Royalties payable	7,197	4,910
Other	31,059	35,841
Total other current liabilities	<u>\$78,841</u>	<u>\$75,225</u>

Individuals and businesses settle their obligations to the Company's various clients, primarily utility and other public sector clients, using credit or debit cards or via ACH payments. The Company creates a receivable for the amount due from the credit or debit card company and an offsetting payable to the client. Once confirmation is received that the funds have been received, the Company settles the obligation to the client. Due to timing, in some instances, the Company may receive the funds into bank accounts controlled by and in the Company's name that are not disbursed to its clients by the end of the day resulting in a settlement deposit on the Company's books.

Off Balance Sheet Settlement Accounts

The Company also enters into agreements with certain clients to process payment funds on their behalf. When an automated clearing house or automated teller machine network payment transaction is processed, a transaction is initiated to withdraw funds from the designated source account and deposit them into a settlement account, which is a trust account maintained for the benefit of the Company's clients. A simultaneous transaction is initiated to transfer funds from the settlement account to the intended destination account. These "back to back" transactions are designed to settle at the same time, usually overnight, such that the Company receives the funds from the source at the same time as it sends the funds to their destination. However, due to the transactions being with various financial institutions there may be timing differences that result in float balances. These funds are maintained in accounts for the benefit of the client which is separate from the Company's corporate assets. As the Company does not take ownership of the funds, the settlement accounts are not included in the Company's balance sheet. The Company is entitled to interest earned on the fund balances. The collection of interest on these settlement accounts is considered in the Company's determination of its fee structure for clients and represents a portion of the payment for services performed by the Company. The amount of settlement funds as of December 31, 2016 and 2015 were \$270.0 million and \$260.2 million, respectively.

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Property and Equipment

Property and equipment are stated at cost. Depreciation of these assets is generally computed using the straight-line method over their estimated useful lives based on asset class. As of December 31, 2016 and 2015, net property and equipment consisted of the following (in thousands):

	<u>Useful Lives</u>	<u>2016</u>	<u>2015</u>
Computer and office equipment	3 to 5 years	\$105,692	\$ 92,237
Leasehold improvements	Lesser of useful life of improvement or remaining life of lease	33,093	19,380
Furniture and fixtures	7 years	11,145	11,304
Building and improvements	7 - 30 years	10,391	10,340
Land	Non depreciable	1,785	1,785
		<u>162,106</u>	<u>135,046</u>
Less: accumulated depreciation and amortization		<u>(83,156)</u>	<u>(74,416)</u>
Property and equipment, net		<u>\$ 78,950</u>	<u>\$ 60,630</u>

Software

Software may be for internal use or available for sale. Costs related to certain software, which is available for sale, are capitalized in accordance with ASC 985-20, *Costs of Software to be Sold, Leased, or Marketed*, when the resulting product reaches technological feasibility. The Company generally determines technological feasibility when it has a detailed program design that takes product function, feature and technical requirements to their most detailed, logical form and is ready for coding. The Company does not typically capitalize costs related to software available for sale as technological feasibility generally coincides with general availability of the software.

Amortization of software costs to be sold or marketed externally, begins when the product is available for licensing to customers and is determined on a product-by-product basis. The annual amortization shall be the greater of the amount computed using (a) the ratio of current gross revenues for a product to the total of current and anticipated future gross revenues for that product or (b) the straight-line method over the remaining estimated economic life of the product, including the period being reported on. Due to competitive pressures, it may be possible that the estimates of anticipated future gross revenue or remaining estimated economic life of the software product will be reduced significantly. As a result, the carrying amount of the software product may be reduced accordingly. Amortization of internal-use software is generally computed using the straight-line method over estimated useful lives of three to ten years.

Business Combinations

The Company applies the provisions of ASC 805, *Business Combinations*, in the accounting for its acquisitions. It requires the Company to recognize separately from goodwill the assets acquired and the liabilities assumed at their acquisition date fair values. Goodwill as of the acquisition date is measured as the excess of consideration transferred and the net of the acquisition date fair values of the assets acquired and the liabilities assumed. While the Company uses its best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date, its estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, it records adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to our consolidated statements of income.

Critical estimates in valuing certain intangible assets include but are not limited to future expected cash flows from customer relationships, covenants not to compete and acquired developed technologies, brand awareness and market position, as well as assumptions about the period of time the brand will continue to be used in our product portfolio, and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates.

Other estimates associated with the accounting for acquisitions may change as additional information becomes available regarding the assets acquired and liabilities assumed, as more fully discussed in Note 2, *Acquisitions*.

Goodwill and Other Intangibles

In accordance with ASC 350, *Intangibles – Goodwill and Other*, the Company assesses goodwill for impairment at least annually. During this assessment management relies on a number of factors, including operating results, business plans and anticipated future cash flows. The Company assesses potential impairments to other intangible assets when there is evidence that events or changes in circumstances indicate that the carrying amount of an asset may not be recovered.

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In accordance with ASC 350, the Company assesses goodwill for impairment annually during the fourth quarter of its fiscal year using October 1 balances or when there is evidence that events or changes in circumstances indicate that the carrying amount of the asset may not be recovered. The Company evaluates goodwill at the reporting unit level and has identified its reportable segments, Americas, Europe/Middle East/Africa (“EMEA”), and Asia/Pacific, as its reporting units. Recoverability of goodwill is measured using a discounted cash flow model incorporating discount rates commensurate with the risks involved. Use of a discounted cash flow model is common practice in impairment testing in the absence of available transactional market evidence to determine the fair value.

The key assumptions used in the discounted cash flow valuation model include discount rates, growth rates, cash flow projections and terminal value rates. Discount rates, growth rates and cash flow projections are the most sensitive and susceptible to change as they require significant management judgment. Discount rates are determined by using a weighted average cost of capital (“WACC”). The WACC considers market and industry data as well as Company-specific risk factors. Operational management, considering industry and Company-specific historical and projected data, develops growth rates and cash flow projections for each reporting unit. Terminal value rate determination follows common methodology of capturing the present value of perpetual cash flow estimates beyond the last projected period assuming a constant WACC and low long-term growth rates. If the calculated fair value is less than the current carrying value, impairment of the reporting unit may exist. If the recoverability test indicates potential impairment, the Company calculates an implied fair value of goodwill for the reporting unit. The implied fair value of goodwill is determined in a manner similar to how goodwill is calculated in a business combination. If the implied fair value of goodwill exceeds the carrying value of goodwill assigned to the reporting unit, there is no impairment. If the carrying value of goodwill assigned to a reporting unit exceeds the implied fair value of the goodwill, an impairment charge is recorded to write down the carrying value. The calculated fair value substantially exceeded the current carrying value for all reporting units for all periods.

Changes in the carrying amount of goodwill attributable to each reporting unit with goodwill balances during the years ended December 31, 2016 and 2015, were as follows (in thousands):

	Americas	EMEA	Asia/ Pacific	Total
Gross Balance prior to December 31, 2014	\$523,914	\$240,303	\$ 64,378	\$828,595
Total impairment prior to December 31, 2014	(47,432)	—	—	(47,432)
Balance, December 31, 2014	476,482	240,303	64,378	781,163
Goodwill from acquisitions (1)	2,462	139,825	—	142,287
Foreign currency translation adjustments	(1,803)	(3,301)	(5,085)	(10,189)
Balance, December 31, 2015	477,141	376,827	59,293	913,261
Goodwill from acquisitions (2)	—	511	—	511
Foreign currency translation adjustments	256	(3,208)	(1,129)	(4,081)
Balance, December 31, 2016	\$477,397	\$374,130	\$ 58,164	\$909,691

- (1) Goodwill from acquisitions relates to the goodwill recorded for the acquisition of PAY.ON, as well as adjustments to goodwill related to the acquisition of ReD, as discussed in Note 2, *Acquisitions*.
- (2) Goodwill from acquisitions relates to the adjustments to goodwill related to the acquisition of PAY.ON, as discussed in Note 2.

Other intangible assets, which include customer relationships, purchased contracts, trademarks and trade names, and covenants not to compete, are amortized using the straight-line method over periods ranging from three years to 20 years. The Company reviews its intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable.

Impairment of Long-Lived Assets

The Company reviews its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of a long-lived asset group may not be recoverable. An impairment loss is recorded if the sum of the future cash flows expected to result from the use of the asset (undiscounted and without interest charges) is less than the carrying amount of the asset. The amount of the impairment charge is measured based upon the fair value of the asset group.

Treasury Stock

The Company accounts for shares of its common stock that are repurchased without intent to retire as treasury stock. Such shares are recorded at cost and reflected separately on the consolidated balance sheets as a reduction of stockholders’ equity. The Company issues shares of treasury stock upon exercise of stock options, issuance of restricted share awards, payment of earned performance shares, and for issuances of common stock pursuant to the Company’s employee stock purchase plan. For purposes of determining the cost of the treasury shares re-issued, the Company uses the average cost method.

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Stock-Based Compensation Plans

In accordance with ASC 718, *Compensation – Stock Compensation*, the Company recognizes stock-based compensation costs for awards that are probable of vesting, on a straight-line basis over the requisite service period of the award, which is generally the vesting term. Share based compensation expense is recorded in operating expenses depending on where the respective individual's compensation is recorded. The Company generally utilizes the Black-Scholes option-pricing model to determine the fair value of stock options on the date of grant. In order to determine the grant date fair value of the supplemental stock options, a Monte Carlo simulation model is used. The assumptions utilized in the Black-Scholes and Monte Carlo simulation option-pricing models, as well as the description of the plans the stock-based awards are granted under, are described in further detail in Note 12, *Stock-Based Compensation Plans*.

Translation of Foreign Currencies

The Company's foreign subsidiaries typically use the local currency of the countries in which they are located as their functional currency. Their assets and liabilities are translated into U. S. dollars at the exchange rates in effect at the balance sheet date. Revenues and expenses are translated at the average exchange rates during the period. Translation gains and losses are reflected in the consolidated financial statements as a component of accumulated other comprehensive income. Transaction gains and losses, including those related to intercompany accounts, that are not considered to be of a long-term investment nature are included in the determination of net income. Transaction gains and losses, including those related to intercompany accounts, that are considered to be of a long-term investment nature are reflected in the consolidated financial statements as a component of accumulated other comprehensive income.

Since the undistributed earnings of the Company's foreign subsidiaries are considered to be indefinitely reinvested, the components of accumulated other comprehensive income have not been tax-effected.

Income Taxes

The provision for income taxes is computed using the asset and liability method, under which deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities. Deferred tax assets are reduced by a valuation allowance when it is more likely than not that some portion or all of the deferred tax assets will not be realized.

The Company periodically assesses its tax exposures and establishes, or adjusts, estimated unrecognized tax benefits for probable assessments by taxing authorities, including the Internal Revenue Service ("IRS"), and various foreign and state authorities. Such unrecognized tax benefits represent the estimated provision for income taxes expected to ultimately be paid.

New Accounting Standards Recently Adopted

In April 2015, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2015-03, *Simplifying the Presentation of Debt Issuance Costs*, which states that entities should present the debt issuance costs in the balance sheet as a direct deduction from the related debt liability rather than as an asset. Amortization of the costs is reported as interest expense. The effective date for the revised standard is for fiscal years beginning after December 15, 2016, with early adoption permitted. The Company has adopted ASU 2015-03 as of January 1, 2016 and applied retrospectively. See Note 5, *Debt*, for additional details regarding the application of ASU 2015-03.

In April 2015, the FASB issued ASU 2015-05, *Customer's Accounting for Fees Paid in a Cloud Computing Arrangement*, related to a customer's accounting for fees paid in a cloud computing arrangement. The new guidance requires that management evaluate each cloud computing arrangement in order to determine whether it includes a software license that must be accounted for separately from hosted services. ASU 2015-05 applies the same guidance cloud service providers use to make this determination and also eliminates the existing requirement for customers to account for software licenses they acquire by analogizing to the guidance on leases. ASU 2015-05 is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2015 and provides the option of applying the guidance prospectively to all arrangements entered into or materially modified after the effective date or on a retrospective basis. The Company has adopted ASU 2015-05 as of January 1, 2016 and applied prospectively. The adoption of this standard update did not have a material impact on the Company's financial position, results of operations, or cash flow as of December 31, 2016.

In September 2015, the FASB issued ASU 2015-16, *Business Combinations*. ASU 2015-16 requires that an acquirer recognize adjustments to provisional amounts that are identified during the measurement period after an acquisition within the reporting period they are determined. This is a change from the previous requirement that the adjustments be recorded retrospectively. The ASU also requires disclosure of the effect on earnings of changes in depreciation, amortization or other income effects, if any, as a result of the adjustment to the provisional amounts, calculated as if the accounting had been completed at the acquisition date. The ASU is effective for annual reporting periods (including interim reporting periods within those periods) beginning after December 15, 2015. The Company has adopted ASU 2015-16 prospectively as of January 1, 2016. The adoption did not have a material effect on the Company's financial position, results of operations, or cash flow as of December 31, 2016.

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In March 2016, the FASB issued ASU 2016-09, *Compensation – Stock Compensation: Improvements to Employee Share-Based Payment Accounting*, which changes accounting for certain aspects of employee share-based payments. The new guidance requires excess tax benefits and tax deficiencies to be recorded in the income statement when the awards vest or are settled. In addition, cash flows related to excess tax benefits will no longer be separately classified as a financing activity apart from other income tax cash flows. The standard also allows companies to repurchase more of an employee's shares for tax withholding purposes without triggering liability accounting, clarifies that all cash payments made on an employee's behalf for withheld shares should be presented as a financing activity on the cash flows statement, and provides an accounting policy election to account for forfeitures as they occur. The standard is effective for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years, with early adoption permitted. The Company elected to early adopt these amendments in the third quarter of 2016, which requires it to reflect any retroactive adjustments as of January 1, 2016, the beginning of the annual period that includes the interim period of adoption.

