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, 2020

Or

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

For the transition period from to

Commission File Number 0-25346

ACI WORLDWIDE, INC.
(Exact name of registrant as specified in its charter)

Delaware	**47-0772104**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
3520 Kraft Rd, Suite 300 Naples, Florida	**34105**
(Address of principal executive offices)	(Zip code)

(239) 403-4660
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.005 par value	**ACIW**	**Nasdaq Global Select Market**

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

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

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

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

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

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

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

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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, 2020 (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 $26.99 was $2,767,626,204. 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 22, 2021, there were 117,142,557 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 2, 2021, 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 forward-looking statements in this report are expressly qualified by the risk factors discussed in our filings with the Securities and Exchange Commission (“SEC”). 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 our *Risk Factors* in Part I, Item 1A of this Form 10-K.

Trademarks and Service Marks

ACI, ACI Worldwide, ACI Payments, Inc., ACI Pay, Speedpay, and all ACI product/solution names are trademarks or registered trademarks of ACI Worldwide, Inc., or one of its subsidiaries, in the United States, other countries or both. Other parties' trademarks referenced are the property of their respective owners.

COVID-19 Pandemic

The COVID-19 pandemic resulted in authorities implementing numerous measures to try to contain the virus. These measures may remain in place for a significant period of time and adversely affect our business, operations and financial condition as well as the business, operations and financial conditions of our customers and business partners. The spread of the virus has also caused us to modify our business practices (including employee work locations and cancellation of physical participation in meetings) in ways that may be detrimental to our business (including working remotely and its attendant cybersecurity risks). We may take further actions as may be required by government authorities or that we determine are in the best interests of our employees and customers. There is no certainty that such measures will be sufficient to mitigate the risks posed by the virus or otherwise be satisfactory to government authorities.

We created a dedicated Crisis Management Team to oversee and execute our business continuity plans and a variety of measures designed to ensure the ongoing availability of our products, solutions and services for our customers, while taking health and safety measures for our employees, including telecommuting, travel restrictions, social distancing policies, and stepped-up facility cleaning practices.

We believe we have sufficient liquidity to continue business operations during this volatile and uncertain period. We have $608.9 million of available liquidity as of December 31, 2020, consisting of cash on hand and availability under our revolving credit facility. To address the potential long-term financial impacts of the virus, we have delayed non-essential capital spending and operating expenses.

The pandemic presents potential new risks to our business. We began to see the impacts of COVID-19 on certain customer transaction volumes in late March and continued to see changes for the remainder of 2020, primarily within the Merchants and Billers customer base of our ACI On Demand segment. The effect of COVID-19 and related events, including those described above, could have an ongoing negative effect on our stock price, business prospects, financial condition, and results of operations. More specifically, for those customers under consumption-based contracts, continued declines in transaction volumes could negatively impact our financial position, results of operations, and cash flows. We also experienced atypical fluctuations in Biller volumes as a result of the change in timing of assessments and due dates for federal, state, and local taxes.

For the reasons discussed above, we cannot reasonably estimate with any degree of certainty the future impact COVID-19 may have on our results of operations, financial position, and liquidity. Notwithstanding any actions by national, state, and local governments to mitigate the impact of COVID-19 or by us to address the adverse impacts of COVID-19, there can be no assurance that any of the foregoing activities will be successful in mitigating or preventing significant adverse effects on the Company.

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 digital payments. Our payment capabilities, technologies, and solutions are marketed under the ACI Worldwide brand name. ACI's enterprise payments capabilities target any channel, any network, and any payment type and our solutions empower customers to regain control, choice, and flexibility in today's complex payments environment, get to market more quickly, and reduce operational costs.

ACI's products and services are used globally by banks, intermediaries, merchants and billers, such as third-party digital payment processors, payment associations, switch interchanges and a wide range of transaction-generating endpoints, including automated teller machines ("ATM"), 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 digital 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 digital payment solutions for our customers. We believe that we have one of the most diverse and robust digital payment product portfolios in the industry with application software spanning the entire payments value chain. We also believe that our financial performance has been attributable to our ability to design and deliver quality products and solutions coupled with our ability to identify and successfully complete and integrate strategic acquisitions.

Fiscal 2019 Acquisition

Speedpay

On May 9, 2019, we acquired E Commerce Group Products, Inc. ("ECG"), a subsidiary of The Western Union Company ("Western Union"), along with ECG's subsidiary, Speedpay, Inc. (collectively referred to as "Speedpay"). The combination of the Company and Speedpay's bill pay solutions serve more than 4,000 customers across the United States, bringing expanded reach in existing and complementary market segments such as consumer finance, insurance, healthcare, higher education, utilities, government, and mortgage. The acquisition of Speedpay increases the scale of our ACI On Demand ("AOD") platform business and allows the acceleration of platform innovation.

Target Markets

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

Banks and Intermediaries

ACI provides payment solutions to large and mid-size banks globally for both retail banking, digital, and other payment services. Our solutions transform banks' 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 banks to meet the requirements of different real-time payments schemes and to quickly create differentiated products to meet consumer, business, and merchant demands.

ACI’s payment solutions support intermediaries, such as processors, networks, payment service providers (“PSPs”), and new financial technology 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, Singapore FAST, India Unified Payments Interface ("UPI"), the Payments Network Malaysia ("PayNet"), Real-time Retail Payments Platform ("RPP"), and others.

Merchants

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.

Billers

Within the biller segment, ACI provides electronic bill presentment and payment (“EBPP”) services to companies operating in the consumer finance, insurance, healthcare, higher education, utility, government, and mortgage categories. Our solutions enable these customers to support a wide range of payment options and provide a convenient consumer payments experience that drives consumer loyalty and increases revenue.

Solutions

ACI is a global software company that provides mission-critical real-time payment solutions to corporations. Customers use our proven, scalable, and secure solutions to process and manage digital payments, enable omni-commerce payments, present and process bill payments, and manage fraud and risk. We combine our global footprint with local presence to drive the real-time digital transformation of payments and commerce. Our strategic solution areas include the following:

Issuing & Acquiring

ACI offers comprehensive consumer payment solutions ranging from core payment engines to back-office support that enable banks and intermediaries to compete effectively in today’s real-time, open payments ecosystem.

ACI® Acquiring™ is a merchant management system that helps acquirers offer merchants capabilities to deliver digital innovation, improve fraud prevention, and reduce interchange fees.

ACI Issuing™ is a digital payments issuing solution that helps issuers accelerate innovation, give customers new payment offerings and deliver cutting-edge security, with flexible cloud-based or on-premise deployments.

ACI Enterprise Payments Platform™ is a market-leading technology that provides payment players global payment processing and orchestration capabilities for all digital payments, including high- and low-value payments, real-time and alternative payments, and cards.

Real-Time Payments

ACI supports both low- and high-value real-time payment processing for banks and intermediaries globally, ensuring multi-bank, multi-currency and 24x7 payment processing capabilities, as well as complete and ongoing regulatory compliance.

ACI Low Value Real-Time Payments™ is a platform with a complete range of capabilities for processing real-time payments, including origination, processing, orchestration, clearing and settlement, fraud detection and connectivity.

ACI High Value Real-Time Payments™ is a global payments engine that offers multi-bank, multi-currency, and 24x7 payment processing capabilities, as well as SWIFT messaging with seamless integrations to multiple clearing and settlement mechanisms.

Omni-Commerce Payments

ACI provides real-time, any-to-any payment capabilities globally in both card-present and card-not-present environments.

ACI Omni Commerce™ offers merchants a scalable, omni-channel payment processing platform with the flexibility to support in-store, online, and mobile payments, protected by advanced P2P encryption, tokenization, and fraud management capabilities.

ACI Secure eCommerce™ is a holistic platform that combines a powerful payments gateway, sophisticated real-time fraud prevention capabilities, advanced business intelligence tools, and access to an extensive global network of acquirers and alternative payment methods.

Fraud and Risk Management

ACI's big data engine uses powerful analytics to deliver robust fraud prevention and detection capabilities to bank, intermediary, and merchant customers.

ACI Fraud Management™ for financial institutions offers banks and intermediaries a comprehensive, real-time approach to fraud management that uses a superior combination of machine learning, fraud and payments data, and advanced analytics to prevent fraud and reduce the burden of compliance. Our solution supports merchants with a comprehensive, real-time approach to fraud management that uses a superior combination of machine learning, fraud and payments data, advanced analytics and unprecedented consortium data to prevent fraud and reduce the burden of compliance.

Digital Business Banking

ACI offers banks advanced cash management capabilities in a multi-tenant, cloud-based platform.

ACI Digital Business Banking™ is a cloud-based digital banking platform with a vast application programming interface ("API") library and market-leading payments functionality that enables banks to reduce expenses and increase market share.

Bill Payments

ACI meets the bill payment needs of corporate customers across myriad industries through a range of electronic bill payment solutions that help companies raise consumer satisfaction while reducing costs.

ACI Speedpay® is an integrated suite of digital billing, payment, disbursement, and communication services that lowers the cost of presenting and accepting bill payments while delivering industry-leading security.

On Premise or On Demand Software 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 in a third-party public cloud environment (ACI On Premise™), through an on-demand arrangement where the solution is maintained and delivered through the cloud via our global data centers (ACI On Demand™), or a combination of the two. Solutions delivered through ACI's on-demand 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 as a service ("PaaS") 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 five years, or three years in the case of certain acquired SaaS and PaaS contracts.

Partnerships and Industry Participation

We have two major types of third-party product partners: 1) technology partners, or industry leaders with whom we work closely that drive key industry trends and mandates, and 2) business partners, with whom we embed the partners' technology in ACI products, host the partners' software in ACI's cloud as a part of our AOD offering, or jointly market solutions that include the products of the other company.

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 several industry associations, such as the International Organization for Standardization ("ISO"), Accredited Standards Committee ("ASC") X9, ATM Industry Association, Financial Services, Interactive Financial eXchange Forum ("IFX"), Nexo Standards, International Payments Framework Association ("IPFA"), U.K. Cards Association, Smart Card Alliance, 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 the market, our customers, and ACI.

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 several 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 Amazon, HP, IBM, Microsoft Corporation, and Oracle USA, Inc. ("Oracle"), whose industry-leading hardware, software, and cloud-based infrastructure services are utilized by and in delivery of ACI's products. These partnerships allow us to understand developments in the partners' technology and to utilize their expertise in topics like sizing, scalability, and performance testing.

The following is a list of key product business partners:

- Amazon
- Apple Inc.
- Arvato Financial solutions
- Bank of America – CashPro Online
- Biocatch
- Black Knight Servicing Technologies, LLC
- Cardinal Commerce
- Chase Paymentech
- Clickatel
- Computershare Inc.
- DataOceans, LLC
- Diamond Communications Solutions
- Elavon Inc.
- Epic Systems Corporation
- FairCom Corporation
- Fifth Third Bank
- Guidewire
- Heirloom Computing
- Hewlett-Packard Company (HP)
- iData Incorporated
- Ingenico Group
- Integrated Research Limited
- International Business Machines Corporation (IBM)
- Intuit, Inc.
- Jack Henry & Associates, Inc.
- Kiosk

- Lean Software Services, Inc.
- Limonetik
- MAGTEK Inc.
- Mastercard
- Mi-Pay Limited
- Micro Focus, Inc.
- Microsoft Corporation
- Monex Financial Services Limited
- MTFX
- N2N
- Neustar, Inc.
- Noggintech
- Nordis Technologies
- Opentext
- Oracle USA, Inc. (Oracle)
- Paragon Application Systems, Inc.
- Pavreto
- Pax Technologies
- PayPal
- Payworks GmbH
- Perseuss - IATA
- Rambus Company
- Reliant Solutions
- RSA Security LLC, the Security Division of Dell EMC Corporation
- Safetrust pcProxPlus BLE
- SAP America, Inc.
- Semafone—Card Protect
- ShopSite
- Solutions by Text, LLC
- Spectrum Message Services Pty Ltd
- Stiftung SIC
- SWIFT
- Symantec Corporation
- Transunion
- TSYS Acquiring Solutions
- VISA
- Vocalink Limited, a Mastercard company
- Worldpay Inc.

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 product 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.
- **Education Services**. ACI courses include both theory and practical sessions to allow students to work though 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, on demand, or at the customer site.

Customer Support

ACI provides our customers with product support that is available 24 hours a day, seven days a week. When requested by a customer, the product support group can remotely access the customer's systems on a real-time basis. This allows us to help diagnose issues, correct any problems, and enhance the continuous availability of a customer's business-critical systems. We offer our customers three support options:

Standard Customer Support. After software installation and project completion, we provide maintenance services to customers for a monthly product support fee. Maintenance services include:

- New product releases (major, minor and patches)
- 24-hour hotline for priority one ("P1") problem resolutions
- Access to our online support portal (eSupport)
- Vendor-required mandates and updates
- Product documentation
- Hardware operating system compatibility
- User group membership

Enhanced Customer Support. This includes all features of Standard Customer Support plus the following:

- Named technical account manager
- Accelerated service levels
- Consulting support

Premium Customer Support. Under the premium customer support 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:

- Configuration and testing software fixes
- Retrofitting custom software modifications ("CSMs") into new software releases
- Answering questions and resolving problems related to the customer's implementation
- Maintaining a detailed CSM history
- Monitoring customer problems on ACI's HELP24™ hotline database on a priority basis
- Supplying onsite support, available upon demand
- Performing 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 minor product enhancements, are typically provided at no additional fee for customers under standard customer support agreements. Agreements with our customers permit us to charge for substantial product enhancements that are not provided as part of the standard, enhanced, or premium customer support agreement.

Competition

The digital 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.

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 digital payment 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 area include the following:

Issuing, Acquiring, and Real-Time Payments

The third-party software competitors for ACI's Issuing, Acquiring, and Real-Time Payments solution areas are Computer Sciences Corporation, Fidelity National Information Service, Inc. ("FIS"), Finastra, Fiserv, Inc. ("Fiserv"), NCR, OpenWay Group, and Total System Services, Inc. (Global Payments), as well as small, regionally-focused companies such as BPC Banking Technologies, CR2, Financial Software and Systems, Form3, HPS, Icon Solution, Lusis Payments Ltd., Opus Software Solutions Private Limited, PayEx Solutions AS, Renovite, RS2, and TSYS. Primary digital payment processing competitors in this area include global entities such as Atos Origin S.A., Fiserv, Mastercard, SiNSYS, and VISA, as well as regional or country-specific processors.

Omni-Commerce Payments

Competitors in the Omni-Commerce Payments solution area 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 Adyen, Cybersource (VISA), First Data (Fiserv), GlobalCollect, Ingenico Group, NCR, Square, Inc., Tender Retail Inc., VeriFone Systems, Inc., and Worldpay Inc. (FIS).

Fraud and Risk Management

Principal competitors for our Fraud and Risk Management solution area are Accertify (American Express), BAE Systems, Cybersource (VISA), Fair Isaac Corporation, Featurespace, Feedzai, FIS, Fiserv, Forter, Kount, NCR, NICE LTD, and SAS Institute, Inc., as well as dozens of smaller companies focused on niches of this segment such as anti-money laundering.

Digital Business Banking

Principal competitors for our Digital Business Banking solution area are Bottomline Technologies, Finastra, FIS, Fiserv, Jack Henry & Associates, Inc., NCR, and Q2 Software, Inc.

Bill Payments

The principal competitors for Bill Payment solutions are Aliaswire Inc., CSG Systems International, Inc., FIS, Fiserv, Invoice Cloud, Inc., Jack Henry & Associates, Inc., Kubra Customer Interaction Management, Nelnet, Inc. and Affiliates, NIC, Paymentus Corp., PayNearMe, Repay, TouchNet Information Systems, Inc., Transact and Worldpay Inc. (FIS), 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, SWIFT, and VISA, to ensure compliance with new regulations or processing mandates. We work with computer hardware and software manufacturers, such as HPE, 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 entirely new products or service offerings. A proof of concept ("POC") may be conducted to validate the idea. If determined to be viable, the innovation is scheduled into a product roadmap for development and release.

Customers

We provide software products and solutions to customers in a range of industries worldwide with billers, banks and intermediaries, and merchants comprising our largest industry segments. As of December 31, 2020, we serve more than 6,000 organizations, including 19 of the top 20 banks worldwide, as measured by asset size, and 80,000+ merchants directly and through payment service providers, as measured by revenue, in 95+ countries on six continents. No single customer accounted for more than 10% of our consolidated revenues for the years ended December 31, 2020, 2019, and 2018. No customer accounted for more than 10% of our consolidated receivables balance as of December 31, 2020 and 2019.

Selling and Implementation

Our primary method of distribution is direct sales by employees assigned to specific target segments. Headquartered in Naples, Florida, we have sales personnel in and outside the United States in numerous locations, including East Brunswick, Norcross, Omaha, and Waltham. In addition, we have sales offices located outside the United States in Auckland, Bahrain, Bangkok, Beijing, Bogota, Brussels, Buenos Aires, Cape Town, Dubai, Gouda, Johannesburg, Kuala Lumpur, Limerick, Madrid, Manila, Melbourne, Mexico City, Milan, Montevideo, Mumbai, Munich, Naples (Italy), Paris, Quito, Santiago, Sao Paulo, Shanghai, Singapore, Sulzbach, Sydney, Tokyo, Toronto, and Watford.

We use distributors and referral partners to supplement our direct sales force in countries where it is more efficient and 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 joint delivery model.

Current international distributors, resellers, referral partners, and implementation partners (collectively, "Channel Partners") for us during the year ended December 31, 2020, included:

- AGS Technology Inc. (India)
- ADSI International (Colombia/Venezuela/Caribbean)
- Bayshore (China)
- CAPSYS Technologies, LLC (Russia/Eastern Europe)
- Channel Solutions Inc. (Philippines)
- DataOne Asia Co., Ltd. (Thailand)

- Deda Group Business Solutions (Italy)
- EFT Corporation (Sub-Saharan Africa)
- Interswitch Ltd. (Sub-Saharan Africa)
- JRI Inc. (Japan)
- Korea Computer Inc (Korea)
- Kuvasz (Chile)
- Pactera (China)
- P.T. Abhimata Persada (Indonesia)
- Stanchion (South Africa)
- STET (EU)
- Stream IT Consulting Ltd. (Thailand)
- Syscom Computer Co., Ltd. (Shenzhen) (China)
- Syscom Computer Engineering Co. (Taiwan)
- TIS Inc. (Japan)
- Transaction Payment Solutions - Liquid Telecom (Sub-Saharan Africa)
- Worldline (China)

Omni-Commerce channel partners during the year ended December 31, 2020, included:

- Altapay (Denmark)
- Amadeus (Spain)
- Barclaycard (United Kingdom)
- Computop (Germany)
- Easy Nolo S.P.A. (Italy)
- Evo Payments (United States)
- Ingenico Group (Netherlands)
- Mastercard/Datacash (United Kingdom.)
- Metrics Global (United States)
- MNP Media Ltd. (United Kingdom)
- Paysafe Group Plc (United States)
- PayU South Africa (South Africa)
- Planet Payments (United States)
- Secure Trading (United Kingdom)
- Simplepay (Australia)
- VeriFone Systems, Inc. (United States and European Union)
- Worldline Sweden AB (Sweden)

Biller channel partners during the year ended December 31, 2020, included:

- 3 Point Alliance
- ACH Payment Solutions
- Adirondack Solutions
- API Outsourcing

- Clearwater Payments
- County Information Resources Agency
- Discover
- Donald R. Frey & Co.
- ECHO Health
- Ellucian
- Epic
- Guidewire
- MoneyGram
- Nordis Technologies
- Nortridge Software Company
- Ontario Systems
- Radiant 44
- RR Donnelley
- Salepoint
- Semafone
- Shaw
- Solutions by Text
- SourceHOV
- Thompson Reuters
- Transactis (Mastercard)
- TriZetto (Cognizant)
- The Western Union Company

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.

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 banks and intermediaries, 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 serve. 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.

Money Transfer. ACI Payments, Inc., 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 United.States ("U.S."). Treasury Regulations. These businesses may also be subject to certain state and local licensing requirements. The Financial Crimes Enforcement Network ("FinCEN"), 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.

Human Capital

As of December 31, 2020, we had a total of 3,768 employees worldwide, with 1,733 employees in the Americas, 1,045 employees in Europe, the Middle East, and Africa ("EMEA"), and 990 employees in Asia Pacific. ACI emphasizes a diverse and inclusive workplace, with nearly 40 sites in over 30 countries. Globally, 35% of our employees are women and 33% of our executive team members are women. We are committed to ensuring employees feel safe and respected, regardless of race, color, age, gender, disability, minority, sexual orientation, or any other protected class. Employees have the ability to challenge themselves and continue to grow through various assignments, projects, and development programs. We strive to offer competitive salaries and benefits to all employees, and we continuously monitor salary ranges in our market areas.

COVID-19 and Employee Safety

During the COVID-19 pandemic, our primary focus has been on the safety and well-being of our employees and their families and business continuity. Our Crisis Management Team ("CMT") leads our global pandemic efforts, which include leveraging the advice and recommendations of the Centers for Disease Control ("CDC") and the World Health Organization ("WHO") to establish proper safety standards and procedures worldwide. Our CMT meets twice weekly to review our protocol, status of employee well-being, and adjust site practices based on new information or restrictions at the national or local level. The CMT frequently communicates these updates to the workforce. We encourage flexible work arrangements to ensure all associates feel comfortable, safe, and secure in their work environment. In cases where the offices are permitted to be open, employees attend on a voluntary basis and there are clear safety precautions and guidelines in place based on recommendations from the CDC and WHO. As the pandemic continues, the health and well-being of our workforce remains our top priority while we ensure business continuity and productivity while working from home.

Retention

Our voluntary regrettable turnover, or our turnover of high performers, through December 31, 2020 was 5.1%, which compares favorably to industry turnover rates. We are pleased with our retention and will continue to employ strategies to retain and engage our global employees.

Benefits

We provide our global employees with competitive and comprehensive benefits to meet their needs and the needs of their dependents.

In the United States, nearly all of our employees participate in our employee benefits programs that include:

- Comprehensive health coverage for medical, vision, and dental care
- Short term, long term, accident and disability insurance coverage
- Flexible spending accounts for medical and dependent care expenses
- Commuter expense reimbursement accounts
- Retirement savings plans including 401(K) and deferred compensation plans
- Access to 529 Plans for college savings
- Adoption assistance
- Employee discounts programs

Some of these benefits are available to our employees outside the United States where applicable and permissible by law in addition to locally provided benefits.

Globally, all employees have access to an employee assistance program which offers support to employees and their immediate family to address a range of personal needs and concerns in support of their well-being and mental health.

To foster a stronger sense of ownership and align with the interests of our shareholders, participation in the employee stock purchase plan is available for eligible employees.

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 February 25, 2021, our executive officers, their ages, and their positions were as follows:

Name	Age	Position
Odilon Almeida	59	President and Chief Executive Officer
Scott W. Behrens	49	Executive Vice President, Chief Financial Officer
Evanthia (Eve) C. Aretakis	61	Executive Vice President, Chief Revenue Officer
Jeremy M. Wilmot	52	Executive Vice President, Chief Product Officer
Dennis P. Byrnes	57	Executive Vice President, Chief Legal Officer, General Counsel, and Secretary

Mr. Almeida was appointed President and Chief Executive Officer on March 9, 2020. Mr. Almeida has senior leadership experience spanning multiple industries and countries and two decades of payments experience. Prior to joining ACI, Mr. Almeida served as an operating partner at Advent International, one of the world's largest private equity funds. Mr. Almeida also spent 17 years at The Western Union Company, where he most recently served as the President of Global Money Transfer. Mr. Almeida is fluent in English, Spanish, and Portuguese, and he holds a bachelor's degree in Civil Engineering from Centro Universitário Instituto Mauá de Tecnologia in São Paulo and a Master of Business Administration from Fundação Getulio Vargas in São Paulo. He extended his education at Harvard Business School, The Wharton School, and the International Institute of Management (IMD).

Mr. Behrens serves as 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 and ceased serving as our Corporate Controller in December 2010. Mr. Behrens was appointed Executive Vice President in March 2011. Prior to joining ACI, 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 from the University of Nebraska – Lincoln.

Ms. Aretakis serves as Executive Vice President and Chief Revenue Officer. Previously, Ms. Aretakis led ACI's On Demand segment and Product Development group. Prior to joining ACI in 2016, Ms. Aretakis was Executive Vice President at Unify/Siemens Enterprise Communications. Her responsibilities included P&L management and accountability for software development, product management and manufacturing of the global product portfolio. She previously served as President of IP Network Solutions at Siemens, Unit President of the company's U.S. carrier division, and as Executive Vice President at Unisphere Networks. Ms. Aretakis began her career as a Software Engineer for Texas Instruments and Raytheon. She transitioned to Product Management as she progressed into management roles of various business units. Ms. Aretakis holds a bachelor's degree in Computer Science and Economics from Union College.