Stock-based compensation excess tax benefit or deficiencies are now reflected in the consolidated statement of income as a component of the provision for income taxes, whereas they were previously recognized in equity. This amendment and additional amendments to the accounting for income taxes and minimum statutory withholding tax requirements had no impact on retained earnings.

The consolidated statements of cash flows now present excess tax benefits as an operating activity. The Company has elected the retrospective transition method and as a result the consolidated statement of cash flows were adjusted as follows: a \$4.9 million and \$11.8 million increase to net cash provided by operating activities and a \$4.9 million and \$11.8 million increase to net cash used in financing activities for the years ended December 31, 2015 and 2014, respectively. The presentation requirements for cash flows related to employee taxes paid for withheld shares had no impact to any of the periods presented as the Company has historically presented them as a financing activity.

The Company has elected to account for forfeitures as they occur, rather than estimate expected forfeitures. Under the modified retrospective transition method, the Company has recognized a cumulative-effect reduction to retained earnings of \$0.7 million as of January 1, 2016, net of tax of \$0.4 million.

Recently Issued Accounting Standards Not Yet Effective

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers* (codified as "ASC 606"). ASC 606 will supersede the revenue recognition requirements in Accounting Standard Codification 605, *Revenue Recognition*, and most industry-specific guidance. The standard requires that entities recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which a company expects to be entitled in exchange for those goods or services. On July 9, 2015, the FASB deferred the effective date to fiscal years beginning after December 15, 2017, and for interim periods within those fiscal years. The Company will adopt the standard effective January 1, 2018. The standard permits the use of either the retrospective or cumulative effect transition method. At this time, the Company has not selected a transition method as it is continuing to assess the data (historical and current) and system requirements under each method.

During 2016, the Company began its detailed assessment of the impact of ASC 606. While the Company continues to evaluate the method of transition and the impact of the standard on its consolidated financial statements and related disclosures, at this time the Company cannot estimate the quantitative impact of adopting the new standard. However, the Company currently believes the most significant impacts relate to changes in the timing of recognition for software license revenues and sales commission expenses. The Company expects revenue related to maintenance and services to remain substantially unchanged and are performing a detailed analysis of the impact of the new standard on its hosting revenues. In particular, this analysis is focused on the nature of the Company's promise to the customers of its hosted products and solutions, the pricing structures used in its hosted arrangements and whether certain practical expedients provided for within the new standard apply to these arrangements.

As it relates to software license revenues, under ASC 606 the Company expects to recognize revenue in advance of billings for software license arrangements with extended payment terms as opposed to when payments become due and payable. Additionally, the Company expects that those same software license arrangements may contain a significant financing component which could result in a change in the amount of the contract value that is allocated to software license revenue. Additionally, because the requirement to have VSOE of fair value for undelivered elements is eliminated under the new standard, the Company expects the amounts allocated to software license, maintenance and services revenues for most software license arrangements to be recognized as each element is delivered or provided to the customer. Under current U.S. GAAP, when software license arrangements include PCS terms that fail to achieve VSOE of fair value the Company recognizes all revenues in the arrangement ratably over a longer service period.

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The Company is assessing whether or not sales commissions will be accounted for as incremental costs of obtaining a contract under the new standard. If we determine sales commissions meet the definition of incremental costs of obtaining a contract, the costs associated with sales commissions will likely be capitalized and expense recognized as the related goods or services are transferred to the customer. The Company currently recognizes sales commission expenses as they are incurred.

In February 2016, the FASB issued ASU 2016-02, *Leases*. This standard requires a lessee to record on the balance sheet the assets and liabilities for the rights and obligations created by leases with lease terms of more than 12 months. In addition, this standard requires both lessees and lessors to disclose certain key information about lease transactions. This standard will be effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company is currently assessing the impact the adoption of ASU 2016-02 will have on its financial position, results of operations, and cash flow.

In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows – Classification of Certain Cash Receipts and Cash Payments*, an update that addresses how certain cash receipts and cash payments are presented and classified in the statement of cash flows. Among the cash flow matters addressed in the update are payments for costs related to debt prepayments or extinguishments, payments related to settlement of certain types of debt instruments, payments of contingent consideration made after a business combination, proceeds from insurance claims and corporate-owned life insurance policies, and distributions received from equity method investees, among others. The standard is effective for fiscal beginning after December 31, 2017, including interim periods within that fiscal year. Early adoption is permitted, including adoption in an interim period. If an entity early adopts the amendments in an interim period, any adjustments should be reflected as of the beginning of the fiscal year that includes that interim period, and all of the amendments must be adopted together in the same period. The amendments will be applied using a retrospective transition method to each period presented, unless impracticable for specific cash flow matters, in which case the amendments would be applied prospectively as of the earliest date practicable. The Company is currently assessing the impact of ASU 2016-15 on its consolidated statement of cash flows.

In October 2016, the FASB issued ASU 2016-16, *Intra-Entity Transfers of Assets Other than Inventory*, to simplify the accounting for the income tax consequences of intra-entity transfers of assets other than inventory. Currently, U.S. GAAP prohibits the recognition of current and deferred income taxes for an intra-entity asset transfer until the asset has been sold to an outside party. This prohibition on recognition is an exception to the principle of comprehensive recognition of current and deferred income taxes in U.S. GAAP. The limited amount of authoritative guidance about the exception has led to diversity in practice and is a source of complexity in financial reporting, particularly for an intra-entity transfer of intellectual property. Under the amendments of ASU 2016-16, an entity should recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. Consequently, this amendment eliminates the exception for an intra-entity transfer of an asset other than inventory. The standard is effective for fiscal year beginning after December 15, 2017, including interim reporting periods within that fiscal year. Early adoption is permitted as of the beginning of an annual reporting period for which financial statements have not been issued or made available for issuance. The amendments to this ASU should be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The Company is currently assessing the impact of ASU 2016-16 on its financial position, results of operations, and cash flow.

In January 2017, the FASB issued ASU 2017-04, *Simplifying the Test for Goodwill Impairment*, an update that eliminates Step 2 from the goodwill impairment test. In computing the implied fair value of goodwill under Step 2, an entity had to perform procedures to determine the fair value at the impairment testing date of its assets and liabilities, including unrecognized assets and liabilities. Under the amendments in ASU 2017-04, an entity should perform its annual or interim goodwill test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. However, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. Additionally, an entity should consider income tax effects from any tax deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. An entity no longer will determine goodwill impairment by calculating the implied fair value of goodwill by assigning the fair value of a reporting unit to all of its assets and liabilities as if that reporting unit had been acquired in a business combination. The standard is effective for annual or interim goodwill impairment tests in fiscal years beginning December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company is currently assessing the impact of ASU 2017-04 on its annual goodwill impairment test and possible early adoption.

2. Acquisitions

Fiscal 2015 Acquisitions

PAY.ON

On November 4, 2015, the Company completed the acquisition of PAY.ON for \$186.1 million in cash and stock. PAY.ON is a leader in eCommerce payments gateway solutions to payment service providers globally. Their advanced platform-based solution complements and strengthens the Company's Merchant Retail Omni-Channel Universal Payments offerings. The combined entities provides customers the ability to deliver a seamless omni-channel customer payment experience in store, mobile, and online.

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Under the terms of the agreement, the Company acquired 100% of the equity of PAY.ON in a combination of cash and stock. The Company used approximately \$181.0 million from its Revolving Credit Facility. See Note 5, *Debt*, for terms of the Credit Facility.

The purchase price of PAY.ON was comprised of (in thousands):

	<u>Amount</u>
Cash payments to PAY.ON shareholders	\$180,994
Issuance of ACI common stock	5,379
Working capital adjustment	(232)
Total purchase price	<u>\$186,141</u>

The aggregate purchase price of PAY.ON was \$186.1 million, after working capital adjustments in accordance with the terms of the acquisition agreement. The consideration paid by the Company has been allocated to specific assets and liabilities based on the relative fair value of all assets and liabilities.

The Company incurred approximately \$0.9 million in transaction related expenses during the year ended December 31, 2015, including fees to the investment bank, legal and other professional fees, which are included in general and administrative expenses in the accompanying consolidated financial statements.

Under the terms of the PAY.ON acquisition agreement, the Company issued 476,750 shares of ACI common stock to two key PAY.ON employees (“PAY.ON RSAs”) with a fair value of \$11.3 million on the date of grant. The awards have requisite service periods of two years and vest in increments of 25% every six months from the date of the acquisition. The PAY.ON RSA grants provide for the payment of dividends on the Company’s common stock, if any, to the participant during the requisite service period (vesting period) and the participant has voting rights for each share of common stock. The Company recognizes compensation expense for the PAY.ON RSAs on a straight-line basis over the requisite service period.

PAY.ON contributed approximately \$16.5 million and \$2.9 million in revenue and an operating loss of \$17.1 million and \$2.1 million for the years ended December 31, 2016 and 2015, respectively.

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In connection with the acquisition, the Company recorded the following amounts based upon its purchase price allocation as of December 31, 2016.

<u>(in thousands, except weighted average useful lives)</u>	<u>Weighted-Average Useful Lives</u>	<u>PAY.ON</u>
Current assets:		
Cash and cash equivalents		\$ 1,627
Receivables		2,649
Other current assets		502
Total current assets acquired		<u>4,778</u>
Noncurrent assets:		
Property and equipment		332
Goodwill		140,526
Software	5 years	34,150
Customer relationships	15 years	21,718
Trademarks	5 years	2,300
Other noncurrent assets		28
Total assets acquired		<u>203,832</u>
Current liabilities:		
Accounts payable		1,058
Employee compensation		681
Other current liabilities		866
Total current liabilities acquired		<u>2,605</u>
Noncurrent liabilities:		
Deferred income taxes		15,086
Total liabilities acquired		<u>17,691</u>
Net assets acquired		<u>\$186,141</u>

Factors contributing to the purchase price that resulted in the goodwill (which is not tax deductible) include the acquisition of management, sales, and technology personnel with the skills to market new and existing products of the Company, enhanced product capabilities, complementary products and customers. Pro forma results for PAY.ON are not presented because they are not material.

Fiscal 2014 Acquisitions

Retail Decisions

On August 12, 2014, the Company completed the acquisition of ReD for \$205.1 million in cash. As a leader in fraud prevention solutions, the acquisition of ReD enhanced the Company's Universal Payments strategy and further strengthened the Company's leadership position in the fast-growing payments risk management space.

To fund this acquisition and related transaction fees, the Company drew an additional \$60.5 million on the Revolving Credit Facility and increased the Term portion of the Credit Agreement by an additional \$150.0 million. See Note 5, *Debt*, for terms of the financing arrangement.

The Company incurred approximately \$2.7 million in transaction related expenses during the year ended December 31, 2014, including fees to the investment bank, legal and other professional fees, which are included in general and administrative expenses in the accompanying consolidated financial statements.

ReD contributed approximately \$42.7 million and \$17.9 million in revenue and \$6.8 million and \$1.9 million of operating income for the years ended December 31, 2015 and 2014, respectively, which includes severance expense related to the integration activities. The consideration paid by the Company to complete the acquisition has been allocated to the assets acquired and liabilities assumed based upon their estimated fair values as of the date of the acquisition.

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In connection with the acquisition, the Company recorded the following amounts based upon its purchase price allocation as of December 31, 2015.

<u>(in thousands, except weighted average useful lives)</u>	<u>Weighted-Average Useful Lives</u>	<u>Retail Decisions</u>
Current assets:		
Cash and cash equivalents		\$ 795
Receivables		10,106
Other current assets		10,282
Total current assets acquired		<u>21,183</u>
Noncurrent assets:		
Property and equipment		3,354
Goodwill		137,915
Software	5-7 years	33,136
Customer relationships	18 years	50,480
Trademarks	5 years	3,980
Deferred income taxes		565
Other noncurrent assets		416
Total assets acquired		<u>251,029</u>
Current liabilities:		
Accounts payable		4,624
Employee compensation		6,046
Other current liabilities		11,683
Total current liabilities acquired		<u>22,353</u>
Noncurrent liabilities:		
Deferred income taxes		23,427
Other noncurrent liabilities		164
Total liabilities acquired		<u>45,944</u>
Net assets acquired		<u>\$205,085</u>

Factors contributing to the purchase price that resulted in the goodwill (which is not tax deductible) include the acquisition of management, sales, and technology personnel with the skills to market new and existing products of the Company, enhanced product capabilities, complementary products and customers. Pro forma results for ReD are not presented because they are not material.

3. Divestiture

Community Financial Services

On March 3, 2016, the Company completed the sale of its Community Financial Services (“CFS”) related assets and liabilities, a part of the Americas segment, to Fiserv, Inc. (“Fiserv”) for \$200.0 million. The sale of CFS, which was not strategic to the Company’s long-term strategy, is part of the Company’s ongoing efforts to expand as a provider of software products, Software as a Service-based, and platform-based solutions facilitating real-time electronic and eCommerce payments for large financial institutions, intermediaries, retailers, and billers worldwide. The sale included employee agreements and customer contracts as well as technology assets and intellectual property.

For the year ended December 31, 2016, the Company recognized a net after-tax gain of \$93.4 million on the sale of assets to Fiserv. This gain includes final post-closing adjustments pursuant to the definitive transaction agreement of \$0.5 million recognized during the year ended December 31, 2016.

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The Company and Fiserv have also entered into a Transition Services Agreement (“TSA”), whereby the Company continues to perform certain functions on Fiserv’s behalf during a migration period not to exceed 18 months from the date of the sale. The TSA is meant to reimburse the Company for direct costs incurred in order to provide such functions, which are no longer generating revenue for the Company.

4. Software and Other Intangible Assets

At December 31, 2016, software net book value totaled \$185.5 million, net of \$195.0 million of accumulated amortization. Included in this amount is software marketed for external sale of \$52.3 million. The remaining software net book value of \$133.2 million is comprised of various software that has been acquired or developed for internal use.