Mr. Wilmot serves as Executive Vice President and Chief Product Officer. Prior to his current role, Mr. Wilmot held a number of senior leadership roles at ACI, including leading ACI's On Premise segment, Chief Marketing and Revenue Officer, Senior Vice President and Managing Director for the Americas, President for Asia Pacific and Regional Director for Western Europe and Africa. Prior to joining ACI in 1999, Mr. Wilmot worked for ICL (now Fujitsu) in several capacities, including as International Sales Manager for Financial Services. Mr. Wilmot holds a Bachelor of Arts in Business Studies from Oxford Brookes University in the United Kingdom and has completed the Advanced Management Program at INSEAD in France.

Mr. Byrnes serves as Executive Vice President, Chief Legal 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 joining ACI, Mr. Byrnes served as an attorney with Bank One Corporation's technology group from 2002 to 2003; with Sterling Commerce from 1996 to 2002; and with Baker Hostetler from 1991 to 1996. 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

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.

Risks Related to COVID-19

The effects of the COVID-19 pandemic have materially affected how we, our clients and business partners are operating, and the duration and extent to which this will impact our future results of operations and overall financial performance remains uncertain.

We remain subject to risk and uncertainties as result of the COVID-19 pandemic though the extent of the impact on our business and operations remains highly uncertain and difficult to predict. The COVID-19 pandemic continues to have a global, evolving, and unpredictable impact on the economy, financial markets and business practices, and the overall impact of the COVID-19 pandemic on our business and financial performance remains to be seen. Our future operational results, financial performance and liquidity could be negatively impacted by delays in payments of outstanding receivable amounts beyond normal payment terms and uncertain demand for our products and services.

As a result of the COVID-19 pandemic, we have temporarily closed our offices globally and a majority of our employees continue to work from home or remotely, which has caused strain for, and may adversely impact the productivity of, some of our employees. Remote working conditions may persist, which could harm our business, including our future financial performance, our potential exposure to cybersecurity risks and potential improper dissemination of personal or confidential information. Additionally, the COVID-19 pandemic may have long-lasting effects on the viability of the office environment and remote working, and this may result in challenging how we operate our business.

Due to the ongoing uncertainty surrounding the continued severity and duration of the COVID-19 pandemic, we cannot yet determine if our efforts thus far and efforts to come will be effective in mitigating the effects of the COVID-19 pandemic on our business, results of operations or financial performance. Accordingly, we are unable at this time to predict how the COVID-19 pandemic will continue to affect our operations, liquidity, and financial results. Further, without more clarity on the ultimate magnitude and duration of the COVID-19 pandemic, we are unable to determine whether the impact of COVID-19 will be material.

Risks Related to Our Business and Operations

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.

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.

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 ACI 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, constraints within our workforce due to pandemics such as COVID-19, 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.

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.

Failure to attract and retain senior management personnel and skilled technical employees could harm our ability to grow.

Our senior management team has significant experience in the financial services industry. The loss of this leadership could have an adverse effect on our business, operating results and financial condition. Further, the loss of this leadership may have an adverse impact on senior management's ability to provide effective oversight and strategic direction for all key functions within the Company, which could impact our future business, operating results and financial condition.

Our future success also depends upon our ability to attract and retain highly-skilled technical personnel. Because the development of our solutions and services requires knowledge of computer hardware, operating system software, system management software, and application software, our technical personnel must be proficient in a number of disciplines. Competition for such technical personnel is intense, and our failure to hire and retain talented personnel could have a material adverse effect on our business, operating results and financial condition.

Our future growth will also require sales and marketing, financial and administrative personnel to develop and support new solutions and services, to enhance and support current solutions and services and to expand operational and financial systems. There can be no assurance that we will be able to attract and retain the necessary personnel to accomplish our growth strategies and we may experience constraints that could adversely affect our ability to satisfy client demand in a timely fashion.

Our ability to maintain compliance with applicable laws, rules and regulations and to manage and monitor the risks facing our business relies upon the ability to maintain skilled compliance, security, risk and audit professionals. Competition for such skillsets is intense, and our failure to hire and retain talented personnel could have an adverse effect on our internal control environment and impact our operating results.

As a result of the global COVID-19 pandemic, a significant portion of our workforce is working in a mostly remote environment. This remote environment may continue after the pandemic due to potential resulting trends, and could impact the quality of our corporate culture. Failure to attract, hire, develop, motivate and retain highly qualified and diverse employee talent, or to maintain a corporate culture that fosters innovation, creativity, and teamwork could harm our overall business and results of operations.

We have a number of new members on our senior management team, which coupled with the announced plan to relocate our corporate headquarters, may pose challenges to our operations and business growth.

Odilon Almeida was appointed our President and Chief Executive Officer on February 18, 2020, and assumed the roles effective March 9, 2020. Anthony Dinkins also joined our executive leadership team in 2020, as our Chief Human Resources Officer. As remote working and the COVID-19 pandemic continues, there may be challenges with fully integrating these new officers and their direct reports to the executive leadership team and the Company more broadly.

In addition, we may face further personnel and executive leadership changes and challenges in connection with the planned relocation of our corporate headquarters from Naples, Florida to Miami, Florida. For example, we may face difficulties in retaining, attracting and training employees during and after the relocation of our headquarters. These difficulties may be exacerbated by the remaining impact of the COVID-19 pandemic and especially many employees' continued remote working situation. Failure to meet these challenges successfully may adversely impact our operations, business results or long-term growth prospects.

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.

See *Critical Accounting Policies and Estimates* in Part II, Item 7 of this Form 10-K for additional information related to Accounting Standards Codification ("ASC") 805, *Business Combinations*.

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.

We may experience difficulties integrating Speedpay, which could cause us to fail to realize the anticipated benefits of the acquisition.

Achieving the anticipated benefits of our acquisition of Speedpay will depend in part upon whether we are able to integrate the business in an effective and efficient manner. There can be no assurance that we will be able to fully integrate all aspects of Speedpay successfully, advance our business strategy, or fully realize the potential benefits of bringing the businesses together, and the process of integrating Speedpay may disrupt our business and divert our resources. Any delay or inability of management to successfully integrate the operations of Speedpay could compromise our potential to achieve the anticipated long-term strategic benefits of the acquisitions and could have a material adverse effect on the business, financial condition, cash flows, and results of operations.

We may experience difficulties implementing our new Three Pillar strategy, and the Three Pillar strategy could prove unsuccessful in growing our business.

Our Three Pillar strategy focuses on investments in real-time payments, large sophisticated global merchants, and fast-growing emerging markets. Successfully implementing our Three Pillar strategy may present organizational and infrastructure challenges, and we may not be able to fully implement or realize the intended benefits of this new strategy. Moving to a new business strategy may result in a loss of established efficiency, which may have a negative impact on our business. As we adjust, we also may need to bring on additional talent, which could prove difficult in a competitive job market, especially as the COVID-19 pandemic and remote working continues. The increased focus on mergers and acquisitions opportunities and research and development could result in financial difficulties and may not always be fruitful. We may also face an increased amount of competition as we attempt to expand and grow our business, which may negatively impact our financial results. In order for us to be successful as we enter and invest in emerging markets, these markets must continue to grow. However, this growth depends on a variety of factors that we are not always able to predict.

While there are anticipated challenges associated with shifting to a new business strategy, the scope and extent of these challenges are difficult to predict. As such, we will not always be able to fully and successfully mitigate any of our anticipated challenges. Further, even if we realize all anticipated benefits associated with this change in our business strategy, there may be consequences, internal control issues, or business impacts that were not expected.

To the extent that we convert some or all of our on-premise licenses from a fixed-term to a subscription model, our future financial results will be affected by the frequency at which our customers adopt our subscription model, which carries with it certain risks.

Our on-premise licenses currently have a five-year fixed term model. In the future, we may transition some or all of these licenses to a subscription model. A transition to a subscription model would reflect a significant shift from a fixed-term license. In addition, a subscription model presents a number of risks to us including the following:

- arrangements entered into on a subscription basis generally delay the timing of revenue recognition and can require the incurrence of up-front costs, which may be significant;

- subscription models make it difficult to rapidly increase revenues through additional bookings in any period, as revenues are recognized ratably over the subscription period;
- customers in a subscription arrangement may elect not to renew their contract upon expiration or they may attempt to renegotiate pricing or other contractual terms at the point of (or prior to) renewal on terms that are less favorable to us; and
- there is no assurance that our customers will broadly accept a subscription model for our on-premise licenses.

Certain anti-takeover provisions contained in our charter and under Delaware law could hinder a takeover attempt.

We are subject to the provisions of Section 203 of the General Corporation Law of the State of Delaware prohibiting, under some circumstances, publicly-held Delaware corporations from engaging in business combinations with some stockholders for a specified period of time without the approval of the holders of substantially all of our outstanding voting stock. Such provisions could delay or impede the removal of incumbent directors and could make more difficult a merger, tender offer, or proxy contest involving us, even if such events could be beneficial, in the short term, to the interests of our stockholders. In addition, such provisions could limit the price that some investors might be willing to pay in the future for shares of our common stock. Our certificate of incorporation and bylaws contain provisions relating to the limitation of liability and indemnification of our directors and officers, dividing our board of directors into three classes of directors serving three-year terms and providing that our stockholders can take action only at a duly called annual or special meeting of stockholders.

Risks Related to Our Customers

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

When we process an automated clearing house or ATM 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.

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, intermediaries, 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.

Risks Related to Our Intellectual Property

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 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.

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.

Risks Related to Our International Operations

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, unfavorable trade treaties or tariffs, 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.

In addition, the implementation of the United Kingdom's withdrawal from the European Union (referred to as Brexit) could, among other outcomes, disrupt the free movement of goods, services, and people between the United Kingdom and the European Union, undermine bilateral cooperation in key policy areas, and significantly disrupt trade between the United Kingdom and the European Union. The uncertainties related to Brexit have cross-border operational, financial and tax implications, among others, and any economic volatility that may arise in the United Kingdom, the European Union, or elsewhere may adversely affect our business.

Risks Related to Our Products and Services

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. Adverse economic conditions such as those caused by the COVID-19 pandemic and the potential for 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.

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 affected 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, the European Union-wide General Data Protection Regulation ("GDPR") (which imposes strict data privacy requirements and regulatory fines of up to 4% of "worldwide turnover") and the California Consumer Privacy Act ("CCPA"), 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.

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 may contain 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.

Risks Related to Legal, Regulatory, and Tax Matters

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.

ACI Payments, Inc. 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 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 our 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 GDPR, 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 GDPR and CCPA, 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 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.

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 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 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.

Risks Related to Our Industry

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 and intermediaries has increased in recent years. Changes in financial conditions have also historically resulted in 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 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.

Due to the industry we operate in, 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.

Risks Related to Our Financial Performance

Our future profitability depends on demand for our products.

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

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, or three years in the case of certain acquired SaaS and PaaS contracts. 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 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, 2020. 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.

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 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 experience 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 U.S. generally accepted accounting principles ("GAAP") financial measure.

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 executed in the final weeks of each quarter. Before these contracts are executed, 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.

Risks Related to Financing

Our outstanding debt contains restrictions and other financial covenants that limit our flexibility in operating our business.

Our credit facility and the indenture governing our 5.750% Senior Notes due 2026 ("2026 Notes") contain customary affirmative and negative covenants for debt of these types that limit our ability to engage in specified types of transactions. If an event of default occurs, the lenders, trustee, or holders of the 2026 Notes 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 debt, 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. See Note 4, *Debt*, to our Notes to Consolidated Financial Statements in Part IV, Item 15 of this Form 10-K for additional information.

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 and the 2026 Notes, 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) some of 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 and the 2026 Notes, an event of default could result that could 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.

Replacement of the LIBOR benchmark interest rate could adversely affect our business, financial condition, and results of operations.

In July 2017, the United Kingdom's Financial Conduct Authority, which regulates the London Interbank Offered Rate ("LIBOR"), announced it will no longer compel banks to submit rates for the calculation of LIBOR after 2021. The Alternative Reference Rates Committee has proposed the Secured Overnight Financing Rate ("SOFR") as its recommended alternative to LIBOR.

Our Credit Agreement is currently indexed to LIBOR, and the maturity date of the Credit Agreement extends beyond 2021. The Credit Agreement contemplates the discontinuation of LIBOR and provides options for us in such an event. It is uncertain at this time, however, what the potential impact of the transition from LIBOR as an interest rate benchmark to other potential alternative reference rates, including SOFR, may be on our business, financial condition, and/or results of operations.

General Risk Factors

Our business and operating results could be adversely affected by events outside of our control, including natural disasters, wars and outbreaks of disease or other adverse public health developments.

We may be impacted by natural disasters, wars, and outbreaks of disease or other adverse public health developments such as the recent COVID-19 coronavirus outbreak. These events could cause disruptions or restrictions on us, our partners and customers, including restrictions on travel, temporary closure of facilities, and other restrictions. Such disruptions or restrictions may result in delays or losses of sales and delays in the development or implementation of our products. These events could also result in a decrease in consumers' use of our customers' services, further adversely affecting our business and operating results.

If our revenues or mix of revenues are below anticipated levels or if our operating results are below analyst or investor expectations, the market price of our common stock could be adversely affected.

A significant percentage of our expenses, particularly personnel and facilities costs, are relatively fixed and based in part on anticipated revenue levels which can be difficult to predict. A decline in revenues without a corresponding and timely slowdown in expense growth could adversely affect our business. Significant revenue shortfalls in any quarter may cause significant declines in operating results since we may be unable to reduce spending in a timely manner.

Quarterly or annual operating results that are below the expectations of public market analysts could adversely affect the market price of our common stock. Factors that could cause fluctuations in our operating results include:

- a change in customer demand for our products, which is highly dependent on our ability to continue to offer innovative technology solutions in very competitive markets;

- the timing of customer orders;
- the timing of product implementations, which are highly dependent on customers' resources and discretion;
- overall economic conditions, which may affect our customers' and potential customers' budgets for information technology expenditures;
- foreign exchange rate volatility, which can have a significant effect on our total revenues and costs when our foreign operations are translated to U.S. dollars;
- the incurrence of costs relating to the integration of software products and operations in connection with acquisitions of technologies or businesses; and
- the timing and market acceptance of new products or product enhancements by either us or our competitors.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We lease office space in Naples, Florida, for our principal executive headquarters. As of the end of 2020, we owned and leased a total of approximately 453,000 square feet of office and data center space in the United States and leased approximately 412,000 square feet of office and data center space outside the United States, primarily in India, the United Kingdom, Ireland, South Africa, Romania, and Singapore.

We believe 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 we will be able to renew leases as they expire or secure alternate suitable space.
See Note 12, *Leases*, to our Notes to Consolidated Financial Statements in Part IV, Item 15 of this Form 10-K 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. We are not currently a party to any legal proceedings, the adverse outcome of which, individually or in the aggregate, we believe would be likely to have a material effect on our financial condition or results of operations.

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.

As of February 22, 2021, there were 262 holders of record of our common stock. A substantially greater number of shareholders hold our common stock in "street name", or as beneficial holders whose shares are held in the name of banks, brokers, or 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 (the "board") and will depend upon our financial condition, capital requirements, and earnings, as well as other factors the board 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.

Issuer Purchases of Equity Securities

The following table provides information regarding our repurchases of common stock during the three months ended December 31, 2020:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program
October 1, 2020 through October 31, 2020	—	$ —	—	$ 112,088,000
November 1, 2020 through November 30, 2020	—	—	—	112,088,000
December 1, 2020 through December 31, 2020 (1)	10,875	38.43	—	112,088,000
Total	10,875	$ 38.43	—	

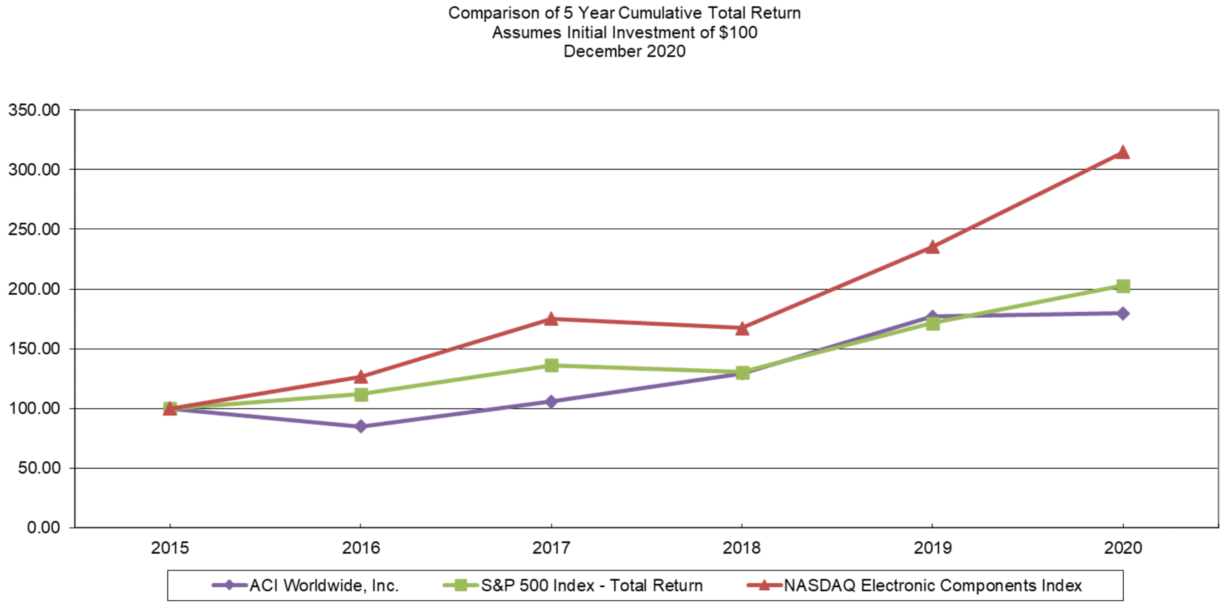
(1) Pursuant to our 2016 Equity and Performance Incentive Plan (the "2016 Incentive Plan"), we granted RSUs. Under the RSU arrangement, shares are issued without direct cost to the employee. During the three months ended December 31, 2020, 27,639 shares of RSUs vested. We withheld 10,875 of these RSUs to pay the employees' portion of the applicable minimum payroll withholding taxes.

In 2005, our board approved a stock repurchase program authorizing us, as market and business conditions warrant, to acquire our common stock and periodically authorize additional funds for the program, with the intention of using existing cash and cash equivalents to fund these repurchases. In February 2018, the board approved the repurchase of the Company's common stock for up to $200.0 million, in place of the remaining purchase amounts previously authorized. As of December 31, 2020, the maximum remaining amount authorized for purchase under the stock repurchase program was approximately $112.1 million.

There is no guarantee as to the exact number of shares we will repurchase. Repurchased shares are returned to the status of authorized but unissued shares of common stock. In March 2005, our board 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 of 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 a $100 investment was made in our common stock and each index on December 31, 2015, and all dividends were reinvested. Also included are respective investment returns based on the stock and index values as of the end of each year during the five-year period. This 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 (in thousands, except per share data). 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, *Risk Factors*.

	Years Ended December 31,				
	2020	**2019 (1)(2)**	**2018 (3)**	**2017 (4)**	**2016 (5)**
Income Statement Data:					
Total revenues	$ 1,294,322	$ 1,258,294	$ 1,009,780	$ 1,024,191	$ 1,005,701
Net income	72,660	67,062	68,921	5,135	129,535
Earnings per share:					
Basic	$ 0.62	$ 0.58	$ 0.59	$ 0.04	$ 1.10
Diluted	$ 0.62	$ 0.57	$ 0.59	$ 0.04	$ 1.09
Weighted average common shares outstanding:					
Basic	116,397	116,175	116,057	118,059	117,533
Diluted	118,079	118,571	117,632	119,444	118,847

	December 31,				
	2020	2019 (1)(2)	2018 (3)	2017	2016 (5)
Balance Sheet Data:					
Working capital	$ 249,309	$ 308,426	$ 269,857	$ 100,039	$ 31,625
Total assets	3,386,903	3,257,534	2,122,455	1,861,639	1,902,295
Current portion of debt (6)	34,265	34,148	20,767	17,786	90,323
Debt (long-term portion) (6)	1,128,806	1,350,592	658,602	668,356	656,063
Stockholders' equity	1,206,597	1,129,968	1,048,231	764,597	754,917

(1) The consolidated balance sheet and statement of operations for the year ended December 31, 2019, includes the acquisition of Speedpay, as discussed in Note 3, *Acquisition*, to our Notes to Consolidated Financial Statements in Part IV, Item 15 of this Form 10-K.

(2) The consolidated balance sheet and statement of operations for the year ended December 31, 2019, reflects the application of Accounting Standards Update ("ASU") 2016-02, *Leases* (codified as "ASC 842"), as discussed in Note 12, *Leases*, to our Notes to Consolidated Financial Statements.

(3) The consolidated balance sheet and statement of operations for the year ended December 31, 2018, reflects the adoption of ASU 2014-09, *Revenue from Contracts with Customers* (codified as "ASC 606"), as discussed in Note 2, *Revenue*, to our Notes to Consolidated Financial Statements, including a cumulative adjustment of $244.0 million to retained earnings.

(4) The consolidated statement of operations for the year ended December 31, 2017, reflects the Baldwin Hackett & Meeks, Inc. ("BHMI") judgment. We recorded $46.7 million in general and administrative expense and $1.4 million in interest expense.

(5) The consolidated balance sheet and statement of operations for the year ended December 31, 2016, reflects the sale of Community Financial Services assets and liabilities.

(6) During the year ended December 31, 2019, we borrowed $500.0 million in the form of a new senior secured term loan and drew $250.0 million on the available Revolving Credit Facility to fund the acquisition of Speedpay. During the year ended December 31, 2018, we issued $400.0 million in senior notes due August 15, 2026. We used the net proceeds of these senior notes to redeem our outstanding $300.0 million senior notes due 2020, which we originally entered in to during the year ended December 31, 2013. See Note 4**,** *Debt*, to our Notes to Consolidated Financial Statements for additional information.

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

Overview

ACI Worldwide powers digital payments for more than 6,000 organizations around the world. More than 1,000 of the largest banks and intermediaries, as well as thousands of global merchants, rely on ACI to execute $14 trillion each day in payments and securities. In addition, myriad organizations utilize our electronic bill presentment and payment services. Through our comprehensive suite of software solutions delivered on customers' premises, through the public cloud or through ACI's private cloud, we provide real-time, immediate payments capabilities and enable the industry's most complete omni-channel payments experience.

Our products are sold and supported directly and through distribution networks covering three geographic regions – the Americas, EMEA, and Asia Pacific. Each region has its own globally coordinated sales force, supplemented with local independent reseller and/or distributor networks. Our products and solutions are used globally by banks, intermediaries, merchants, and billers, such as third-party electronic payment processors, payment associations, switch interchanges and a wide range of transaction-generating endpoints, including ATMs, merchant 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 digital payments, mandated regulatory changes, and changes in the number and type of customers in the financial services industry, as well as economic growth and purchasing habits. Our products are marketed under the ACI Worldwide brand.

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 also continue to maintain centers of expertise in Timisoara, Romania and Pune and Bangalore in India, as well as key operational centers such as in Cape Town, South Africa and in multiple locations in the United States.

Key trends that currently impact our strategies and operations include:

Increasing digital payment transaction volumes. The adoption of digital payments continues to accelerate, propelled by the digitization of cash, financial inclusion efforts of countries throughout the world, the Internet of Things, rapid growth of eCommerce and the adoption of real-time payments. COVID-19 has further accelerated this growth as more people, governments, and businesses have embraced digital payments—a change likely to continue once the pandemic is over. We leverage the growth in transaction volumes through the licensing of new systems to customers whose older systems cannot handle increased volume, through the sale of capacity upgrades to existing customers, and through the scalability of our platform-based solutions.

Adoption of real-time payments. Expectations from both consumers and businesses are continuing to drive the payments world to more real-time delivery. This is bolstered by the new data-rich ISO 20022 messaging format, which promises to deliver greater value to banks and their customers. We are seeing global players with existing schemes working to expand capacity in anticipation of volume growth (further driven by COVID-19) and new payment types. Mature markets, including India, the United Kingdom, Australia, Malaysia, Singapore, Thailand, and the Nordics (P27), continue to accelerate innovation, especially in terms of overlay services and cross-border connectivity. The United States is driving real-time payments adoption through Zelle, TCH Real-Time Payments, and the planned FedNow service, while Brazil's PIX was recently launched in November. ACI's broad software portfolio, experience, and strategic partnerships with Mastercard, Microsoft, and Mindgate Solutions continue to position us as the leaders in real-time payments, helping to drive seamless connectivity, increased security, and end-to-end modernization for organizations throughout the world.