At December 31, 2015, software net book value totaled \$237.9 million, net of \$158.9 million of accumulated amortization. Included in this amount is software marketed for external sale of \$70.1 million. The remaining software net book value of \$167.8 million is comprised of various software that has been acquired or developed for internal use.

Amortization of software marketed for external sale is computed using the greater of the ratio of current revenues to total current and anticipated revenues expected to be derived from the software or the straight-line method over an estimated useful life of generally three to ten years. Software for resale amortization expense recorded during the years ended December 31, 2016, 2015, and 2014 totaled \$13.9 million, \$14.5 million, and \$14.8 million, respectively. These software amortization expense amounts are reflected in cost of license in the consolidated statements of income.

Amortization of software for internal use is computed using the straight-line method over an estimated useful life of three to ten years. Software for internal use amortization expense recorded during the years ended December 31, 2016, 2015, and 2014 totaled \$45.7 million, \$38.3 million, and \$26.7 million, respectively. These software amortization expense amounts are reflected in depreciation and amortization in the consolidated statements of income.

The carrying amount and accumulated amortization of the Company’s other intangible assets that were subject to amortization at each balance sheet date are as follows (in thousands):

	December 31, 2016			December 31, 2015		
	Gross Carrying Amount	Accumulated Amortization	Net Balance	Gross Carrying Amount	Accumulated Amortization	Net Balance
Customer relationships	\$295,730	\$ (96,356)	\$ 199,374	\$336,075	\$ (86,585)	\$ 249,490
Trademarks and tradenames	16,019	(11,759)	4,260	18,040	(10,605)	7,435
Purchased Contracts	10,429	(10,429)	—	10,690	(10,690)	—
	<u>\$322,178</u>	<u>\$ (118,544)</u>	<u>\$ 203,634</u>	<u>\$364,805</u>	<u>\$ (107,880)</u>	<u>\$ 256,925</u>

Other intangible assets amortization expense recorded during the years ended December 31, 2016, 2015, and 2014 totaled \$21.2 million, \$23.0 million, and \$24.7 million, respectively.

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Based on capitalized intangible assets at December 31, 2016, and assuming no impairment of these intangible assets, estimated amortization expense amounts in future fiscal years are as follows (in thousands):

<u>Fiscal Year Ending December 31,</u>	<u>Software Amortization</u>	<u>Other Intangible Assets Amortization</u>
2017	\$ 55,229	\$ 19,040
2018	41,254	18,537
2019	32,871	18,006
2020	25,733	17,139
2021	17,848	16,677
Thereafter	12,561	114,235
Total	<u>\$ 185,496</u>	<u>\$ 203,634</u>

5. Debt

As of December 31, 2016, the Company had \$88.0 million, \$365.3 million, and \$300.0 million outstanding under its Revolving Credit Facility, Term Credit Facility, and Senior Notes, respectively, with up to \$154.5 million of unused borrowings under the Revolving Credit Facility portion of the Credit Agreement, as amended, and up to \$7.5 million of unused borrowings under the Letter of Credit agreement. The amount of unused borrowings actually available varies in accordance with the terms of the agreement.

Credit Agreement

The Company entered into the Credit Agreement (the "Credit Agreement"), as amended, with a syndicate of financial institutions, as lenders, and Wells Fargo Bank, National Association ("Wells Fargo"), as Administrative Agent, providing for revolving loans, swingline loans, letters of credit and a term loan on November 10, 2011. The Credit Agreement consists of a five-year \$250.0 million senior secured revolving credit facility (the "Revolving Credit Facility"), which includes a sublimit for the issuance of standby letters of credit and a sublimit for swingline loans, and \$650.0 million total under the five-year senior secured term loan facility (the "Term Credit Facility" and, together with the Revolving Credit Facility, the "Credit Facility"). The Credit Agreement also allows the Company to request optional incremental term loans and increases in the revolving commitment. The amendment extended the Credit Facility through August 20, 2018.

Borrowings under the Credit Facility bear interest at a rate per annum equal to, at the Company's option, either (a) a base rate determined by reference to the highest of (1) the rate of interest per annum publicly announced by the Administrative Agent as its Prime Rate, (2) the federal funds effective rate plus 1/2 of 1% and (3) a LIBOR based rate determined by reference to the costs of funds for U.S. dollar deposits for a one-month interest period adjusted for certain additional costs plus 1% or (b) a LIBOR based rate determined by reference to the costs of funds for U.S. dollar deposits for the interest period relevant to such borrowing adjusted for certain additional costs, in each case plus an applicable margin. The applicable margin for borrowings under the Revolving Credit Facility is, based on the calculation of the applicable consolidated total leverage ratio, between 0.50% to 1.50% with respect to base rate borrowings and between 1.50% and 2.50% with respect to LIBOR based borrowings. Interest is due and payable monthly. The interest rate in effect at December 31, 2016 for the Credit Facility was 3.27%.

In addition to paying interest on the outstanding principal under the Credit Facility, the Company is required to pay a commitment fee in respect of the unutilized commitments under the Revolving Credit Facility, payable quarterly in arrears. The Company is also required to pay letter of credit fees on the maximum amount available to be drawn under all outstanding letters of credit in an amount equal to the applicable margin on LIBOR based borrowings under the Revolving Credit Facility on a per annum basis, payable quarterly in arrears, as well as customary fronting fees for the issuance of letters of credit fees and agency fees.

The Company is permitted to voluntarily reduce the unutilized portion of the commitment amount and repay outstanding loans under the Credit Facility at any time without premium or penalty, other than customary "breakage" costs with respect to LIBOR based loans.

Subsequent Event

On February 24, 2017, the Company entered into an amended and restated credit agreement (the "Amended Credit Agreement") with a syndicate of financial institutions, as lenders, and Bank of America, N.A. ("BofA"), as Administrative Agent, providing for revolving loans, swingline loans, letters of credit, and a term loan. The Amended Credit Agreement's terms and conditions are substantially the same as the Credit Agreement with the following exceptions: (i) the aggregate term loan commitment shall be \$415.0 million, (ii) the aggregate revolving credit commitment shall be \$500.0 million, and (iii) the maturity date is extended to February 24, 2022.

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Letter of Credit

On February 29, 2016, the Company entered into a standby letter of credit (the “Letter of Credit”), under the terms of the Credit Agreement, for \$25.0 million. On October 26, 2016, the Letter of Credit was renewed at \$7.5 million, which expires on June 30, 2017. At any time the Company may request to close the Letter of Credit. The Letter of Credit reduces the maximum available borrowings under our Revolving Credit Facility to \$242.5 million. Upon expiration of the Letter of Credit, maximum borrowings will return to \$250.0 million.

Senior Notes

On August 20, 2013, the Company completed a \$300.0 million offering of Senior Notes (“Senior Notes”) at an issue price of 100% of the principal amount in a private placement for resale to qualified institutional buyers. The Senior Notes bear an interest rate of 6.375% per annum, payable semi-annually in arrears on August 15 and February 15 of each year, commencing on February 15, 2014. Interest began accruing beginning August 20, 2013. The Senior Notes will mature on August 20, 2020.

Maturities on long-term debt outstanding at December 31, 2016 are as follows (amounts in thousands):

	<u>Fiscal year ending</u> <u>December 31,</u> <u>(in thousands)</u>	
2017		\$ 95,293
2018		357,997
2019		—
2020		<u>300,000</u>
Total		<u>\$753,290</u>

The Credit Agreement and Senior Notes also contain certain customary mandatory prepayment provisions. If certain events, as specified in the Credit Agreement or Senior Notes agreement, shall occur, the Company may be required to repay all or a portion of the amounts outstanding under the Credit Facility or Senior Notes.

The Credit Facility will mature on August 20, 2018 and the Senior Notes will mature on August 20, 2020. The Revolving Credit Facility and Senior Notes will not amortize and the Term Credit Facility will amortize, with principal payable in consecutive quarterly installments.

The Company’s obligations and the obligations of the guarantors under the guaranty and cash management arrangements entered into with lenders under the Credit Facility (or affiliates thereof) are secured by first-priority security interests in substantially all assets of the Company and any guarantor, including 100% of the capital stock of ACI Corporation and each domestic subsidiary of the Company, each domestic subsidiary of any guarantor and 65% of the voting capital stock of each foreign subsidiary of the Company that is directly owned by the Company or a guarantor, and in each case, is subject to certain exclusions set forth in the credit documentation governing the Credit Facility.

The Credit Agreement and Senior Notes contain certain customary affirmative covenants and negative covenants that limit or restrict, subject to certain exceptions, the incurrence of liens, indebtedness of subsidiaries, dividends and other restricted payments, mergers, advances, investments, acquisitions, transactions with affiliates, change in nature of business, and the sale of the assets. The Company is also required to maintain a consolidated leverage ratio at or below a specified amount and a consolidated fixed charge coverage ratio at or above a specified amount. If an event of default, as specified in the Credit Agreement and Senior Notes agreement, shall occur and be continuing, the Company may be required to repay all amounts outstanding under the Credit Facility and Senior Notes. On June 30, 2016, the Company requested and obtained a waiver to the application of the Consolidated Fixed Charge Coverage Ratio covenant in the Credit Agreement for the fiscal quarters ending June 30, 2016, September 30, 2016, and December 31, 2016. On November 2, 2016, the Company obtained an amendment to increase the Consolidated Net Leverage Ratio covenant in the Credit Agreement from 3.75 to 4.00 for the fiscal quarter ended September 30, 2016. As of December 31, 2016, and at all times during the period, the Company was in compliance with all other financial debt covenants.

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(in thousands)	As of December 31, 2016	As of December 31, 2015
Term credit facility	\$ 365,290	\$ 460,583
Revolving credit facility	88,000	178,000
6.375% Senior Notes, due August 2020	300,000	300,000
Debt issuance costs	(9,372)	(14,424)
Total debt	743,918	924,159
Less current portion of term credit facility	95,293	95,293
Less current portion of debt issuance costs	(4,970)	(5,583)
Total long-term debt	\$ 653,595	\$ 834,449

In April 2015, the FASB issued ASU 2015-03, *Simplifying the Presentation of Debt Issuance Costs*, which states that entities should present the debt issuance costs in the balance sheet as a direct deduction from the related debt liability rather than as an asset. The Company adopted ASU 2015-03 as of January 1, 2016 and applied retrospectively. The adoption of this standard resulted in the reclassification in the consolidated balance sheet as of December 31, 2015 of \$5.6 million from other current assets to current portion of long-term debt and \$8.8 million from other noncurrent assets to long-term debt.

Other

During the year ended December 31, 2012, the Company financed a five-year license agreement for certain internally-used software for \$14.8 million with annual payments through April 2016. During the year ended December 31, 2015, the Company financed multiple three-year license agreements for certain internally-used software for a total value of \$20.4 million with payments due through November 2018. Of these amounts, \$9.0 million and \$20.2 million remained outstanding at December 31, 2016 and 2015, respectively. The Company recorded \$7.3 million and \$11.7 million in other current liabilities and \$1.7 million and \$8.5 million in other non-current liabilities in its consolidated balance sheets as of December 31, 2016 and 2015, respectively.

6. Fair Value of Financial Instruments

ASC 820, *Fair Value Measurements and Disclosures* ("ASC 820"), defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. ASC 820 establishes a fair value hierarchy for valuation inputs that gives the highest priority to quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. The fair value hierarchy is as follows:

- Level 1 Inputs – Unadjusted quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.
- Level 2 Inputs – Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. These might include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (such as interest rates, volatilities, prepayment speeds, credit risks, etc.) or inputs that are derived principally from or corroborated by market data by correlation or other means.
- Level 3 Inputs – Unobservable inputs for determining the fair values of assets or liabilities that reflect an entity's own assumptions about the assumptions that market participants would use in pricing the assets or liabilities.

Debt

The fair value of our Credit Agreement approximates the carrying value due to the floating interest rate (Level 2 of the fair value hierarchy). The Company measures the fair value of its Senior Notes based on Level 2 inputs, which include quoted market prices and interest rate spreads of similar securities. The fair value of the Company's Senior Notes was \$309.8 million and \$310.5 million at December 31, 2016 and 2015, respectively.

Cash and Cash Equivalents

The fair values of cash and cash equivalents approximate the carrying values due to the short period of time to maturity (Level 2 of the fair value hierarchy).

The Company assesses its classifications within the fair value hierarchy at each reporting period. There were no transfers between any levels of the fair value hierarchy during the years ended December 31, 2016 and 2015.

7. Corporate Restructuring and Other Organizational Changes

Employee Actions

During the year ended December 31, 2016, the Company paid approximately \$0.8 million of termination costs related to terminations in prior periods. The Company has no severance liability outstanding at December 31, 2016.

During the year ended December 31, 2015, the Company reduced its headcount by 30 employees as a part of its integration of recent acquisitions. In connection with these actions, approximately \$1.3 million of termination costs were recognized in general and administrative expense in the accompanying consolidated statements of income during the year ended December 31, 2015. The Company recognized \$0.7 million of this expense in the Americas segment and \$0.6 million in the EMEA segment during the year ended December 31, 2015. The Company paid approximately \$2.9 million in restructuring severance costs during the year ended December 31, 2015 relating to expenses incurred in 2015 and prior. The unpaid severance liability as of December 31, 2015 totaled \$0.8 million.

During the year ended December 31, 2014, the Company reduced its headcount by 220 employees as a part of its integration of recent acquisitions. In connection with these actions, approximately \$8.7 million of termination costs were recognized in general and administrative expense in the accompanying consolidated statements of income during the year ended December 31, 2014. The charges by segment were as follows for the year ended December 31, 2014: \$5.7 million in the Americas segment, \$2.0 million in the EMEA segment, and \$1.0 million in the Asia/Pacific segment.

Lease Terminations

During the year ended December 31, 2016, the Company ceased use of a portion of its leased facilities in Watford, U.K.; Providence, RI; Chantilly, VA; and West Hills, CA. As a result, the Company recorded additional expense of \$5.0 million, which was recorded in general and administrative expenses in the accompanying consolidated statements of income for the year ended December 31, 2016.

The components of corporate restructuring and other reorganization activities from the recent acquisitions are included in the following table (in thousands):

	<u>Severance</u>	<u>Facility Closures</u>	<u>Total</u>
Balance, December 31, 2014	\$ 2,341	\$ 452	\$ 2,793
Restructuring charges (adjustments) incurred, net	1,339	—	1,339
Amounts paid during the period	(2,872)	(184)	(3,056)
Foreign currency translation adjustments	(31)	—	(31)
Balance, December 31, 2015	777	268	1,045
Restructuring charges (adjustments) incurred, net	—	5,041	5,041
Amounts paid during the period	(778)	(654)	(1,432)
Foreign currency translation adjustments	1	(96)	(95)
Balance, December 31, 2016	<u>\$ —</u>	<u>\$ 4,559</u>	<u>\$ 4,559</u>

Of the \$4.6 million facility closure liability, \$1.1 million and \$3.5 million is recorded in other current and noncurrent liabilities, respectively, in the accompanying consolidated balance sheet at December 31, 2016.

8. Common Stock and Treasury Stock

As of September 12, 2012, the Company's Board of Directors ("the Board") had approved a stock repurchase program authorizing the Company, from time to time as market and business conditions warrant, to acquire up to \$262.1 million of its common stock. On September 13, 2012, the Board approved the repurchase of up to 7,500,000 shares of the Company's common stock, or up to \$113.0 million, in place of the remaining repurchase amounts previously authorized. In July 2013 and again in February 2014, the Board approved an additional \$100.0 million for the stock repurchase program for a total of an additional \$200.0 million.

The Company repurchased 3,020,926 shares for \$60.1 million under the program during the year ended December 31, 2016. Under the program to date, the Company has repurchased 40,129,393 shares for approximately \$455.9 million. The maximum remaining authorized for purchase under the stock repurchase program was approximately \$78.2 million as of December 31, 2016.

During the year ended September 30, 2006, the Company began to issue shares of treasury stock upon exercise of stock options, payment of earned performance shares, issuance of restricted stock awards, and for issuances of common stock pursuant to the Company's employee stock purchase plan. Treasury shares issued during the year ended December 31, 2014 included 2,037,467, 106,275, and 635,643 shares issued pursuant to stock option exercises, RSA grants, and LTIP Performance Shares vesting, respectively. Treasury shares issued during the year ended December 31, 2015 included 1,146,199, 125,026, 548,671, and 978,365 shares issued pursuant to stock option exercises, RSA grants, LTIP Performance Shares vesting, and PBRSA grants, respectively. Treasury shares issued during the year ended December 31, 2016 included 797,140, 148,322, and 470,029 shares issued pursuant to stock option exercises, RSA grants, and Retention Restricted Share Award ("Retention RSA") grants, respectively.

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9. Earnings Per Share

Earnings per share is computed in accordance with ASC 260, *Earnings per Share*. Basic earnings per share is computed on the basis of weighted average outstanding common shares. Diluted earnings per share is computed on the basis of basic weighted average outstanding common shares adjusted for the dilutive effect of stock options and other outstanding dilutive securities.

The following table reconciles the average share amounts used to compute both basic and diluted earnings per share (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Weighted average shares outstanding:			
Basic weighted average shares outstanding	117,533	117,465	114,798
Add: Dilutive effect of stock options	1,314	1,454	1,973
Diluted weighted average shares outstanding	<u>118,847</u>	<u>118,919</u>	<u>116,771</u>

For the years ended December 31, 2016, 2015, and 2014, respectively, 6.1 million, 3.7 million, and 2.9 million options to purchase shares and contingently issuable shares, were excluded from the diluted net income per share computation as their effect would be anti-dilutive.

Common stock outstanding as of December 31, 2016 and 2015 was 117,336,797 and 119,033,770, respectively.

10. Other, net

Other, net is comprised of the following items (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Foreign currency transaction gains (losses)	\$4,105	\$ 1,946	\$ (67)
Realized gain on available-for-sale securities	—	24,465	—
Other	—	—	(173)
Total	<u>\$4,105</u>	<u>\$26,411</u>	<u>\$(240)</u>

The Company acquired a cost basis investment in Yodlee, Inc. (“Yodlee”) with the acquisition of S1 Corporation (“S1”) in February of 2012, which was fair valued at \$9.8 million as a part of the purchase price allocation. The Company subsequently made an additional investment in Yodlee of approximately \$1.0 million, bringing the total investment to \$10.8 million as of December 31, 2013. On October 3, 2014 Yodlee common stock began trading on the NASDAQ under the symbol YDLE and the Company transitioned to accounting for the investment as available-for-sale securities. The Company recognized an unrealized gain in accumulated other comprehensive income of approximately \$23.0 million during the year ended December 31, 2014 related to price appreciation of the Yodlee shares from the cost basis of \$10.8 million. As a result of the recognition of the unrealized gain, the Company released a deferred tax asset and an equal and offsetting valuation allowance on the associated deferred tax asset of approximately \$8.7 million during the year ended December 31, 2014. This tax impact was also recorded in accumulated other comprehensive income.

During the year ended December 31, 2015, the Company sold all of its Yodlee stock holdings in a series of sales and realized a total gain of \$24.5 million, which is included in other, net in the accompanying consolidated statements of income.

11. Segment Information

The Company’s chief operating decision maker, together with other senior management personnel, currently focus their review of consolidated financial information and the allocation of resources based on reporting of operating results, including revenues and operating income for the geographic regions of the Americas, EMEA, and Asia/Pacific and the Corporate segment. The Company’s products are sold and supported through distribution networks covering these three geographic regions, with each distribution network having its own sales force. The Company supplements its distribution networks with independent reseller and/or distributor arrangements. All administrative costs that are not directly attributable or reasonably allocable to a geographic segment are tracked in the Corporate segment. As such, the Company has concluded that its three geographic regions are its reportable segments.

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The Company allocates segment support expenses such as global product development, business operations, and product management based upon percentage of revenue per segment. Depreciation and amortization and other facility related costs are allocated as a percentage of the headcount by segment. The Corporate line item consists of the corporate overhead costs that are not allocated to operating segments. Corporate overhead costs relate to human resources, finance, legal, accounting, merger and acquisition activity, and amortization of acquisition-related intangibles and software as well as other costs that are not considered when management evaluates segment performance.

The following is selected segment financial data for the periods indicated (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Revenues:			
Americas—United States	\$ 527,431	\$ 628,013	\$ 614,488
Americas—Other	116,718	82,548	87,279
EMEA	261,160	250,568	230,879
Asia/Pacific	100,392	84,848	83,503
	<u>\$1,005,701</u>	<u>\$1,045,977</u>	<u>\$1,016,149</u>
Depreciation and amortization expense:			
Americas	\$ 27,951	\$ 24,966	\$ 20,548
EMEA	3,830	3,670	4,126
Asia/Pacific	1,820	1,751	1,809
Corporate	69,853	67,044	60,200
	<u>\$ 103,454</u>	<u>\$ 97,431</u>	<u>\$ 86,683</u>
Stock-based compensation expense:			
Americas	\$ 5,005	\$ 1,638	\$ 2,910
EMEA	6,476	1,223	419
Asia/Pacific	605	36	249
Corporate	31,527	15,483	7,467
	<u>\$ 43,613</u>	<u>\$ 18,380</u>	<u>\$ 11,045</u>
Income before income taxes:			
Americas	\$ 206,689	\$ 111,382	\$ 143,379
EMEA	176,958	132,518	116,120
Asia/Pacific	62,422	41,658	38,853
Corporate	(260,488)	(172,185)	(199,583)
	<u>\$ 185,581</u>	<u>\$ 113,373</u>	<u>\$ 98,769</u>
December 31,			
	<u>2016</u>	<u>2015</u>	
Long lived assets:			
Americas—United States	\$ 752,442	\$ 915,030	
Americas—Other	11,422	11,643	
EMEA	580,110	502,785	
Asia/Pacific	72,851	72,957	
	<u>\$1,416,825</u>	<u>\$1,502,415</u>	

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	December 31,	
	2016	2015
Total assets:		
Americas—United States	\$ 991,687	\$ 1,182,309
Americas—Other	32,365	33,492
EMEA	765,291	643,275
Asia/Pacific	112,952	116,712
	<u>\$ 1,902,295</u>	<u>\$ 1,975,788</u>

Additionally, the Company offers seven primary product categories that are sold in each of the geographic regions listed above. Following are revenues, by product and services (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Retail payments processing	\$ 415,729	\$ 402,454	\$ 406,023
Billers	255,540	241,949	235,039
Online banking and community financial services	125,580	219,698	227,659
Tools and infrastructure	63,923	42,783	40,427
Wholesale banking payments	37,040	41,545	37,879
Payment fraud management	30,130	27,373	36,235
Card and merchant management	77,759	70,175	32,887
Total	<u>\$ 1,005,701</u>	<u>\$ 1,045,977</u>	<u>\$ 1,016,149</u>

During the years ended December 31, 2016, 2015 and 2014, approximately 22%, 21%, and 21%, respectively, of the Company's total revenues were derived from licensing the BASE24 product line, which does not include the BASE24-eps product, and providing related services and maintenance.

No country outside of the United States accounted for more than 10% of the Company's consolidated revenues during the years ended December 31, 2016, 2015, and 2014. No single customer accounted for more than 10% of the Company's consolidated revenues during the years ended December 31, 2016, 2015, and 2014.

12. Stock-Based Compensation Plans

Employee Stock Purchase Plan

Under the Company's 1999 Employee Stock Purchase Plan (the "ESPP"), a total of 4,500,000 shares of the Company's common stock have been reserved for issuance to eligible employees. Participating employees are permitted to designate up to the lesser of \$25,000 or 10% of their annual base compensation, for the purchase of common stock under the ESPP. Purchases under the ESPP are made one calendar month after the end of each fiscal quarter. The price for shares of common stock purchased under the ESPP is 85% of the stock's fair market value on the last business day of the three-month participation period. Shares issued under the ESPP during the years ended December 31, 2016, 2015, and 2014, totaled 188,453, 162,058, and 154,223, respectively.

Additionally, the discount offered pursuant to the Company's ESPP discussed above is 15%, which exceeds the 5% non-compensatory guideline in ASC 718 and exceeds the Company's estimated cost of raising capital. Consequently, the entire 15% discount to employees is deemed to be compensatory for purposes of calculating expense using a fair value method. Compensation costs related to the ESPP for the years ended December 31, 2016, 2015, and 2014 was approximately \$0.5 million.

On July 24, 2007, the Company's stockholders approved a proposal to amend the ESPP to extend the term of the ESPP by ten years to April 30, 2018. The term of the amended ESPP commenced May 1, 2008 and continues until April 30, 2018 subject to earlier termination by the Board.

Stock Incentive Plans – Active Plans

2016 Equity and Performance Incentive Plan

On March 23, 2016, the Board approved the 2016 Equity and Performance Incentive Plan (the "2016 Incentive Plan"). The 2016 Incentive Plan is intended to meet the Company's objective of balancing stockholder concerns about dilution with the need to provide appropriate incentives to achieve Company performance objectives. The 2016 Incentive Plan was adopted by the stockholders on June 14, 2016. Following the adoption of the 2016 Incentive Plan, the 2005 Equity and Performance Incentive Plan, as amended (the "2005 Incentive Plan") was terminated. Termination of the 2005 Incentive Plan did not affect any equity awards outstanding under the 2005 Incentive Plan.

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The 2016 Incentive Plan provides for the grant of incentive stock options, nonqualified stock options, stock appreciation rights, restricted stock awards, performance awards, and other awards (“Awards”). Subject to adjustment in certain circumstances, the maximum number of shares of Common Stock that may be issued or transferred in connection with Awards granted under the 2016 Incentive Plan will be the sum of (i) 8,000,000 shares of Common Stock and (ii) any shares of Common Stock that are represented by options previously granted under the 2005 Incentive Plan which are forfeited, expire, or are canceled without delivery of common stock or which result in the forfeiture or relinquishment of Common Stock back to the Company. To the extent Awards granted under the 2016 Incentive Plan terminate, expire, are canceled without being exercised, are forfeited or lapse for any reason, the shares of Common Stock subject to such Award will again become available for grants under the 2016 Incentive Plan.

The 2016 Incentive Plan expressly prohibits re-pricing stock options and appreciation rights. The 2016 Incentive Plan also, subject to certain limited exceptions, expressly requires a one-year vesting period for all stock options and appreciation rights.

No eligible person selected by the Board to receive awards (“Participant”) will receive stock options, stock appreciation rights, restricted stock, restricted stock units, and other awards under the 2016 Incentive Plan, during any calendar year, for more than 3,000,000 shares of common stock. In addition, no Participant may receive performance shares or performance units having an aggregate value on the date of grant in excess of \$9,000,000 during any calendar year. Each of the limits described above may be adjusted equitably to accommodate a change in the capital structure of the Company.

Stock options granted pursuant to the 2016 Incentive Plan are granted at an exercise price not less than the market value per share of the Company’s common stock on the date of the grant. Under the 2016 Incentive Plan, the term of the outstanding options may not exceed ten years nor be less than one year. Vesting of options is determined by the Compensation Committee of the Board of Directors, the administrator of the 2016 Incentive Plan, and can vary based upon the individual award agreements. In addition, outstanding options do not have dividend equivalent rights associated with them under the 2016 Incentive Plan.