Adoption of cloud technology. To leverage lower-cost computing technologies, increase time to market, accelerate innovation, and ensure scalability and resiliency, banks, intermediaries, merchants, and billers are seeking to transition their systems to make use of cloud technology. Our investments and partnerships, as demonstrated by our product enablement and initial optimization onto Microsoft Azure, enable us to leverage the hybrid cloud technology benefits of automation and rapid deployment and delivery, while preserving the ACI fundamentals of resiliency and scalability, to deliver cloud capabilities now and in the future. Market sizing data from Ovum (now Omdia) indicates that spend on SaaS and PaaS payment systems is growing faster than spend on installed applications.

Digital payments fraud and compliance. The rise in digital payment transaction volumes and payment types has subsequently led to an increase in online fraud in many guises and across all channels. Driven in part by COVID-19, we have seen an increase in phishing and friendly fraud, as well as remote banking fraud and authorized push payment scams. Real-time payments bring a new level of urgency, as money cannot easily be retrieved once it has been sent. Banks, intermediaries, merchants, and billers must find faster, smarter, more accurate and increasingly automated ways to secure customers and meet regulatory pressures. We continue to see opportunity to offer our fraud detection solutions with advanced machine learning capabilities to help customers manage the growing levels of digital payments fraud and compliance activity.

Omni-commerce. Shoppers are increasingly browsing, buying, and returning items across channels, including in-store, online, and mobile. COVID-19 has accelerated this trend, leading to an increase in contactless payments, click and collect, and curbside collection. Merchants from all industries, including grocers, fuel and convenience stores, are being tasked with delivering seamless experiences that include pay-in-aisle, kiosks, mobile app payments, QR code payments, eCommerce, traditional and mobile POS, buy online pickup in-store (BOPIS) and buy online return in-store (BORIS). We believe there is significant opportunity to provide merchants with the tools to deliver a seamless, secure, personalized experience that creates loyalty and satisfaction, and drives conversion rates while protecting consumer data and preventing fraud.

Request for Payment (RfP). Markets across the world are introducing an innovative payments service called Request for Payment (RfP). This technology is known by different names in different markets: Collect payments in India, Request 2 Pay in Europe, Request To Pay (RTP) in the United Kingdom, or Request for Payment (RfP) in the United States. RfP offers secure messaging between consumers and billers or merchants, wherein a biller or merchant can request a payment from a consumer through the use of a trusted app, most likely a banking app. RfP is primarily being implemented on top of real-time payments, which are continuing to grow and flourish as countries around the world develop and launch their real-time schemes as noted above. ACI is in a unique position to deliver this overlay service given our real-time payments software, our relationships with banks, merchants and billers, and global real-time connectivity.

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 are complex, and it can be difficult to estimate when we will recognize revenue generated by a given transaction. Factors such as creditworthiness of the customer and timing of transfer of control or acceptance of our products may 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 accretive to our financial performance.

Acquisition

Speedpay

On May 9, 2019, we acquired Speedpay for $754.1 million in cash, including working capital adjustments, pursuant to a Stock Purchase Agreement, among the Company, Western Union, and ACI Worldwide Corp., our wholly owned subsidiary.

To fund the acquisition, we amended our existing Credit Agreement, dated February 24, 2017, for an additional $500.0 million senior secured term loan, in addition to drawing $250.0 million on the available Revolving Credit Facility. See Note 4, *Debt*, to our Notes to Consolidated Financial Statements in Part IV, Item 15 of this Form 10-K for terms of the Credit Agreement. The remaining acquisition consideration was funded with cash on hand.

Backlog

Backlog is comprised of:

- Committed Backlog, which includes (1) contracted revenue that will be recognized in future periods (contracted but not recognized) from software license fees, maintenance fees, service fees, and SaaS and PaaS fees specified in executed contracts (including estimates of variable consideration if required under ASC 606) and included in the transaction price for those contracts, which includes deferred revenue and amounts that will be invoiced and recognized as revenue in future periods and (2) estimated future revenues from software license fees, maintenance fees, services fees, and SaaS and PaaS fees specified in executed contracts.
- Renewal Backlog, which includes estimated future revenues from assumed contract renewals to the extent 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 estimates are derived using the following key assumptions:

- License arrangements are assumed to renew at the end of their committed term or under the renewal option stated in the contract at a rate consistent with historical experience. If the license arrangement includes extended payment terms, the renewal estimate is adjusted for the effects of a significant financing component.
- 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.
- SaaS and PaaS arrangements are assumed to renew at the end of their committed term at a rate consistent with our historical experiences.
- 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 by our customers.
- Optional annual uplifts or inflationary increases in recurring fees.
- Services engagements, other than SaaS and PaaS arrangements, are not assumed to renew over the 60-month backlog period.
- The potential impact of consolidation activity within our markets and/or customers.

We review our customer renewal experience on an annual basis. The impact of this review and subsequent updates may result in a revision to the renewal assumptions used in computing the 60-month backlog estimates. In the event a significant 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 reportable segment, as of December 31, 2020; September 30, 2020; June 30, 2020; March 31, 2020; and December 31, 2019 (in millions). Dollar amounts reflect foreign currency exchange rates as of each period end. This is a non-GAAP financial measure being presented to provide comparability across accounting periods. We believe this measure provides useful information to investors and others in understanding and evaluating our financial performance.

	December 31, 2020	September 30, 2020	June 30, 2020	March 31, 2020	December 31, 2019
ACI On Demand	$ 3,965	$ 3,868	$ 3,863	$ 3,781	$ 3,855
ACI On Premise	2,074	2,041	1,976	1,933	1,977
Total	$ 6,039	$ 5,909	$ 5,839	$ 5,714	$ 5,832

	December 31, 2020	September 30, 2020	June 30, 2020	March 31, 2020	December 31, 2019
Committed	$ 2,447	$ 2,189	$ 2,140	$ 2,095	$ 2,168
Renewal	3,592	3,720	3,699	3,619	3,664
Total	$ 6,039	$ 5,909	$ 5,839	$ 5,714	$ 5,832

Estimates of future financial results require substantial judgment and are based on several assumptions, as described above. These assumptions may turn out to be inaccurate or wrong for reasons outside of management's control. For example, our customers may attempt to renegotiate or terminate their contracts for many reasons, including mergers, changes in their financial condition, or general changes in economic conditions (e.g. economic declines resulting from COVID-19) in the customer's industry or geographic location. We may also 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 recognized in future periods. Accordingly, there can be no assurance that amounts included in backlog estimates will generate the specified revenues or that the actual revenues will be generated within the corresponding 60-month period. Additionally, because certain components of Committed Backlog and all of Renewal Backlog estimates are operating metrics, the estimates are not required to be subject to the same level of internal review or controls as contracted but not recognized Committed Backlog.

Results of Operations

The following tables present the consolidated statements of operations, as well as the percentage relationship to total revenues of items included in our consolidated statements of operations (in thousands):

Year Ended December 31, 2020, Compared to Year Ended December 31, 2019

	2020				2019	
	Amount	% of Total Revenue	$ Change vs 2019	% Change vs 2019	Amount	% of Total Revenue
Revenues:						
Software as a service and platform as a service	$ 769,180	60 %	$ 91,511	14 %	$ 677,669	54 %
License	246,896	19 %	(41,365)	(14)%	288,261	23 %
Maintenance	211,697	16 %	(1,712)	(1)%	213,409	17 %
Services	66,549	5 %	(12,406)	(16)%	78,955	6 %
Total revenues	1,294,322	100 %	36,028	3 %	1,258,294	100 %
Operating expenses:						
Cost of revenue	622,459	48 %	5,006	1 %	617,453	49 %
Research and development	139,293	11 %	(7,280)	(5)%	146,573	12 %
Selling and marketing	103,567	8 %	(20,117)	(16)%	123,684	10 %
General and administrative	152,468	12 %	17,172	13 %	135,296	11 %
Depreciation and amortization	131,791	10 %	20,259	18 %	111,532	9 %
Total operating expenses	1,149,578	89 %	15,040	1 %	1,134,538	91 %
Operating income	144,744	11 %	20,988	17 %	123,756	9 %
Other income (expense):						
Interest expense	(56,630)	(4)%	7,403	(12)%	(64,033)	(5)%
Interest income	11,628	1 %	(339)	(3)%	11,967	1 %
Other, net	(1,116)	— %	(1,636)	(315)%	520	— %
Total other income (expense)	(46,118)	(3)%	5,428	(11)%	(51,546)	(4)%
Income before income taxes	98,626	8 %	26,416	37 %	72,210	5 %
Income tax expense	25,966	2 %	20,818	404 %	5,148	— %
Net income	$ 72,660	6 %	$ 5,598	8 %	$ 67,062	5 %

Revenues

Total revenue for the year ended December 31, 2020, increased $36.0 million, or 3%, as compared to the same period in 2019.

- Speedpay contributed an incremental $123.3 million in total revenue during the year ended December 31, 2020, as compared to the same period in 2019.
- The impact of certain foreign currencies weakening against the U.S. dollar resulted in a $2.1 million decrease in total revenue during the year ended December 31, 2020, as compared to the same period in 2019.
- Adjusted for the impact of incremental Speedpay revenue and foreign currency, total revenue for the year ended December 31, 2020, decreased $85.2 million, or 7%, as compared to the same period in 2019.

Software as a Service ("SaaS") and Platform as a Service ("PaaS") Revenue

The Company's SaaS arrangements allow customers to use certain software solutions (without taking possession of the software) in a single-tenant cloud environment on a subscription basis. The Company's PaaS arrangements allow customers to use certain software solutions (without taking possession of the software) in a multi-tenant cloud environment on a subscription or consumption basis. Included in SaaS and PaaS revenue are fees paid by our customers for use of our Biller solutions. Biller-related 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. SaaS and PaaS costs include payment card interchange fees, the amounts payable to banks and payment card processing fees, which are included in cost of revenue in the accompanying consolidated statements of operations. All revenue from SaaS and PaaS arrangements that does not qualify for treatment as a distinct performance obligation, which includes set-up fees, implementation or customization services, and product support services, are included in SaaS and PaaS revenue.

SaaS and PaaS revenue increased $91.5 million, or 14%, during the year ended December 31, 2020, as compared to the same period in 2019.

- Speedpay contributed an incremental $123.3 million in SaaS and PaaS revenue during the year ended December 31, 2020, as compared to the same period in 2019.
- The impact of certain foreign currencies strengthening against the U.S. dollar resulted in a $0.6 million increase in SaaS and PaaS revenue during the year ended December 31, 2020, as compared to the same period in 2019.
- Adjusted for the impact of the incremental revenue from Speedpay and foreign currency, SaaS and PaaS revenue for the year ended December 31, 2020, decreased $32.4 million, or 5%, as compared to the same period in 2019.
- The decrease was primarily due to declines in transaction volumes within our Biller customer base as a result of the economic impact of COVID-19.

License Revenue

Customers purchase the right to license ACI software under multi-year, time-based software license arrangements that vary in length but are generally five years. Under these arrangements the software is installed at the customer's location (i.e. on-premise). 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.

Included in license revenue are license and capacity fees that are payable at the inception of the agreement or annually (initial license fees). License revenue also includes license and capacity fees payable quarterly or monthly due to negotiated customer payment terms (monthly license fees). The Company recognizes revenue in advance of billings for software license arrangements with extended payment terms and adjusts for the effects of the financing component, if significant.

License revenue decreased $41.4 million, or 14%, during the year ended December 31, 2020, as compared to the same period in 2019.

- The impact of foreign currencies was not significant for license revenue during the year ended December 31, 2020, as compared to the same period in 2019.
- The decrease in license revenue was primarily driven by the timing and relative size of license and capacity events during the year ended December 31, 2020, as compared to the same period in 2019.

Maintenance Revenue

Maintenance revenue includes standard, enhanced, and premium customer support and any post contract support fees received from customers for the provision of product support services.

Maintenance revenue decreased $1.7 million, or 1%, during the year ended December 31, 2020, as compared to the same period in 2019.

- The impact of foreign currencies weakening against the U.S. dollar resulted in a $1.8 million decrease in maintenance revenue during the year ended December 31, 2020, as compared to the same period in 2019.
- Adjusted for the impact of foreign currency, maintenance revenue for the year ended December 31, 2020, remained flat as compared to the same period in 2019.

Services Revenue

Services revenue includes fees earned through implementation services and other professional services. Implementation services include product installations, product configurations, and custom software modifications ("CSMs"). Other professional services include business consultancy, technical consultancy, on-site support services, 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.

Services revenue decreased $12.4 million, or 16%, during the year ended December 31, 2020, as compared to the same period in 2019.

- The impact of foreign currencies weakening against the U.S. dollar resulted in a $0.7 million decrease in services revenue during the year ended December 31, 2020, as compared to the same period in 2019.
- Adjusted for the impact of foreign currency, services revenue for the year ended December 31, 2020, decreased $11.7 million, or 15%, as compared to the same period in 2019.
- The decrease was primarily driven by the timing and magnitude of project-related work during the year ended December 31, 2020, as compared to the same period in 2019.