The Board may issue or transfer shares of common stock to Participants under a restricted stock grant for consideration or no consideration, and subject to restrictions, as determined by the Board. All restricted stock Awards will transfer ownership of such shares of restricted stock to the Participant and entitle the Participant to voting, dividend and other ownership rights, but the Participant’s ownership of the restricted shares shall be subject to substantial risk of forfeiture and restrictions on transfer. The Board may establish conditions under which restrictions will lapse over a period of time based upon the achievement of performance goals or according to such other criteria as the Board deems appropriate (the “Restriction Period”). An Award Agreement for restricted stock Awards may specify any Management Objectives that, if achieved, will result in the termination or early termination of the restrictions on the restricted shares including, without limitation, any minimum acceptable levels of achievement or formulas for determining the number of restricted shares on which the restrictions will terminate.

The Board may award Participants “Performance Shares” or “Performance Units” (collectively, “Performance Awards”) which will become payable to a Participant upon the achievement of specified “Management Objectives”, which are measurable objectives established for Participants. Each Award Agreement for Performance Awards will specify: (i) the number of Performance Shares or Performance Units granted; (ii) the period of time established for the Participant to achieve the Management Objectives (the “Performance Period”); (iii) the Management Objectives and a minimum acceptable level of achievement as well as a formula for determining the number of Performance Shares or Performance Units earned if performance is at or above the minimum level but short of full achievement of the Management Objectives; and (iv) any other terms that the Board may deem appropriate.

2005 Equity and Performance Incentive Plan

The Company had a 2005 Incentive Plan, under which shares of the Company’s common stock have been reserved for issuance to eligible employees or non-employee directors of the Company. The 2005 Incentive Plan provides for the grant of incentive stock options, nonqualified stock options, stock appreciation rights, restricted stock awards, performance awards and other awards. The maximum number of shares of the Company’s common stock that may be issued or transferred in connection with awards granted under the 2005 Incentive Plan is the sum of (i) 9,000,000 shares and (ii) any shares represented by outstanding options that had been granted under designated terminated stock option plans that are subsequently forfeited, expire or are canceled without delivery of the Company’s common stock.

On July 24, 2007, the stockholders of the Company approved the First Amendment to the 2005 Incentive Plan which increased the number of shares authorized for issuance under the plan from 9,000,000 to 15,000,000 and contained certain other amendments, including an amendment to provide that the exercise price for any options granted under the 2005 Incentive Plan, as amended, may not be less than the market value per share of common stock on the date of grant. On June 14, 2012, the stockholders of the Company approved the Second Amendment to the 2005 Incentive Plan which increased the number of shares authorized for issuance under the plan from 15,000,000 to 23,250,000.

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Stock options granted pursuant to the 2005 Incentive Plan are granted at an exercise price not less than the market value per share of the Company's common stock on the date of the grant. Prior to the adoption of the First Amendment to the 2005 Incentive Plan, stock options granted under the 2005 Incentive Plan were granted with an exercise price not less than the market value per share of common stock on the date immediately preceding the date of grant. Under the 2005 Incentive Plan, the term of the outstanding options may not exceed ten years. Vesting of options is determined by the Compensation Committee of the Board of Directors, the administrator of the 2005 Incentive Plan, and can vary based upon the individual award agreements.

Supplemental options granted pursuant to the 2005 Incentive Plan are granted at an exercise price not less than the market value per share of the Company's common stock on the date of the grant. These options vest, if at all, based upon (i) tranche one—any time after the third anniversary date if the stock has traded at 133% of the exercise price for at least 20 consecutive trading days, (ii) tranche two—any time after the fourth anniversary date if the stock has traded at 167% of the exercise price for at least 20 consecutive trading days, and (iii) tranche three—any time after the fifth anniversary date if the stock has traded at 200% of the exercise price for at least 20 consecutive trading days. The employees must also remain employed with the Company as of the anniversary date in order for the options to vest. The exercise price of the supplemental stock options is the closing market price on the date the awards were granted.

Performance awards granted pursuant to the 2005 Incentive Plan become payable upon the achievement of specified management objectives. Each performance award specifies: (i) the number of performance shares or units granted, (ii) the period of time established to achieve the management objectives, which may not be less than one year from the grant date, (iii) the management objectives and a minimum acceptable level of achievement as well as a formula for determining the number of performance shares or units earned if performance is at or above the minimum level but short of full achievement of the management objectives, and (iv) any other terms deemed appropriate.

Restricted stock awards granted pursuant to the 2005 Incentive Plan have requisite service periods of three years and vest in increments of 33%, respectively, on the anniversary of the grant date. Under each arrangement, stock is issued without direct cost to the employee. Restricted stock awards granted to our Board of Directors vest one year from grant or as of the next annual shareholders meeting, whichever is earlier.

A summary of stock options issued under the various Stock Incentive Plans previously described and changes is as follows:

	Number of Shares	Weighted- Average Exercise Price (\$)	Weighted- Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value of In-the-Money Options (\$)
Outstanding, December 31, 2013	7,408,821	\$ 11.02		
Granted	27,132	20.13		
Exercised	(2,036,558)	8.08		
Forfeited	(116,702)	17.80		
Outstanding, December 31, 2014	5,282,693	12.06		
Granted	2,055,514	19.12		
Exercised	(1,144,273)	10.62		
Forfeited	(394,265)	19.06		
Expired	(593)	20.51		
Outstanding, December 31, 2015	5,799,076	14.37		
Granted	2,284,500	17.92		
Exercised	(792,841)	11.69		
Forfeited	(446,845)	18.69		
Expired	(52,515)	20.44		
Outstanding, December 31, 2016	<u>6,791,375</u>	<u>\$ 15.54</u>	<u>6.68</u>	<u>\$ 20,777,320</u>
Exercisable, December 31, 2016	<u>3,650,356</u>	<u>\$ 13.15</u>	<u>4.87</u>	<u>\$ 20,245,847</u>

The weighted-average grant date fair value of stock options granted during the years ended December 31, 2016, 2015, and 2014 was \$5.59, \$6.49, and \$9.02, respectively. The total intrinsic value of stock options exercised during the years ended December 31, 2016, 2015, and 2014 was \$6.8 million, \$12.4 million, and \$22.8 million, respectively.

The fair value of options granted in the respective fiscal years are estimated on the date of grant using the Black-Scholes option-pricing model, acceptable under ASC 718, with the following weighted-average assumptions:

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	Years Ended December 31,		
	2016	2015	2014
Expected life (years)	5.9	5.9	5.9
Risk-free interest rate	1.2%	1.4%	1.8%
Expected volatility	29.7%	32.1%	45.2%
Expected dividend yield	—	—	—

Expected volatilities are based on the Company's historical common stock volatility derived from historical stock price data for historic periods commensurate with the options' expected life. The expected life of options granted represents the period of time that options granted are expected to be outstanding, based primarily on historical employee option exercise behavior. The risk-free interest rate is based on the implied yield currently available on U. S. Treasury zero coupon issued with a term equal to the expected life at the date of grant of the options. The expected dividend yield is zero as the Company has historically paid no dividends and does not anticipate dividends to be paid in the future.

During the year ended December 31, 2016, the Company granted supplemental stock options with three tranches at a grant date fair value of \$7.46, \$7.06, and \$6.50, respectively, per share. During the year ended December 31, 2015, the Company granted supplemental stock options with three tranches at a grant date fair value of \$8.01, \$7.56, and \$7.00, respectively, per share. These options vest, if at all, based upon (i) tranche one—any time after the third anniversary date if the stock has traded at 133% of the exercise price for at least 20 consecutive trading days, (ii) tranche two—any time after the fourth anniversary date if the stock has traded at 167% of the exercise price for at least 20 consecutive trading days, and (iii) tranche three—any time after the fifth anniversary date if the stock has traded at 200% of the exercise price for at least 20 consecutive trading days. The employees must also remain employed with the Company as of the anniversary date in order for the options to vest. The exercise price of the supplemental stock options is the closing market price on the date the awards were granted. In order to determine the grant date fair value of the supplemental stock options, a Monte Carlo simulation model is used. With respect to options granted that vest based on the achievement of certain market conditions, the grant date fair value of such options was estimated using the following weighted-average assumptions:

	Years Ended December 31,	
	2016	2015
Expected life (years)	7.5	7.5
Risk-free interest rate	1.6%	1.7%
Expected volatility	41.6%	41.9%
Expected dividend yield	—	—

Stock Incentive Plan – ORCC Corporation Stock Incentive Plan, as amended and restated

In relation to the acquisition of Online Resources Corporation (“ORCC”), the Company amended the ORCC Stock Incentive Plan, as previously amended and restated (the “ORCC Incentive Plan”). Stock options were granted to ORCC employees by ORCC prior to acquisition by the Company under the ORCC Incentive Plan. Outstanding ORCC options were converted into ACI options in accordance with the terms of the acquisition agreement. These are the only equity awards currently outstanding under the ORCC Incentive Plan and no further grants will be made.

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A summary of transaction stock options issued pursuant to the Company's stock incentive plans is as follows:

	Number of Shares	Weighted- Average Exercise Price	Weighted- Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value of In-the-Money Options
Outstanding as of December 31, 2013	62,445	\$ 35.03		
Exercised	(909)	13.92		
Cancelled	(15,024)	31.03		
Outstanding as of December 31, 2014	46,512	36.73		
Exercised	(1,926)	13.92		
Cancelled	(23,550)	44.83		
Outstanding as of December 31, 2015	21,036	29.76		
Exercised	(4,299)	13.92		
Cancelled	(2,634)	40.51		
Outstanding as of December 31, 2016	14,103	\$ 32.58	1.39	\$ —
Exercisable as of December 31, 2016	14,103	\$ 32.58	1.39	\$ —

Long-term Incentive Program Performance Share Awards

During the years ended December 31, 2016 and 2015, pursuant to the Company's 2005 Incentive Plan, the Company granted LTIP Performance Shares. These LTIP Performance Shares are earned, if at all, based upon the achievement, over a specified period that must not be less than one year and is typically a three-year performance period, of performance goals related to (i) the compound annual growth over the performance period in the sales for the Company as determined by the Company, and (ii) the cumulative operating income or earnings before interest, income taxes, depreciation, and amortization ("EBITDA") over the performance period as determined by the Company. In no event will any of the LTIP Performance Shares become earned if the Company's sales growth or cumulative operating income/EBITDA is below a predetermined minimum threshold level at the conclusion of the performance period. Assuming achievement of the predetermined sales growth and cumulative operating income/EBITDA threshold levels, up to 200% of the LTIP Performance Shares may be earned upon achievement of performance goals equal to or exceeding the maximum target levels for the performance goals over the performance period. Management must evaluate, on a quarterly basis, the probability that the threshold performance goals will be achieved, if at all, and the anticipated level of attainment in order to determine the amount of compensation costs to record in the consolidated financial statements.

During the fourth quarter of the year ended December 31, 2014, the Company revised the expected attainment for the awards granted in fiscal years 2012 and 2013 from 100% to 0% and 75%, respectively, due to changes in forecasted sales and operating income. During the first quarter of the year ended December 31, 2015, the Company revised the expected attainment rate for the awards granted in fiscal 2011 from 100% to 91% due to changes in actual sales and operating income. During the third quarter of the year ended December 31, 2015, the Company revised the expected attainment rate for the awards granted in fiscal 2013 from 75% to 0% due to changes in forecasted sales and operating income. The expected attainment rate for the 2015 and 2016 grants remain at 100%.

At December 31, 2015, the LTIPs granted in 2012 were earned by the employees. As the expected attainment rate was 0% for the LTIPs granted in 2012, no shares were issued in the first quarter of 2016. At December 31, 2016, the LTIPs granted in 2013 were earned by the employees. As the expected attainment rate was 0% for the LTIPs granted in 2013, no shares will be issued in the first quarter of 2017.

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A summary of the nonvested LTIP Performance Shares is as follows:

Nonvested LTIP Performance Shares	Number of Shares at Expected Attainment	Weighted-Average Grant Date Fair Value
Nonvested at December 31, 2013	2,718,576	\$ 13.78
Granted	19,065	20.13
Vested	(635,643)	8.88
Forfeited	(111,599)	16.43
Change in expected attainment for 2012 and 2013 grants	(844,483)	15.86
Nonvested at December 31, 2014	1,145,916	14.84
Granted	1,025,863	19.12
Vested	(548,671)	9.75
Forfeited	(205,510)	19.39
Change in expected attainment for 2011 and 2013 grants	(528,303)	19.44
Nonvested at December 31, 2015	889,295	19.13
Granted	1,059,428	17.92
Forfeited	(210,667)	18.61
Nonvested at December 31, 2016	<u>1,738,056</u>	<u>\$ 18.45</u>

During the years ended December 31, 2015 and 2014 the Company had 548,671 and 635,643 LTIP shares vest, respectively. The Company withheld 196,169 and 228,279 of those shares to pay the employees' portion of the minimum payroll withholding taxes for the years ended December 31, 2015 and 2014, respectively.

Restricted Share Awards

During the years ended December 31, 2016, 2015, and 2014, pursuant to the Company's 2016 Incentive Plan and 2005 Incentive Plan, the Company granted restricted share awards ("RSAs"). The awards have requisite service periods of three years and vest in increments of 33% on the anniversary of the grant dates. Under each arrangement, stock is issued without direct cost to the employee. RSAs granted to our Board of Directors vest one year from grant or as of the next annual shareholders meeting, whichever is earlier. The Company estimates the fair value of the RSAs based upon the market price of the Company's stock at the date of grant. The RSA grants provide for the payment of dividends on the Company's common stock, if any, to the participant during the requisite service period (vesting period) and the participant has voting rights for each share of common stock. The Company recognizes compensation expense for RSAs on a straight-line basis over the requisite service period.

A summary of nonvested RSAs are as follows:

Nonvested Restricted Share Awards	Restricted Share Awards	Grant Date Fair Value
Nonvested at December 31, 2013	145,065	\$ 14.91
Granted	106,275	18.57
Vested	(66,670)	14.59
Forfeited	(1,461)	20.51
Nonvested at December 31, 2014	183,209	17.11
Granted	125,026	23.82
Vested	(158,973)	17.21
Nonvested at December 31, 2015	149,262	22.62
Granted	148,322	20.19
Vested	(114,219)	22.64
Forfeited	(11,257)	21.01
Nonvested at December 31, 2016	<u>172,108</u>	<u>\$ 20.62</u>

During the years ended December 31, 2016, 2015, and 2014, the Company had 114,219, 158,973, and 66,670 RSA shares vested, respectively. The Company withheld 9,062, 25,235, and 26,461 of those respective shares to pay the employees' portion of the minimum payroll withholding taxes.

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Performance-Based Restricted Share Awards

During the year ended December 31, 2015, pursuant to the Company's 2005 Incentive Plan, the Company granted PBRSA. The PBRSA grants provide for the payment of dividends on the Company's common stock, if any, to the participant during the requisite service period (vesting period) and the participant has voting rights for each share of common stock. These PBRSA awards are earned, if at all, based upon the achievement of performance goals over a specific period (the "Performance Period") and completion of the service period. The PBRSA grants on June 9, 2015 have a graded-vesting period of three years (33% vest each year) and are subject to performance targets based on the Company's EBITDA. The first 33% of the PBRSA grants issued vest subject to meeting the EBITDA target based for the year ending December 31, 2015. The remaining 66% of the PBRSA grants issued, vest 33% at the end of year two and 33% at the end of year three, subject to meeting the EBITDA target for the year ending December 31, 2016. The PBRSA grants on September 15, 2015 have a vesting period of 1.3 years and are subject to performance targets based on the Company's EBITDA for the year ending December 31, 2016. In no event will any of the PBRSA shares become earned if the Company's EBITDA is below a predetermined minimum threshold level at the conclusion of the Performance Period. Assuming achievement of the predetermined EBITDA threshold level, up to 150% of the PBRSA shares may be earned upon achievement of performance goals equal to or exceeding the maximum target levels for the performance goals over the Performance Period. Management will evaluate, on a quarterly basis, the probability that the threshold performance goals will be achieved, if at all, and the anticipated level of attainment in order to determine the amount of compensation costs to record in the consolidated financial statements. Through December 31, 2015, the Company had accrued compensation costs assuming an attainment level of 100% for all PBRSA grants. The first tranche of the June 9th grant vested at 90.4%. The remaining outstanding awards assume 100% attainment. The Company recognizes compensation expense for PBRSA on a straight-line basis over the requisite service periods.

A summary of nonvested PBRSA as of December 31, 2016 and changes during the period are as follows:

Nonvested Performance-Based Restricted Share Awards	Number of Performance-Based Restricted Share Awards	Weighted-Average Grant Date Fair Value
Nonvested as of December 31, 2014	—	\$ —
Granted	978,365	23.45
Forfeited	(39,502)	24.24
Nonvested as of December 31, 2015	938,863	23.42
Forfeited	(67,397)	22.34
Vested	(169,567)	24.41
Change in attainment for 2015 grants	(18,232)	24.41
Nonvested as of December 31, 2016	<u>683,667</u>	<u>\$ 23.25</u>

During the year ended December 31, 2016, 169,567 shares of the PBRSA vested. The Company withheld 59,659 of those shares to pay the employees' portion of the minimum payroll withholding taxes.

Retention Restricted Share Awards

During the year ended December 31, 2016, pursuant to the Company's 2005 Incentive Plan, the Company granted Retention RSAs. The Retention RSA awards granted to named executive officers have a requisite service period (vesting period) of 1.3 years and vest 50% on July 1, 2016 and 50% on July 1, 2017. Retention RSA awards granted to employees other than named executive officers have a vesting period of 0.8 years and vest 50% on July 1, 2016 and 50% on January 1, 2017. Under each agreement, stock is issued without direct cost to the employee. The Company estimates the fair value of the Retention RSAs based upon the market price of the Company's stock at the date of grant. The Retention RSA grants provide for the payment of dividends on the Company's common stock, if any, to the participant during the requisite service period and the participant has voting rights for each share of common stock. The Company recognizes compensation expense for Retention RSAs on a straight-line basis over the requisite service period.

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A summary of nonvested Retention RSAs as of December 31, 2016 and changes during the period are as follows:

Nonvested Retention Restricted Share Awards	Number of Retention Restricted Share Awards	Weighted-Average Grant Date Fair Value
Nonvested as of December 31, 2015	—	\$ —
Granted	473,069	17.89
Vested	(226,526)	17.89
Forfeited	(41,003)	17.89
Nonvested as of December 31, 2016	<u>205,540</u>	<u>\$ 17.89</u>

During the year ended December 31, 2016, 226,526 shares of the Retention RSAs vested. The Company withheld 76,421 of those shares to pay the employees' portion of the minimum payroll withholding taxes.

PAY.ON Restricted Share Awards

Under the terms of the PAY.ON acquisition agreement, the Company issued PAY.ON RSAs to two key employees. The awards have requisite service periods of two years and vest in increments of 25% every six months from the date of the acquisition. The PAY.ON RSA grants provide for the payment of dividends on the Company's common stock, if any, to the participant during the requisite service period (vesting period) and the participant has voting rights for each share of common stock. The Company recognizes compensation expense for the PAY.ON RSAs on a straight-line basis over the requisite service period.

A summary of nonvested PAY.ON RSAs as of December 31, 2016 and changes during the period are as follows:

Nonvested PAY.ON RSAs	Number of PAY.ON RSAs	Grant Date Fair Value
Nonvested at December 31, 2014	—	\$ —
Granted	476,750	23.60
Nonvested at December 31, 2015	476,750	23.60
Vested	(238,374)	23.60
Nonvested at December 31, 2016	<u>238,376</u>	<u>\$ 23.60</u>

As of December 31, 2016, there were unrecognized compensation costs of \$12.0 million related to nonvested stock options, \$2.0 million related to the nonvested RSAs, \$18.0 million related to the LTIP performance shares, \$3.2 million related to nonvested PBRsAs, and \$0.5 million related to nonvested Retention RSAs, which the Company expects to recognize over weighted-average periods of 1.9 years, 1.3 years, 2.0 years, 1.1 years, and 0.5 years, respectively.

The Company recorded stock-based compensation expenses recognized under ASC 718 during the years ended December 31, 2016, 2015, and 2014 related to stock options, LTIP Performance Shares, RSAs, PBRsAs, and the ESPP of \$43.6 million, \$18.4 million, and \$11.0 million, respectively, with corresponding tax benefits of \$14.3 million, \$6.9 million, and \$4.2 million, respectively. The Company recognizes compensation costs for stock option awards which vest with the passage of time with only service conditions on a straight-line basis over the requisite service period. The Company recognizes compensation costs for stock option awards that vest with service and market-based conditions on a straight-line basis over the longer of the requisite service period or the estimated period to meet the defined market-based condition.

13. Employee Benefit Plans

ACI 401(k) Plan

The ACI 401(k) Plan is a defined contribution plan covering all domestic employees of the Company. Participants may contribute up to 75% of their annual eligible compensation up to a maximum of \$18,000 (for employees who are under the age of 50 on December 31, 2016) or a maximum of \$24,000 (for employees aged 50 or older on December 31, 2016). After one year of service, the Company matches participant contributions 100% on every dollar deferred to a maximum of 4% of eligible compensation contributed to the plan, not to exceed \$4,000 per employee annually. Company contributions charged to expense during the years ended December 31, 2016, 2015 and 2014, was \$5.5 million, \$6.1 million, and \$6.0 million, respectively.

ACI Worldwide EMEA Group Personal Pension Scheme

The ACI Worldwide EMEA Group Personal Pension Scheme is a defined contribution plan covering substantially all ACI Worldwide (EMEA) Limited ("ACI-EMEA") employees. For those ACI-EMEA employees who elect to participate in the plan, the Company contributes a minimum of 8.5% of eligible compensation to the plan for employees employed at December 1, 2000 (up to a maximum

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of 15.5% for employees aged over 55 years on December 1, 2000) or from 6% to 10% of eligible compensation for employees employed subsequent to December 1, 2000. ACI-EMEA contributions charged to expense during the year ended December 31, 2016, 2015, and 2014 was \$1.7 million, \$1.8 million, and \$1.5 million, respectively.

14. Income Taxes

For financial reporting purposes, income before income taxes includes the following components (in thousands):

	Years Ended December 31,		
	2016	2015	2014
United States	\$134,740	\$ 52,563	\$47,963
Foreign	50,841	60,810	50,806
Total	\$185,581	\$113,373	\$98,769

The expense (benefit) for income taxes consists of the following (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Federal			
Current	\$14,108	\$ (6,889)	\$ 7,895
Deferred	19,034	18,024	7,021
Total	33,142	11,135	14,916
State			
Current	12,565	379	1,542
Deferred	(2,502)	(4,096)	(2,397)
Total	10,063	(3,717)	(855)
Foreign			
Current	11,671	15,117	13,335
Deferred	1,170	5,402	3,813
Total	12,841	20,519	17,148
Total	\$56,046	\$27,937	\$31,209

Differences between the income tax expense computed at the statutory federal income tax rate and per the consolidated statements of income are summarized as follows (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Tax expense at federal rate of 35%	\$ 64,953	\$39,680	\$34,569
State income taxes, net of federal benefit	7,060	(2,462)	(544)
Change in valuation allowance	(8,524)	(9,066)	3,521
Foreign tax rate differential	(11,830)	(5,710)	(5,508)
Unrecognized tax benefit increase	1,045	2,977	65
Tax effect of foreign operations	5,988	261	(104)
Acquisition costs	28	—	289
Tax benefit of research & development	(1,088)	(871)	(3,446)
Other	(1,586)	3,128	2,367
Income tax provision	\$ 56,046	\$27,937	\$31,209

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The countries having the greatest impact on the tax rate adjustment line shown in the above table as “Foreign tax rate differential” for the year ended December 31, 2016 are Ireland, South Africa, and the United Kingdom. The countries having the greatest impact on the tax rate adjustment line shown in the above table as “Foreign tax rate differential” for the year ended December 31, 2015 are Ireland, Netherlands, South Africa, and the United Kingdom. The countries having the greatest impact on the tax rate adjustment line shown in the above table as “Foreign tax rate differential” for the year ended December 31, 2014 are Ireland, South Africa, and the United Kingdom.

The deferred tax assets and liabilities result from differences in the timing of the recognition of certain income and expense items for tax and financial accounting purposes. The sources of these differences at each balance sheet date are as follows (in thousands):

	December 31,	
	2016	2015
Deferred income tax assets:		
Net operating loss carryforwards	\$ 65,351	\$ 112,193
Tax credits	25,173	40,614
Compensation	39,340	25,752
Deferred revenue	27,303	25,287
Other	6,279	8,346
Gross deferred income tax assets	163,446	212,192
Less: valuation allowance	(9,659)	(18,742)
Net deferred income tax assets	<u>\$ 153,787</u>	<u>\$ 193,450</u>
Deferred income tax liabilities:		
Depreciation and amortization	<u>\$(102,657)</u>	<u>\$(130,645)</u>
Total deferred income tax liabilities	<u>(102,657)</u>	<u>(130,645)</u>
Net deferred income taxes	<u>\$ 51,130</u>	<u>\$ 62,805</u>
Deferred income taxes / liabilities included in the balance sheet are:		
Deferred income tax asset—noncurrent	\$ 77,479	\$ 90,872
Deferred income tax liability—noncurrent	(26,349)	(28,067)
Net deferred income taxes	<u>\$ 51,130</u>	<u>\$ 62,805</u>

In assessing the realizability of deferred tax assets, the Company considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. The Company considers projected future taxable income, carryback opportunities, and tax planning strategies in making this assessment. Based upon the level of historical taxable income and projections for future taxable income over the periods which the deferred tax assets are deductible, the Company believes it is more likely than not that it will realize the benefits of these deductible differences, net of the valuation allowances recorded. During the year ended December 31, 2016, the Company decreased its valuation allowance by \$9.1 million which relates primarily to a reduction in valuation allowance on U.S. foreign tax credits.

At December 31, 2016, the Company had domestic federal tax net operating losses (“NOLs”) of \$139.7 million which will begin to expire in 2017. The Company had deferred tax asset equal to \$6.4 million related to domestic state tax NOLs which will begin to expire in 2017. The Company does not have any valuation allowance against the federal tax NOLs, but has provided a \$5.9 million valuation allowance against the tax benefit associated with the state NOLs. The Company had foreign tax NOLs of \$37.3 million, of which \$35.9 million may be utilized over an indefinite life, with the remainder expiring over the next 10 years. The Company has provided a \$1.2 million valuation allowance against the tax benefit associated with the foreign NOLs.

The Company had U.S. foreign tax credit carryforwards at December 31, 2016 of \$17.3 million, for which a \$0.6 million valuation allowance has been provided. The U.S. foreign tax credits will begin to expire in 2021. The Company also had domestic federal and state general business credit carryforwards at December 31, 2016 of \$11.9 million and \$0.5 million, respectively, which will begin to expire in 2019 and 2022, respectively.

The unrecognized tax benefit at December 31, 2016 and 2015 was \$24.3 million and \$21.1 million, respectively, of which \$17.6 million and \$8.2 million, respectively, are included in other noncurrent liabilities in the consolidated balance sheet. Of the total unrecognized tax benefit amounts at December 31, 2016 and 2015, \$23.2 million and \$20.0 million, respectively, represent the net unrecognized tax benefits that, if recognized, would favorably impact the effective income tax rate in respective years.