Operating Expenses

Total operating expenses for the year ended December 31, 2020, increased $15.0 million, or 1%, as compared to the same period in 2019.

- Speedpay contributed an incremental $105.5 million to total operating expenses during the year ended December 31, 2020, as compared to the same period in 2019.
- Total operating expenses for the year ended December 31, 2020, included $44.6 million of significant transaction-related expenses associated with cost reduction strategies implemented during the period and ongoing integration of the acquisition of Speedpay. Total operating expenses for the year ended December 31, 2019, included $24.9 million of significant transaction-related expenses associated with the acquisition of Speedpay.
- The impact of foreign currencies weakening against the U.S. dollar resulted in a $5.5 million decrease in total operating expenses for the year ended December 31, 2020, as compared to the same period in 2019.
- Adjusted for the impact of incremental Speedpay operating expenses, significant transaction-related expenses, and foreign currency, total operating expenses for the year ended December 31, 2020, decreased $104.7 million, or 9%, as compared to the same period in 2019.

Cost of Revenue

Cost of revenue includes costs to provide SaaS and PaaS, third-party royalties, amortization of purchased and developed software for resale, the costs of maintaining our software products, as well as the costs required to deliver, install, and support software at customer sites. SaaS and PaaS service costs include payment card interchange fees, amounts payable to banks, and payment card processing fees. 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.

Cost of revenue increased $5.0 million, or 1%, during the year ended December 31, 2020, as compared to the same period in 2019.

- Speedpay contributed an incremental $84.9 million to cost of revenue during the year ended December 31, 2020, as compared to the same period in 2019.
- Cost of revenue for the year ended December 31, 2020 included $4.3 million of significant transaction-related expenses associated with the acquisition of Speedpay and cost reduction strategies implemented during the period.
- The impact of foreign currencies weakening against the U.S. dollar resulted in a $2.2 million decrease in cost of revenue during the year ended December 31, 2020, as compared to the same period in 2019.
- Adjusted for the impact of incremental Speedpay expense, significant transaction-related expenses, and foreign currency, cost of revenue decreased $81.9 million, or 13%, for the year ended December 31, 2020, as compared to the same period in 2019.
- The decrease was primarily due to lower payment card interchange and biller related expenses, personnel and related expenses, travel and entertainment expenses, and amortization of acquired software of $57.2 million, $18.6 million, $3.7 million, and $2.4 million, respectively.

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 expense decreased $7.3 million, or 5%, during the year ended December 31, 2020, as compared to the same period in 2019.

- Speedpay contributed an incremental $4.1 million to R&D expense during the year ended December 31, 2020, as compared to the same period in 2019.
- R&D expense for the year ended December 31, 2020, included $1.0 million of significant transaction-related expenses associated with cost reduction strategies implemented during the period. R&D expense for the year ended December 31, 2019, included $0.4 million of significant transaction-related expenses associated with the acquisition of Speedpay.
- The impact of foreign currencies weakening against the U.S. dollar resulted in a $1.5 million decrease in R&D expense during the year ended December 31, 2020, as compared to the same period in 2019.
- Adjusted for the impact of incremental Speedpay expense, significant transaction-related expenses, and foreign currency, R&D expense decreased $10.4 million, or 7%, during the year ended December 31, 2020, as compared to the same period in 2019, primarily due to lower personnel and related 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 incurred to promote the Company and its products, perform or acquire market research to help the Company better understand impending changes in customer demand for and of our products, and the costs associated with measuring customers' opinions toward the Company, our products and personnel.

Selling and marketing expense decreased $20.1 million, or 16%, during the year ended December 31, 2020, as compared to the same period in 2019.

- Speedpay contributed an incremental $3.9 million to selling and marketing expense during the year ended December 31, 2020, as compared to same period in 2019.
- The impact of foreign currencies weakening against the U.S. dollar resulted in a $1.0 million decrease in selling and marketing expense during the year ended December 31, 2020, as compared to the same period in 2019.
- Adjusted for the impact of incremental Speedpay expense and foreign currency, selling and marketing expense decreased $23.0 million, or 19%, for the year ended December 31, 2020, as compared to the same period in 2019.
- The decrease was primarily due to lower advertising costs, personnel and related expenses, travel and entertainment, and commissions of $8.7 million, $6.6 million, $3.9 million, and $3.8 million, respectively.

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 expense increased $17.2 million, or 13%, during the year ended December 31, 2020, as compared to the same period in 2019.

- Speedpay contributed an incremental $0.7 million to general and administrative expense during the year ended December 31, 2020, as compared to the same period in 2019.
- General and administrative expenses for the year ended December 31, 2020, included $39.3 million of significant transaction-related expenses associated with cost reduction strategies implemented during the period. General and administrative expense for the year ended December 31, 2019, included $24.4 million of significant transaction-related expenses associated with the acquisition of Speedpay.
- The impact of foreign currencies weakening against the U.S. dollar resulted in a $0.7 million decrease in general and administrative expenses during the year ended December 31, 2020, as compared to the same period in 2019.

- Adjusted for the impact of incremental Speedpay expense, significant transaction-related expenses, and foreign currency, general and administrative expense increased $2.2 million, or 2%, for the year ended December 31, 2020, as compared to the same period in 2019.
- The increase was primarily due to higher professional and other fees of $5.6 million, partially offset by lower travel and entertainment expenses and personnel and related expenses of $2.0 million and $1.4 million, respectively.

Depreciation and Amortization

Depreciation and amortization increased $20.3 million, or 18%, during the year ended December 31, 2020, as compared to the same period in 2019.

- Speedpay contributed an incremental $11.9 million of depreciation and amortization expense during the year ended December 31, 2020, as compared to the same period in 2019.
- The impact of foreign currencies was not significant for depreciation and amortization expense during the year ended December 31, 2020, as compared to the same period in 2019.
- Adjusted for the impact of incremental Speedpay expense, depreciation and amortization increased $8.4 million, or 8%, for the year ended December 31, 2020, as compared to the same period in 2019, primarily due to additional amortization of internal-use software in our On Demand business.

Other Income and Expense

Interest expense for the year ended December 31, 2020, decreased $7.4 million, or 12%, as compared to the same period in 2019, primarily due to lower interest rates, partially offset by higher comparative debt balances.

Interest income includes the portion of software license fees paid by customers under extended payment terms that is attributed to the significant financing component. Interest income for the year ended December 31, 2020, decreased $0.3 million, or 3%, as compared to the same period in 2019.

Other, net is primarily comprised of foreign currency transaction gains and losses. Other, net was $1.1 million of expense for the year ended December 31, 2020, and $0.5 million of income for the year ended December 31, 2019.

Income Taxes

The effective tax rates for the years ended December 31, 2020 and 2019, were approximately 26% and 7%, respectively. Our effective tax rates vary from our federal statutory rates due to operating in multiple foreign countries where we apply foreign tax laws and rates which differ from those we apply to the income generated from our domestic operations. Of the foreign jurisdictions in which we operate, our December 31, 2020, effective rate was most impacted by our operations in Ireland, Mexico, Singapore, and the United Kingdom, and our December 31, 2019, effective tax rate was most impacted by our operations in Ireland, Luxembourg, and the United Kingdom.

Refer to Note 11, *Income Taxes*, to our Notes to Consolidated Financial Statements in Part IV, Item 15 of this Form 10-K for additional information.

Prior Year Results

For discussion of the year ended December 31, 2019, compared to the year ended December 31, 2018, see *Results of Operations* in Part II, Item 7 of our annual report on Form 10-K for the year ended December 31, 2019.

Segment Results

We report financial performance based on our segments, ACI On Demand and ACI On Premise, and analyze Segment Adjusted EBITDA as a measure of segment profitability.

Our Chief Executive Officer is also our chief operating decision maker ("CODM"). The CODM, together with other senior management personnel, focus their review on consolidated financial information and the allocation of resources based on operating results, including revenues and Segment Adjusted EBITDA, for each segment, separate from corporate operations.

ACI On Demand serves the needs of banks, merchants, and billers who use payments to facilitate their core business. These on-demand solutions are maintained and delivered through the cloud via our global data centers and are available in either a single-tenant environment for SaaS offerings, or in a multi-tenant environment for PaaS offerings.

ACI On Premise serves customers who manage their software on site or through a third-party public cloud environment. These on-premise customers use the Company's software to develop sophisticated solutions, which are often part of a larger system located and managed at the customer specified site. These customers require a level of control and flexibility that ACI On Premise solutions can offer, and they have the resources and expertise to take a lead role in managing these solutions.

Revenue is attributed to the reportable segments based upon the product sold and mechanism for delivery to the customer. Expenses are attributed to the reportable segments in one of three methods, (1) direct costs of the segment, (2) labor costs that can be attributed based upon time tracking for individual products, or (3) costs that are allocated. Allocated costs are generally marketing and sales related activities as well as information technology and facilities related expense for which multiple segments benefit. We also allocate certain depreciation costs to the segments.

Segment Adjusted EBITDA is the measure reported to the CODM for purposes of making decisions on allocating resources and assessing the performance of our segments and, therefore, Segment Adjusted EBITDA is presented in conformity with ASC 280, *Segment Reporting*. Segment Adjusted EBITDA is defined as earnings (loss) from operations before interest, income tax expense (benefit), depreciation and amortization ("EBITDA") adjusted to exclude stock-based compensation, and net other income (expense).

Corporate and unallocated expenses consist of the corporate overhead costs that are not allocated to reportable segments. These overhead costs relate to human resources, finance, legal, accounting, merger and acquisition activity, and other costs that are not considered when management evaluates segment performance.

The following is selected financial data for our reportable segments for the periods indicated (in thousands):

	Years Ended December 31,	
	2020	**2019**
Revenues		
ACI On Demand	$ 769,180	$ 678,960
ACI On Premise	525,142	579,334
Total revenue	$ 1,294,322	$ 1,258,294
Segment Adjusted EBITDA		
ACI On Demand	$ 149,610	$ 66,501
ACI On Premise	290,310	321,305
Depreciation and amortization	(140,316)	(122,569)
Stock-based compensation expense	(29,602)	(36,763)
Corporate and unallocated expenses	(125,258)	(104,718)
Interest, net	(45,002)	(52,066)
Other, net	(1,116)	520
Income before income taxes	$ 98,626	$ 72,210
Depreciation and amortization		
ACI On Demand	$ 40,594	$ 34,395
ACI On Premise	13,207	11,992
Corporate	86,515	76,182
Total depreciation and amortization	$ 140,316	$ 122,569
Stock-based compensation expense		
ACI On Demand	$ 8,852	$ 7,995
ACI On Premise	8,872	7,651
Corporate and other	11,878	21,117
Total stock-based compensation expense	$ 29,602	$ 36,763

ACI On Demand Segment Adjusted EBITDA increased $83.1 million for the year ended December 31, 2020, compared to the same period in 2019, of which $30.0 million was due to the acquisition of Speedpay. Excluding the impact of the acquisition of Speedpay, ACI On Demand Segment Adjusted EBITDA increased $53.1 million, primarily due to a $86.2 million decrease in cash operating expense, partially offset by a $33.1 million decrease in revenue.

ACI On Premise Segment Adjusted EBITDA decreased $31.0 million for the year ended December 31, 2020, compared to the same period in 2019, primarily due to a $54.2 million decrease in revenue, partially offset by $23.2 million decrease in cash operating expense.

Prior Year Results

For discussion of 2019 compared to 2018, see *Segment Results* in Part II, Item 7 of our annual report on Form 10-K for the year ended December 31, 2019.

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; and (iii) to fund acquisitions, capital expenditures, and lease payments. We believe these needs will be satisfied using cash flow generated by our operations, cash and cash equivalents, and available borrowings under our revolving credit facility.

Our cash requirements in the future may be financed through additional equity or debt financings. However, the disruption in the capital markets caused by the COVID-19 pandemic could make any new financing more challenging, and there can be no assurance that such financings will be obtained on commercially reasonable terms, or at all. We believe our liquidity will allow us to manage the anticipated impact of COVID-19 on our business operations for the foreseeable future, which could include reductions in revenue and delays in payments from customers and partners. We are compliant with our debt covenants and do not anticipate an inability to service our debt. As the challenges posed by COVID-19 on our business and the economy as a whole evolve rapidly, we will continue to evaluate our liquidity and financial position in light of future developments, particularly those relating to COVID-19.