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A reconciliation of the beginning and ending amount of unrecognized tax benefits for the years ended December 31 is as follows (in thousands):

	<u>2016</u>	<u>2015</u>	<u>2014</u>
Balance of unrecognized tax benefits at beginning of year	\$21,079	\$14,780	\$14,996
Increases for tax positions of prior years	58	1,449	84
Decreases for tax positions of prior years	(361)	(47)	(412)
Increases for tax positions established for the current period	5,185	9,866	491
Decreases for settlements with taxing authorities	(167)	(594)	—
Reductions resulting from lapse of applicable statute of limitation	(1,310)	(4,218)	(239)
Adjustment resulting from foreign currency translation	(206)	(157)	(140)
Balance of unrecognized tax benefits at end of year	<u>\$24,278</u>	<u>\$21,079</u>	<u>\$14,780</u>

The Company files income tax returns in the U.S. federal jurisdiction, various state and local jurisdictions, and many foreign jurisdictions. The United States, Australia, Canada, India, Ireland, Luxembourg, South Africa, and United Kingdom are the main taxing jurisdictions in which the Company operates. The years open for audit vary depending on the tax jurisdiction. In the United States, the Company's tax returns for years following 2012 are open for audit. In the foreign jurisdictions, the tax returns open for audit generally vary by jurisdiction between 2002 and 2015.

The Company's Indian income tax returns covering fiscal years 2002 through 2006 and 2010 through 2014 are under audit by the Indian tax authority. Other foreign subsidiaries could face challenges from various foreign tax authorities. It is not certain that the local authorities will accept the Company's tax positions. The Company believes its tax positions comply with applicable tax law and intends to vigorously defend its positions. However, differing positions on certain issues could be upheld by tax authorities, which could adversely affect the Company's financial condition and results of operations.

The Company believes it is reasonably possible that the total amount of unrecognized tax benefits will decrease within the next 12 months by approximately \$1.4 million due to the settlement of various audits and the expiration of statutes of limitations. The Company accrues interest related to uncertain tax positions in interest expense or interest income and recognizes penalties related to uncertain tax positions in other income or other expense. As of December 31, 2016 and 2015, \$1.9 million and \$2.2 million, respectively is accrued for the payment of interest and penalties related to income tax liabilities. The aggregate amount of interest and penalties recorded in the statement of income for the years ended December 31, 2016, 2015, and 2014 is \$(0.2) million, \$(0.1) million and \$0.2 million, respectively.

The undistributed earnings of the Company's foreign subsidiaries of approximately \$181.9 million are considered to be permanently reinvested. Accordingly, no provision for U.S. federal and state income taxes or foreign withholding taxes has been provided for such undistributed earnings. The determination of the additional U.S. federal and state income taxes or foreign withholding taxes that have not been provided is not practicable.

15. Commitments and Contingencies

In accordance with ASC 460, *Guarantees*, the Company recognizes the fair value for guarantee and indemnification arrangements it issues or modifies, if these arrangements are within the scope of the interpretation. In addition, the Company must continue to monitor the conditions that are subject to the guarantees and indemnifications as required under the previously existing generally accepted accounting principles, in order to identify if a loss has occurred. If the Company determines it is probable that a loss has occurred, then any such estimable loss would be recognized under those guarantees and indemnifications. Under its customer agreements, the Company may agree to indemnify, defend and hold harmless its customers from and against certain losses, damages and costs arising from claims alleging that the use of its software infringes the intellectual property of a third-party. Historically, the Company has not been required to pay material amounts in connection with claims asserted under these provisions and accordingly, the Company has not recorded a liability relating to such provisions.

Under its customer agreements, the Company also may represent and warrant to customers that its software will operate substantially in conformance with its documentation and that the services the Company performs will be performed in a workmanlike manner, by personnel reasonably qualified by experience and expertise to perform their assigned tasks. Historically, only minimal costs have been incurred relating to the satisfaction of warranty claims. In addition, from time to time, the Company may guarantee the performance of a contract on behalf of one or more of its subsidiaries, or a subsidiary may guarantee the performance of a contract on behalf of another subsidiary.

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Other guarantees include promises to indemnify, defend and hold harmless the Company's executive officers, directors and certain other key officers. The Company's certificate of incorporation provides that it will indemnify, and advance expenses to, its directors and officers to the maximum extent permitted by Delaware law. The indemnification covers any expenses and liabilities reasonably incurred by a person, by reason of the fact that such person is or was or has agreed to be a director or officer, in connection with the investigation, defense and settlement of any threatened, pending or completed action, suit, proceeding or claim. The Company's certificate of incorporation authorizes the use of indemnification agreements and the Company enters into such agreements with its directors and certain officers from time to time. These indemnification agreements typically provide for a broader scope of the Company's obligation to indemnify the directors and officers than set forth in the certificate of incorporation. The Company's contractual indemnification obligations under these agreements are in addition to the respective directors' and officers' rights under the certificate of incorporation or under Delaware law.

Operating Leases

The Company leases office space and equipment under operating leases that run through October 2028. The leases that the Company has entered into do not impose restrictions as to the Company's ability to pay dividends or borrow funds, or otherwise restrict the Company's ability to conduct business. On a limited basis, certain of the lease arrangements include escalation clauses which provide for rent adjustments due to inflation changes with the expense recognized on a straight-line basis over the term of the lease. Lease payments subject to inflation adjustments do not represent a significant portion of the Company's future minimum lease payments. A number of the leases provide renewal options, but in all cases such renewal options are at the election of the Company. Certain of the lease agreements provide the Company with the option to purchase the leased equipment at its fair market value at the conclusion of the lease term.

Total operating lease expense for the years ended December 31, 2016, 2015, and 2014 was \$25.3 million, \$26.6 million and \$26.7 million, respectively.

Aggregate minimum operating lease payments under these agreements in future fiscal years are as follows (in thousands):

Fiscal Year Ending December 31,	Operating Leases
2017	\$ 16,206
2018	16,073
2019	14,227
2020	11,252
2021	7,828
Thereafter	25,572
Total minimum lease payments	<u>\$ 91,158</u>

Legal Proceedings

On September 23, 2015, a jury verdict was returned against ACI Worldwide Corp. ("ACI Corp."), a subsidiary of the Company, for \$43.8 million in connection with counterclaims brought by Baldwin Hackett & Meeks, Inc. ("BHMI") in the District Court of Douglas County, Nebraska. On September 21, 2012, ACI Corp. had sued BHMI for misappropriation of ACI Corp.'s trade secrets. The jury found that ACI Corp. had not met its burden of proof regarding these claims. On March 6, 2013, BHMI asserted counterclaims for breach of a non-disclosure agreement, tortious interference and violation of the Nebraska anti-monopoly statute, all of which were alleged to arise out of ACI Corp.'s filing of its lawsuit. On September 23, 2015, the jury found for BHMI on its counterclaims and awarded \$43.8 million in damages. On January 5, 2016, the court entered a judgment against ACI Corp. for \$43.8 million for damages and \$2.7 million for attorney fees and costs. ACI Corp. disagrees with the verdicts and judgment, and after the trial court denied ACI Corp.'s post-judgment motions, on March 31, 2016, ACI Corp. perfected an appeal of the dismissal of its claims against BHMI and the judgment in favor of BHMI on its counterclaims, and oral arguments before the Nebraska Supreme Court are scheduled for March 3, 2017. While there necessarily can be no assurance of the result of the litigation, the Company has determined that it does not have a probable loss with respect to this litigation and that the amount of loss, if any, cannot be reasonably estimated. Accordingly, the Company has not accrued for this litigation.

Indemnities

Under certain customer contracts, the Company indemnifies customers for certain matters including third party claims of intellectual property infringement relating to the use of our products. Our maximum potential exposure under indemnification arrangements can range from a specified dollar amount to an unlimited amount, depending on the nature of the transactions and the agreements. The Company has recorded an accrual for estimated losses for demands for indemnification that have been tendered by certain customers. The Company does not have any reason to believe that we will be required to make any material payments under these indemnity provisions in excess of the balance accrued at December 31, 2016.

16. Accumulated Other Comprehensive Loss

Activity within accumulated other comprehensive loss for the three years ended December 31, 2016, 2015, and 2014 were as follows:

	<u>Unrealized gain on available-for-sale securities</u>	<u>Foreign currency translation</u>	<u>Accumulated other comprehensive loss</u>
Balance at December 31, 2013	\$ —	\$ (23,315)	\$ (23,315)
Other comprehensive loss	22,977	(19,545)	3,432
Balance at December 31, 2014	22,977	(42,860)	(19,883)
Other comprehensive loss	(22,977)	(28,716)	(51,693)
Balance at December 31, 2015	—	(71,576)	(71,576)
Other comprehensive loss	—	(22,524)	(22,524)
Balance at December 31, 2016	<u>\$ —</u>	<u>\$ (94,100)</u>	<u>\$ (94,100)</u>

17. Quarterly Financial Data (unaudited)

	Quarter Ended				Year Ended
	March 31, 2016	June 30, 2016	September 30, 2016	December 31, 2016	December 31, 2016
<i>(in thousands, except per share amounts)</i>					
Revenues:					
License	\$ 37,423	\$ 33,510	\$ 43,256	\$ 159,277	\$ 273,466
Maintenance	57,331	60,332	57,741	58,072	233,476
Services	19,576	23,823	19,809	24,262	87,470
Hosting	111,736	102,265	96,169	101,119	411,289
Total revenues	<u>226,066</u>	<u>219,930</u>	<u>216,975</u>	<u>342,730</u>	<u>1,005,701</u>
Operating expenses:					
Cost of license (1)	5,439	4,610	5,253	7,043	22,345
Cost of maintenance, services and hosting (1) (2)	112,995	110,774	95,014	103,786	422,569
Research and development (2)	43,604	46,421	42,210	37,665	169,900
Selling and marketing (2)	29,992	28,795	29,874	29,421	118,082
General and administrative (2)	26,068	34,520	31,390	21,639	113,617
Gain on sale of CFS assets	(151,952)	—	489	—	(151,463)
Depreciation and amortization	23,208	21,382	22,098	22,833	89,521
Total operating expenses (2)	<u>89,354</u>	<u>246,502</u>	<u>226,328</u>	<u>222,387</u>	<u>784,571</u>
Operating income (2)	136,712	(26,572)	(9,353)	120,343	221,130
Other income (expense):					
Interest expense	(10,414)	(9,715)	(9,838)	(10,217)	(40,184)
Interest income	150	121	145	114	530
Other, net	(334)	2,023	2,794	(378)	4,105
Total other income (expense)	<u>(10,598)</u>	<u>(7,571)</u>	<u>(6,899)</u>	<u>(10,481)</u>	<u>(35,549)</u>
Income (loss) before income taxes (2)	126,114	(34,143)	(16,252)	109,862	185,581
Income tax expense (benefit) (2)	36,970	(17,669)	(6,426)	43,171	56,046
Net income (loss) (2)	<u>\$ 89,144</u>	<u>\$ (16,474)</u>	<u>\$ (9,826)</u>	<u>\$ 66,691</u>	<u>\$ 129,535</u>
Earnings (loss) per share					
Basic	\$ 0.75	\$ (0.14)	\$ (0.08)	\$ 0.57	\$ 1.10
Diluted	\$ 0.74	\$ (0.14)	\$ (0.08)	\$ 0.56	\$ 1.09

- (1) The cost of software license fees excludes charges for depreciation but includes amortization of purchased and developed software for resale. The cost of maintenance, services and hosting fees excludes charges for depreciation.
- (2) As previously discussed in Note 1, *Nature of Business and Summary of Significant Accounting Policies*, the Company adopted ASU 2016-09 during the year ended December 31, 2016. The Company elected to early adopt ASU 2016-09 in the third quarter of 2016, which requires it to reflect any adjustments as of January 1, 2016, the beginning of the annual period that includes the interim period of adoption. The impact of the adoption to the Company's previously reported quarterly results for the quarters ended March 31 and June 30, 2016 are reflected in the table above.

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	Quarter Ended				Year Ended
	March 31, 2015	June 30, 2015	September 30, 2015	December 31, 2015	December 31, 2015
<i>(in thousands, except per share amounts)</i>					
Revenues:					
License	\$ 39,577	\$ 67,161	\$ 50,237	\$ 94,230	\$ 251,205
Maintenance	59,492	60,141	59,262	63,000	241,895
Services	23,497	23,110	25,842	34,371	106,820
Hosting	110,251	115,410	103,360	117,036	446,057
Total revenues	<u>232,817</u>	<u>265,822</u>	<u>238,701</u>	<u>308,637</u>	<u>1,045,977</u>
Operating expenses:					
Cost of license (1)	6,109	5,939	5,387	5,810	23,245
Cost of maintenance, services and hosting (1)	113,013	120,484	104,272	111,285	449,054
Research and development	37,091	39,425	36,123	33,285	145,924
Selling and marketing	28,911	31,298	28,451	40,747	129,407
General and administrative	21,575	25,008	20,284	20,552	87,419
Depreciation and amortization	19,693	20,004	20,298	22,985	82,980
Total operating expenses	<u>226,392</u>	<u>242,158</u>	<u>214,815</u>	<u>234,664</u>	<u>918,029</u>
Operating income	6,425	23,664	23,886	73,973	127,948
Other income (expense):					
Interest expense	(10,941)	(10,505)	(9,728)	(10,198)	(41,372)
Interest income	102	58	94	132	386
Other, net	3,722	19,659	4,314	(1,284)	26,411
Total other income (expense)	<u>(7,117)</u>	<u>9,212</u>	<u>(5,320)</u>	<u>(11,350)</u>	<u>(14,575)</u>
Income (loss) before income taxes	(692)	32,876	18,566	62,623	113,373
Income tax expense (benefit)	(530)	5,825	3,786	18,856	27,937
Net income (loss)	<u>\$ (162)</u>	<u>\$ 27,051</u>	<u>\$ 14,780</u>	<u>\$ 43,767</u>	<u>\$ 85,436</u>
Earnings (loss) per share					
Basic	\$ 0.00	\$ 0.23	\$ 0.13	\$ 0.37	\$ 0.73
Diluted	\$ 0.00	\$ 0.23	\$ 0.12	\$ 0.36	\$ 0.72

- (1) The cost of software license fees excludes charges for depreciation but includes amortization of purchased and developed software for resale. The cost of maintenance, services and hosting fees excludes charges for depreciation.

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
2.04 (1)	Share Purchase Agreement dated July 21, 2014, by and among ACI Worldwide Corp., Applied Communications Inc. U.K. Holding Limited, Retail Decisions Limited and Cardcast Limited
3.01 (2)	2013 Amended and Restated Certificate of Incorporation of the Company
3.02 (3)	Amended and Restated Bylaws of the Company
4.01 (4)	Form of Common Stock Certificate
4.02 (5)	Indenture, dated as of August 20, 2013, among the ACI Worldwide, Inc., the guarantors listed therein, and Wilmington Trust, National Association, as trustee
4.03	Form of 6.375% Senior Notes due 2020 (included as Exhibit A to Exhibit 4.02)
10.01 (6)*	ACI Worldwide, Inc. 1999 Employee Stock Purchase Plan, as amended
10.02 (7)*	ACI Worldwide, Inc. 2005 Equity and Performance Incentive Plan, as amended
10.03 (8)*	Form of Severance Compensation Agreement (Change-in-Control) between the Company and certain officers, including executive officers
10.04 (9)*	Form of Indemnification Agreement between the Company and certain officers, including executive officers
10.05 (10)*	Form of Nonqualified Stock Option Agreement – Non-Employee Director for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.06 (11)*	Form of Nonqualified Stock Option Agreement – Employee for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.07 (12)*	Form of LTIP Performance Shares Agreement for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.08 (13)*	Amended and Restated Employment Agreement by and between the Company and Philip G. Heasley, dated December 4, 2015 (effective as of January 7, 2016)
10.09 (14)*	Stock Option Agreement by and between the Company and Philip G. Heasley, dated March 9, 2005
10.10 (15)*	Executive Management Incentive Compensation Plan
10.11 (16)*	ACI Worldwide, Inc. 2013 Executive Management Incentive Compensation Plan
10.12 (17)*	Form of Change-in-Control Employment Agreement between the Company and certain officers, including executive officers
10.13 (18)*	Form of Restricted Share Award Agreement for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.14 (19)*	Amended and Restated Deferred Compensation Plan
10.15 (20)	Credit Agreement, dated November 10, 2011, by and among ACI Worldwide, Inc., Wells Fargo Bank, N.A. and the lenders that are party thereto
10.16 (21)	First Amendment and Consent and Waiver No. 3 to Credit Agreement, dated September 11, 2012, by and among ACI Worldwide, Inc., the subsidiary guarantors thereto, Wells Fargo Bank, National Association and the other lenders party thereto

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<u>Exhibit No.</u>	<u>Description</u>
10.17 (22)	Incremental Term Loan Agreement, dated March 7, 2013, by and among ACI Worldwide, Inc., Wells Fargo Bank, National Association, as Administrative Agent, and the lenders that are party thereto
10.18 (23)	Fourth Amendment to Credit Agreement, dated August 20, 2013, by and among ACI Worldwide, Inc., the subsidiary guarantors thereto, Wells Fargo Bank, National Association, as administrative agent, and the lenders that are party thereto
10.19 (24)	Form of Restricted Share Award Agreement – Non-Employee Director for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.20 (25)	Fifth Amendment to Credit Agreement and Second Amendment to Collateral Agreement, dated August 12, 2014, among ACI Worldwide, Inc., the subsidiary guarantors party thereto, the lenders party thereto, Wells Fargo Bank, National Association, as administrative agent, and Bank of America, N.A., as lead arranger
10.21 (26)	Lender Addition and Acknowledgement Agreement, dated August 12, 2014, by and among ACI Worldwide, Inc., the subsidiary guarantors party thereto, the incremental term lenders party thereto, Wells Fargo Bank, National Association, as administrative agent, and Bank of America, N.A., as lead arranger
10.22 (27)	Form of 2015 Supplemental Performance Shares Agreement for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.23 (28)	Form of 2015 Supplemental Non-Qualified Stock Option Agreement for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.24 (29)	Form of 2015 Performance Shares Agreement for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.25 (30)	Form of 2015 Non-Qualified Stock Option Agreement – Employee for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.26 (31)*	ACI Worldwide, Inc. 2016 Equity and Performance Incentive Plan
10.27 (32)*	Form of 2016 Supplemental Performance Share Award Agreement for the Company’s 2016 Equity and Performance Incentive Plan
10.28 (33)*	Form of 2016 Supplemental Nonqualified Stock Option Agreement for the Company’s 2016 Equity and Performance Incentive Plan
10.29 (34)*	Form of Performance Share Award Agreement for the Company’s 2016 Equity and Performance Incentive Plan
10.30 (35)*	Form of 2016 Nonqualified Stock Option Agreement for the Company’s 2016 Equity and Performance Incentive Plan
10.31 (36)*	Form of 2016 Restricted Share Award Agreement for the Company’s 2016 Equity and Performance Incentive Plan
10.32 (37)*	Form of 2016 Restricted Share Award Agreement – Nonemployee Director for the Company’s 2016 Equity and Performance Incentive Plan
10.33 (38)*	Form of Change-in-Control Employment Agreement
10.34 (39)	Credit Agreement, date February 24, 2017, by and among ACI Worldwide, Inc., and ACI Worldwide Corp., Bank of America, N.A. and the lenders that are party thereto.
21.01	Subsidiaries of the Registrant (filed herewith)

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<u>Exhibit No.</u>	<u>Description</u>
23.01	Consent of Independent Registered Public Accounting Firm (filed herewith) – Deloitte & Touche LLP
31.01	Certification of Chief Executive Officer pursuant to S.E.C. Rule 13a-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
31.02	Certification of Chief Financial Officer pursuant to S.E.C. Rule 13a-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
32.01	** Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith)
32.02	** Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith)
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase

- (1) Incorporated herein by reference to Exhibit 2.04 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2014.
- (2) Incorporated herein by reference to Exhibit 3.1 to the registrant's current report on Form 8-K filed June 24, 2014.
- (3) Incorporated herein by reference to Exhibit 3.1 to the registrant's current report on Form 8-K filed February 27, 2017.
- (4) Incorporated herein by reference to Exhibit 4.01 to the registrant's Registration Statement No. 33-88292 on Form S-1.
- (5) Incorporated herein by reference to Exhibit 4.1 to the registrant's current report on Form 8-K filed August 20, 2013.
- (6) Incorporated herein by reference to Exhibit 10.5 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2014.
- (7) Incorporated herein by reference to Exhibit 10.7 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2014.
- (8) Incorporated herein by reference to Exhibit 10.9 to the registrant's annual report on Form 10-K for the year ended December 31, 2009.
- (9) Incorporated herein by reference to Exhibit 10.10 to the registrant's annual report on Form 10-K for the year ended December 31, 2009.
- (10) Incorporated herein by reference to Exhibit 10.17 to the registrant's annual report on Form 10-K for the year ended December 31, 2009.
- (11) Incorporated herein by reference to Exhibit 10.18 to the registrant's annual report on Form 10-K for the year ended December 31, 2009.
- (12) Incorporated herein by reference to Exhibit 10.1 to the registrant's current report on Form 8-K filed December 16, 2009.
- (13) Incorporated herein by reference to Exhibit 10.1 to the registrant's current report on Form 8-K filed on December 9, 2015.
- (14) Incorporated herein by reference to Exhibit 10.2 to the registrant's current report on Form 8-K filed on March 10, 2005.
- (15) Incorporated herein by reference to Annex A to the registrant's Proxy Statement for its 2008 Annual Meeting (File No. 000-25346) filed on April 21, 2008.

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- (16) Incorporated herein by reference to Annex A to the registrant's Proxy Statement for its 2013 Annual Meeting (File No. 000-25346) filed on April 29, 2013.
- (17) Incorporated herein by reference to Exhibit 10.1 the registrant's current report on Form 8-K filed January 7, 2009.
- (18) Incorporated herein by reference to Exhibit 10.29 to the registrant's annual report on Form 10-K for the year ended December 31, 2009.
- (19) Incorporated herein by reference to Exhibit 4.3 to the registrant's Registration Statement No. 333-169293 on Form S-8 filed September 9, 2010
- (20) Incorporated herein by reference to Exhibit 10.1 to the registrant's current report on Form 8-K filed November 14, 2011.
- (21) Incorporated herein by reference to Exhibit 10.1 to the registrant's current report on Form 8-K filed September 17, 2012.
- (22) Incorporated herein by reference to Exhibit 10.1 to the registrant's current report on Form 8-K filed March 11, 2013.
- (23) Incorporated herein by reference to Exhibit 10.1 to the registrant's current report on Form 8-K filed August 20, 2013.
- (24) Incorporated herein by reference to Exhibit 10.28 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2014.
- (25) Incorporated herein by reference to Exhibit 10.1 to the registrant's current report on Form 8-K filed August 18, 2014.
- (26) Incorporated herein by reference to Exhibit 10.2 to the registrant's current report on Form 8-K filed August 18, 2014.
- (27) Incorporated herein by reference to Exhibit 10.1 to the registrant's current report on Form 8-K filed January 30, 2015.
- (28) Incorporated herein by reference to Exhibit 10.2 to the registrant's current report on Form 8-K filed January 30, 2015.
- (29) Incorporated herein by reference to Exhibit 10.3 to the registrant's current report on Form 8-K filed January 30, 2015.
- (30) Incorporated herein by reference to Exhibit 10.4 to the registrant's current report on Form 8-K filed January 30, 2015.
- (31) Incorporated herein by reference to Exhibit 10.1 to the registrant's current report on Form 8-K filed June 20, 2016.
- (32) Incorporated herein by reference to Exhibit 10.02 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2016.
- (33) Incorporated herein by reference to Exhibit 10.03 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2016.
- (34) Incorporated herein by reference to Exhibit 10.2 to the registrant's current report on Form 8-K filed February 27, 2017.
- (35) Incorporated herein by reference to Exhibit 10.05 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2016.
- (36) Incorporated herein by reference to Exhibit 10.06 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2016.
- (37) Incorporated herein by reference to Exhibit 10.07 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2016.
- (38) Incorporated herein by reference to Exhibit 10.3 to the registrant's current report on Form 8-K filed June 20, 2016.

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(39) Incorporated herein by reference to Exhibit 10.1 to the registrant's current report on Form 8-K filed February 27, 2017.

* Denotes exhibit that constitutes a management contract, or compensatory plan or arrangement.

** This certification is not deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section. Such certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934, except to the extent that the Company specifically incorporates it by reference.

SUBSIDIARIES OF THE REGISTRANT

The following is a list of subsidiaries of ACI Worldwide, Inc., omitting subsidiaries which, considered in the aggregate as a single subsidiary, would not constitute a significant subsidiary as of December 31, 2016:

ACI Australia Pty. Ltd	Australia
ACI Worldwide (Pacific) Pty. Ltd.	Australia
Distra Pty. Ltd	Australia
ACI Worldwide (Canada), Inc.	Canada
ACI Worldwide Colombia S.A.S.	Colombia
Official Payments Corporation	Delaware
ACI Worldwide (eps) AG	Germany
ACI Worldwide Solutions Private Limited	India
Applied Communications Finance Limited	Ireland
Applied Communications GPC Limited	Ireland
Applied Communications (Ireland) Limited	Ireland
ACI Worldwide Luxembourg Holding S.a.r.l.	Luxembourg
ACI Worldwide (Luxembourg) S.a.r.l.	Luxembourg
ACI Worldwide Corp.	Nebraska
ACI Worldwide B.V.	Netherlands
ACI Worldwide (Asia) Pte. Ltd.	Singapore
ACI Worldwide Cornastone (Proprietary) Ltd.	South Africa
PM Systems Corporation	South Carolina
ACI Global Limited	United Kingdom
Applied Communications Inc. U.K. Holding Limited	United Kingdom
ACI Worldwide (EMEA) Limited	United Kingdom
S1 International IP Holding Limited	United Kingdom

Exhibit 23.01

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-73027, 333-59630, 333-113550, 333-123263, 333-146794, 333-182584, 333-212948, and 333-169293 on Form S-8 of our reports dated March 1, 2017, relating to the consolidated financial statements of ACI Worldwide, Inc. and subsidiaries (“ACI Worldwide, Inc.”), and the effectiveness of ACI Worldwide Inc.’s internal control over financial reporting, appearing in this Annual Report on Form 10-K of ACI Worldwide, Inc. for the year ended December 31, 2016.

/s/ DELOITTE & TOUCHE LLP

Omaha, Nebraska
March 1, 2017

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Philip G. Heasley, certify that:

1. I have reviewed this annual report on Form 10-K of ACI Worldwide, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a -15(e) and 15d -15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 1, 2017

/s/ PHILIP G. HEASLEY

Philip G. Heasley
*President, Chief Executive Officer and Director
(Principal Executive Officer)*

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Scott W. Behrens, certify that:

1. I have reviewed this annual report on Form 10-K of ACI Worldwide, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 1, 2017

/s/ SCOTT W. BEHRENS

Scott W. Behrens
*Senior Executive Vice President, Chief Financial Officer and
Chief Accounting Officer
(Principal Financial Officer)*

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the annual report of ACI Worldwide, Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2016 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Philip G. Heasley, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- 1) The Report fully complies with the requirements of Sections 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- 2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 1, 2017

/s/ PHILIP G. HEASLEY

Philip G. Heasley
*President, Chief Executive Officer and Director
(Principal Executive Officer)*

**CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the annual report of ACI Worldwide, Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2016 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Scott W. Behrens Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- 1) The Report fully complies with the requirements of Sections 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- 2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 1, 2017

/s/ SCOTT W. BEHRENS

Scott W. Behrens
*Senior Executive Vice President, Chief Financial Officer and
Chief Accounting Officer
(Principal Financial Officer)*