Available Liquidity

The following table sets forth our available liquidity for the periods indicated (in thousands):

	December 31,	
	2020	2019
Cash and cash equivalents	$ 165,374	$ 121,398
Availability under revolving credit facility	443,500	261,000
Total liquidity	$ 608,874	$ 382,398

The increase in total liquidity is primarily attributable to positive operating cash flows of $336.3 million, partially offset by $46.6 million of payments to purchase property and equipment and software and distribution rights, $39.0 million of repayments on the Term Loans and $28.9 million of payments related to stock repurchases. We also repaid a net $184.0 million on the Revolving Credit Facility.

The Company and ACI Payments, Inc., a wholly owned subsidiary, maintain a $100.0 million uncommitted overdraft facility with Bank of America, N.A. The overdraft facility acts as a secured loan under the terms of the Credit Agreement to provide an additional funding mechanism for timing differences that can occur in the bill payment settlement process. As of December 31, 2020, the full $100.0 million was available.

Cash and cash equivalents consist of highly liquid investments with original maturities of three months or less. As of December 31, 2020, we had $165.4 million of cash and cash equivalents, of which $69.9 million was held by our foreign subsidiaries. If these funds were needed for our operations in the United States, we may potentially be required to accrue and pay foreign and U.S. state income taxes to repatriate these funds. As of December 31, 2020, only the earnings in our Indian foreign subsidiaries are indefinitely reinvested. The earnings of all other foreign entities are no longer indefinitely reinvested. We are also permanently reinvested for outside book/tax basis differences related to foreign subsidiaries. These outside basis differences could reverse through sales of the foreign subsidiaries, as well as various other events, none of which are considered probable as of December 31, 2020.

Cash Flows

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

	Years Ended December 31,	
	2020	2019
Net cash provided by (used in):		
Operating activities	$ 336,302	$ 137,649
Investing activities	(30,699)	(830,481)
Financing activities	(261,570)	667,223

Cash Flow from Operating Activities

Net cash flows provided by operating activities for the year ended December 31, 2020, were $336.3 million as compared to $137.6 million during the same period in 2019. Net cash provided by operating activities primarily consists of net income adjusted to add back depreciation, amortization, and stock-based compensation. Cash flows provided by operating activities were $198.7 million higher for the year ended December 31, 2020, compared to the same period in 2019, due to higher net income and the timing of working capital. Our current policy is to use our operating cash flow primarily for funding capital expenditures, lease payments, stock repurchases, and acquisitions.

Cash Flow from Investing Activities

During the year ended December 31, 2020, we used $46.6 million to purchase software, property, and equipment, as compared to $48.0 million during the same period in 2019. During the year ended December 31, 2019, we paid $753.9 million, net of $0.1 million in cash acquired, to acquire Speedpay. We also used cash of $18.5 million to invest in a payment technology and services company in India and $7.0 million to acquire the technology assets of RevChip, LLC and TranSend Integrated Technologies Inc in 2019.

Cash Flow from Financing Activities

Net cash flows used by financing activities for the year ended December 31, 2020, were $261.6 million, as compared to net cash flows provided by financing activities of $667.2 million during the same period in 2019. During 2020, we repaid a net $184.0 million on the Revolving Credit Facility and $39.0 million on the Term Loans. In addition, we used $28.9 million to repurchase common stock and we received proceeds of $15.7 million from the exercise of stock options and the issuance of common stock under our 2017 Employee Stock Purchase Plan, as amended. We also used $11.6 million for the repurchase of stock-based compensation awards for tax withholdings. During 2019, we received proceeds of $500.0 million from our Delayed Draw Term Loan and $280.0 million from our Revolving Credit Facility to fund our purchase of Speedpay and stock repurchases, and we repaid $41.0 million on the Revolving Credit Facility and $28.9 million on the Initial Term Loan. In addition, we used $35.6 million to repurchase common stock, and we received proceeds of $16.6 million from the exercise of stock options and the issuance of common stock under our 2017 Employee Stock Purchase Plan, as amended. We also used $4.0 million for the repurchase of stock-based compensation awards for tax withholdings.

Prior Year Results

For discussion of 2019 compared to 2018, see *Liquidity and Capital Resources* in Part II, Item 7 of our annual report on Form 10-K for the year ended December 31, 2019.

Debt

On April 5, 2019, we entered into the Second Amended and Restated Credit Agreement (the "Credit Agreement") to amend and restate our existing agreement, dated February 24, 2017. The Credit Agreement consists of (a) a five-year $500.0 million senior secured revolving credit facility (the “Revolving Credit Facility”), (b) a five-year $279.0 million senior secured term loan facility (the “Initial Term Loan”) and (c) a five-year $500.0 million senior secured term loan facility (the "Delayed Draw Term Loan", together with the Initial Term Loan, the "Term Loans", and together with the Initial Term Loan and the Revolving Credit Facility, the “Credit Facility”).

On August 12, 2020, we entered a standby letter of credit agreement (the “Letter of Credit”), under the terms of the Credit Agreement, for $1.5 million. The Letter of Credit expires on July 31, 2021, with automatic renewal for twelve month periods thereafter. The Letter of Credit reduces the maximum available borrowings under our Revolving Credit Facility to $498.5 million. Upon expiration of the Letter of Credit, maximum borrowings will return to $500.0 million.

As of December 31, 2020, we had $55.0 million and $717.1 million outstanding under our Revolving Credit Facility and Term Loans, respectively, with up to $443.5 million of unused borrowings under the Revolving Credit Facility, as amended, and up to $1.5 million of unused borrowings under the Letter of Credit agreement. As of December 31, 2020, and at all times during the year, we were in compliance with our debt covenants. The interest rate in effect for the Credit Facility was 2.15% as of December 31, 2020.

We also had $400.0 million outstanding of the 2026 Notes as of December 31, 2020. See Note 4, *Debt*, to our Notes to Consolidated Financial Statements in Part IV, Item 15 of this Form 10-K for additional information.

Stock Repurchase Program

We repurchased 1,000,000 shares for $28.9 million under our stock repurchase program during the year ended December 31, 2020. Under the program to date, we have repurchased 46,357,495 shares for approximately $612.3 million. As of December 31, 2020, the maximum remaining amount authorized for purchase under the stock repurchase program was approximately $112.1 million. See Note 7, *Common Stock and Treasury Stock*, to our Notes to Consolidated Financial Statements in Part IV, Item 15 of this Form 10-K for additional information.

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 April 2024 and have issued Senior Notes that mature in August 2026.

Contractual obligations as of December 31, 2020, are as follows (in thousands):

	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Operating lease obligations	$ 59,677	$ 15,116	$ 23,427	$ 9,561	$ 11,573
Term loans	717,110	38,950	120,337	557,823	—
Term loans interest (1)	46,198	15,081	27,160	3,957	—
Revolving credit facility	55,000	—	—	55,000	—
Revolving credit facility interest (2)	3,840	1,182	2,363	295	—
Senior notes	400,000	—	—	—	400,000
Senior notes interest (3)	138,000	23,000	46,000	46,000	23,000
Financed internal-use software (4)	7,847	5,660	2,187	—	—
Total	$ 1,427,672	$ 98,989	$ 221,474	$ 672,636	$ 434,573

(1) Based on the Term Loans debt outstanding and interest rate in effect at December 31, 2020, of 2.15%.

(2) Based on Revolving Credit Facility debt outstanding and interest rate in effect at December 31, 2020, of 2.15%.

(3) Based on 2026 Notes issued of $400.0 million with an annual interest rate of 5.750%.

(4) As of December 31, 2020, $7.8 million is outstanding under certain multi-year license agreements for internal-use software, with $5.6 million and $2.2 million included in other current liabilities and other noncurrent liabilities, respectively, in our Consolidated Balance Sheet in Part IV, Item 15 of this Form 10-K as of December 31, 2020.

We are unable to reasonably estimate the ultimate amount or timing of settlement of our reserves for income taxes under ASC 740, *Income Taxes*. The liability for unrecognized tax benefits at December 31, 2020, is $24.3 million.

Off-Balance Sheet Arrangements

Settlement Accounts

We enter into agreements with certain Biller clients to process payment funds on their behalf. When an ACH or ATM network payment transaction is processed, a transaction is initiated to withdraw funds from the designated source account and deposit them into a settlement account. This settlement account 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, so we receive the funds from the source at the same time 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 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 fee structures for clients and represents a portion of the payment for services performed by us. The amount of settlement funds as of December 31, 2020 and 2019, were $246.8 million and $274.0 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,* and Note 2, *Revenue*, to our Notes to Consolidated Financial Statements in Part IV, Item 15 of this Form 10-K for a further discussion of significant accounting policies and revenue recognition.

Revenue Recognition

In accordance with ASC 606, *Revenue From Contracts with Customers,* revenue is recognized upon transfer of control of promised products and/or services to customers in an amount that reflects the consideration we expect to be entitled to receive in exchange for those products and services.

Our software license arrangements provide the customer with the right to use functional intellectual property for the duration of the contract term. Implementation, support, and other services are typically considered distinct performance obligations when sold with a software license. Significant judgment is required to determine the stand-alone selling price (“SSP”) for each performance obligation, the amount allocated to each performance obligation and whether it depicts the amount that we expect to be entitled to receive in exchange for the related product and/or service. As the selling prices of our software licenses are highly variable, we estimate SSP of our software licenses using the residual approach when the software license is sold with other services and observable SSPs exist for the other services. We use a range of amounts to estimate SSP for maintenance and services. These ranges are based on stand-alone sales and vary based on the type of service and geographic region. If the SSP of a performance obligation is not directly observable, we will maximize observable inputs to determine its SSP.

When a software license arrangement contains payment terms that are extended beyond one year, a significant financing component may exist. The significant financing component is calculated as the difference between the stated value and present value of the software license fees and is recognized as interest income over the extended payment period. Judgment is used in determining: (1) whether the financing component in a software license agreement is significant and, if so, (2) the discount rate used in calculating the significant financing component.

We assess the significance of the financing component based on the ratio of license fees paid over time to total license fees. If determined to be significant, the financing component is calculated using a rate that discounts the license fees to the cash selling price.

Our SaaS-based and PaaS-based arrangements represent a single promise to provide continuous access to its software solutions and their processing capabilities in the form of a service through one of our data centers. These arrangements may include fixed and/or variable consideration. Fixed consideration is recognized over the term of the arrangement and variable consideration, which is a function of transaction volume or another usage-based measure, generally meets the allocation objective and revenue is recognized as the usage occurs.

We apply judgment in determining the customer's ability and intention to pay, which is based on a variety of factors including the creditworthiness of the customer, economic conditions in the customer's industry and geographic location, and general economic conditions.

Certain of our arrangements are through unrelated distributors or sales agents. For software license arrangements in which we act as a distributor of another company's product, and in certain circumstances, modify or enhance the product, revenues are recorded on a gross basis. These include arrangements in which we take control of the products and are responsible for providing the product or service. For software license arrangements in which we act as a sales agent for another company's product, revenues are recorded on a net basis. 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. For software license arrangements in which we utilize a third-party distributor or sales agent, we recognize revenue upon transfer of control of the software license(s) to the third-party distributor or sales agent.

We may execute more than one contract or agreement with a single customer at or near the same time. The separate contracts or agreements may be viewed as one combined arrangement or separate agreements for revenue recognition purposes. We evaluate whether the agreements were negotiated as a package with a single commercial objective, whether the products or services promised in the agreements represent a single performance obligation, or whether the amount of consideration to be paid in one agreement depends on the price and/or performance of another agreement to reach appropriate conclusions regarding whether such arrangements are related or separate. The conclusions reached can impact the allocation of the transaction price to each performance obligation and the timing of revenue recognition related to those arrangements.

Intangible Assets and Goodwill

Our business acquisitions typically result in the recording of intangible assets. As of December 31, 2020 and 2019, our intangible assets, excluding goodwill, net of accumulated amortization, were $322.0 million and $357.0 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 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 four to 20 years.

As of December 31, 2020 and 2019, our goodwill was $1.3 billion. 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, ACI On Demand and ACI On Premise, as our reporting units. Recoverability of goodwill is measured using a discounted cash flow valuation model incorporating discount rates commensurate with the risks involved. Use of a discounted cash flow valuation 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. 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 the 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 exceeds 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 the assets acquired and the liabilities assumed at their acquisition date fair values, separately from goodwill. 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 we use our best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date, 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 operations.

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.

Stock-Based Compensation

On June 9, 2020, upon recommendation of our board, stockholders approved the ACI Worldwide, Inc. 2020 Equity and Incentive Compensation Plan (the "2020 Plan"). The 2020 Plan authorizes the board to provide for equity-based compensation in the form of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance units, dividend equivalents, and certain other awards, including those denominated or payable in, or otherwise based on, our common stock ("awards"). The purpose of the 2020 Plan is to provide incentives and rewards for service and/or performance by providing awards to non-employee directors, officers, other employees, and certain consultants and other service providers of us and our subsidiaries. Following the approval of the 2020 Plan, the 2016 Incentive Plan was terminated. Termination of the 2016 Incentive Plan did not affect any equity awards outstanding under the 2016 Incentive Plan.

On March 23, 2016, our board approved the 2016 Incentive Plan. The 2016 Incentive Plan was intended to meet our 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.

In accordance with ASC 718, *Compensation – Stock Compensation*, stock-based compensation expense 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. The Black-Scholes option-pricing model requires various highly judgmental assumptions, including volatility and expected option life. If any assumptions used in the Black-Scholes option-pricing model change significantly, stock-based compensation expense may differ materially for future awards from that recorded for existing awards.

Total shareholder return awards ("TSRs") are performance shares that are earned, if at all, based upon our total shareholder return as compared to a group of peer companies over a three-year performance period. The award payout can range from 0% to 200%. To determine the grant date fair value of TSRs, a Monte Carlo simulation model is used. We recognize compensation expense for the TSRs over a three-year performance period based on the grant date fair value.

Restricted share unit awards ("RSUs") generally have requisite service periods of three years and vest in increments of 33% on the anniversary of the grant dates. Under each arrangement, RSUs are issued without direct cost to the employee on the vesting date. We estimate the fair value of RSUs based upon the market price of our stock on the date of grant. We recognize compensation expense for RSUs on a straight-line basis over the requisite service period.

The assumptions utilized in the Black-Scholes option-pricing and Monte Carlo simulation models, as well as the description of the plans the stock-based awards are granted under are described in further detail in Note 6, *Stock-Based Compensation Plans*, to our Notes to Consolidated Financial Statements in Part IV, Item 15 of this Form 10-K.

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 Internal Revenue Service, 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 related 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*, to our Notes to Consolidated Financial Statements in Part IV, Item 15 of this Form 10-K.

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, 2020. 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. 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. In those instances where our goods and services have already been sold, receivables may be more difficult to collect. Additionally, in jurisdictions where the revenue contracts are denominated in U.S. dollars and operating expenses are incurred in the local currency, any decline in the value of the U.S. dollar will have an unfavorable impact to operating margins. At times, we enter into revenue contracts that are denominated in the country's local currency, primarily in Australia, Canada, the United Kingdom, other European countries, Brazil, India, and Singapore. 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 speculation or arbitrage.

The primary objective of our cash investment policy is to preserve principal without significantly increasing risk. If we maintained similar cash investments for a period of one year based on our cash investments and interest rates at December 31, 2020, 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 $1.2 billion of debt outstanding at December 31, 2020, with $772.1 million outstanding under our Credit Facility and $400.0 million in 2026 Notes. Our Credit Facility has a floating rate, which was 2.15% at December 31, 2020. Our 2026 Notes are fixed-rate long-term debt obligations with a 5.750% interest rate. A hypothetical ten percent increase or decrease in effective interest rates would increase or decrease interest expense related to the Credit Facility by approximately $1.7 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

Evaluation of Disclosure Controls and Procedures

Our management, under the supervision 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, 2020.

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, 2020.

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 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, 2020.

Management based its assessment on criteria established in “Internal Control Integrated Framework (2013)” issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2020.

The effectiveness of our internal control over financial reporting as of December 31, 2020, 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.

Changes in Internal Control over Financial Reporting

There were no additional changes in our internal control over financial reporting (as defined in Rules 13a-15(f) under the Exchange Act) during the quarter ended December 31, 2020, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of ACI Worldwide, Inc. and subsidiaries (the "Company") as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2020, of the Company and our report dated February 25, 2021, expressed an unqualified opinion on those financial statements and included an explanatory paragraph regarding the Company's adoption of FASB Accounting Standards Update 2016-02, *Leases*, effective January 1, 2019.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

Omaha, Nebraska
February 25, 2021

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 other information required by this Item 10 is incorporated by reference from our Proxy Statement for the Annual Meeting of Stockholders to be held on June 2, 2021 (the “2021 Proxy Statement“), under the sections entitled “Proposal 1 – Election of Directors,” “Information Regarding Security Ownership – Section 16(a) Beneficial Ownership Reporting Compliance,” Corporate Governance – Code of Business Conduct and Ethics,” and “Corporate Governance – Board Committees.”

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 2021 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 2021 Proxy Statement is incorporated herein by reference.

Information included in the section entitled “Information Regarding Equity Compensation Plans” in our 2021 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 2021 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 2021 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 2021 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:

(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.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of ACI Worldwide, Inc. and subsidiaries (the “Company”) as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income, stockholders’ equity, and cash flows for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, 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) (PCAOB), the Company’s internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 25, 2021, expressed an unqualified opinion on the Company’s internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, effective January 1, 2019, the Company adopted FASB Accounting Standards Update 2016-02, *Leases*, using the optional transition method.

Basis for Opinion

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

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

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition - Refer to Note 2 to the financial statements

The Company recognizes revenue upon transfer of control of promised products and/or services to customers in an amount that reflects the consideration the Company expects to be entitled to in exchange for those products or services. The Company’s software license arrangements provide the customer with the right to use functional intellectual property for the duration of the contract term and are typically bundled with implementation, support, and other services.

Significant judgment is exercised by the Company in determining revenue recognition for these customer arrangements, and includes the following:

- Determination of the term of a software license arrangement when early termination rights are provided to the customer.

- Determination of whether products and/or services are considered distinct performance obligations that should be accounted for separately.
- Determination of whether the financing component in a software licensing arrangement is significant and, if so, the discount rate used in calculating the significant financing component.
- Assessment of whether the extension of payment terms in a software licensing arrangement results in variable consideration and, if so, the amount to be included in the transaction price.
- Determination of the standalone selling price for each performance obligation and whether it depicts the amount that the Company expects to be entitled to in exchange for the related product and/or service. As the selling prices of the Company's software licenses are highly variable, the Company estimates standalone selling price of its software licenses using the residual approach when the software license is sold with other services and observable standalone selling prices exist for the other services.

Given these factors, the related audit effort in evaluating management's judgments in determining revenue recognition for software license arrangements was extensive and required a high degree of auditor judgment.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the Company's accounting for software license arrangements included the following, among others:

- We tested the effectiveness of controls over the review of software license arrangements, including, among others, the determination of the contract term, identification of performance obligations, determination of significant financing component, estimation of variable consideration, and determination of standalone selling prices, including those controls over the determination that software license pricing is highly variable.
- We selected a sample of software license arrangements and performed the following, among others:
    - Obtained contract source documents for each selection, including separate contracts or agreements that should be combined with the selected arrangement, and other documents that were part of the arrangement.
    - Tested management's determination of the contract term, identification of performance obligations, determination of significant financing component, estimation of variable consideration, and determination of standalone selling prices.
    - Evaluated the reasonableness of the methodology and estimates used by management and the appropriateness of its revenue recognition conclusions for these key judgment areas.
    - Tested the mathematical accuracy of management's calculations of revenue and the associated timing of revenue recognized in the financial statements.
- We evaluated management's determination that software license pricing is highly variable by obtaining management's highly variable analysis and performing the following:
    - Testing the completeness of management's analysis by tracing a selection of known data points from an independent internal source into the highly variable analysis.
    - Testing the accuracy of management's analysis by selecting a sample of contracts from the highly variable analysis, obtaining the contract and price detail, and evaluating whether discounts were appropriately included in the analysis.
    - Testing the mathematical accuracy of management's calculations.

/s/ DELOITTE & TOUCHE LLP

Omaha, Nebraska
February 25, 2021
We have served as the Company's auditor since 2009.

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

	December 31, 2020	December 31, 2019
ASSETS		
Current assets		
Cash and cash equivalents	$ 165,374	$ 121,398
Receivables, net of allowances of $3,912 and $5,149, respectively	342,879	359,197
Settlement assets	605,008	391,039
Prepaid expenses	24,288	24,542
Other current assets	17,365	24,200
Total current assets	1,154,914	920,376
Noncurrent assets		
Accrued receivables, net	215,772	213,041
Property and equipment, net	64,734	70,380
Operating lease right-of-use assets	41,243	57,382
Software, net	196,456	234,517
Goodwill	1,280,226	1,280,525
Intangible assets, net	321,983	356,969
Deferred income taxes, net	57,476	51,611
Other noncurrent assets	54,099	72,733
TOTAL ASSETS	$ 3,386,903	$ 3,257,534
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	$ 41,223	$ 37,010
Settlement liabilities	604,096	368,719
Employee compensation	48,560	29,318
Current portion of long-term debt	34,265	34,148
Deferred revenue	95,849	65,784
Other current liabilities	81,612	76,971
Total current liabilities	905,605	611,950
Noncurrent liabilities		
Deferred revenue	33,564	53,155
Long-term debt	1,120,742	1,339,007
Deferred income taxes, net	40,504	32,053
Operating lease liabilities	39,958	46,766
Other noncurrent liabilities	39,933	44,635
Total liabilities	2,180,306	2,127,566
Commitments and contingencies (Note 13)		
Stockholders' equity		
Preferred stock; $0.01 par value; 5,000,000 shares authorized; no shares issued at December 31, 2020 and 2019	—	—
Common stock; $0.005 par value; 280,000,000 shares authorized; 140,525,055 shares issued at December 31, 2020 and 2019	702	702
Additional paid-in capital	682,431	667,658
Retained earnings	1,003,490	930,830
Treasury stock, at cost, 23,412,870 and 24,538,703 shares at December 31, 2020 and 2019, respectively	(387,581)	(377,639)
Accumulated other comprehensive loss	(92,445)	(91,583)
Total stockholders' equity	1,206,597	1,129,968
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 3,386,903	$ 3,257,534

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

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

	Years Ended December 31,		
	2020	**2019**	**2018**
Revenues			
Software as a service and platform as a service	$ 769,180	$ 677,669	$ 433,025
License	246,896	288,261	280,556
Maintenance	211,697	213,409	219,145
Services	66,549	78,955	77,054
Total revenues	1,294,322	1,258,294	1,009,780
Operating expenses			
Cost of revenue (1)	622,459	617,453	430,351
Research and development	139,293	146,573	143,630
Selling and marketing	103,567	123,684	117,881
General and administrative	152,468	135,296	107,422
Depreciation and amortization	131,791	111,532	84,585
Total operating expenses	1,149,578	1,134,538	883,869
Operating income	144,744	123,756	125,911
Other income (expense)			
Interest expense	(56,630)	(64,033)	(41,530)
Interest income	11,628	11,967	11,142
Other, net	(1,116)	520	(3,724)
Total other income (expense)	(46,118)	(51,546)	(34,112)
Income before income taxes	98,626	72,210	91,799
Income tax expense	25,966	5,148	22,878
Net income	$ 72,660	$ 67,062	$ 68,921
Income per common share			
Basic	$ 0.62	$ 0.58	$ 0.59
Diluted	$ 0.62	$ 0.57	$ 0.59
Weighted average common shares outstanding			
Basic	116,397	116,175	116,057
Diluted	118,079	118,571	117,632

(1) The cost of revenue excludes charges for depreciation but includes amortization of purchased and developed software for resale.

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

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

	Years Ended December 31,		
	2020	**2019**	**2018**
Net income	$ 72,660	$ 67,062	$ 68,921
Other comprehensive income (loss):			
Foreign currency translation adjustments	(862)	1,034	(15,261)
Total other comprehensive income (loss)	(862)	1,034	(15,261)
Comprehensive income	$ 71,798	$ 68,096	$ 53,660

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, 2017	$ 702	$ 610,345	$ 550,866	$ (319,960)	$ (77,356)	$ 764,597
Net income	—	—	68,921	—	—	68,921
Other comprehensive loss	—	—	—	—	(15,261)	(15,261)
Stock-based compensation	—	20,360	—	—	—	20,360
Shares issued and forfeited, net, under stock plans	—	1,530	—	21,218	—	22,748
Repurchase of 2,346,427 shares of common stock	—	—	—	(54,527)	—	(54,527)
Repurchase of stock-based compensation awards for tax withholdings	—	—	—	(2,588)	—	(2,588)
Cumulative effect of accounting change, ASC 606	—	—	243,981	—	—	243,981
Balance as of December 31, 2018	702	632,235	863,768	(355,857)	(92,617)	1,048,231
Net income	—	—	67,062	—	—	67,062
Other comprehensive income	—	—	—	—	1,034	1,034
Stock-based compensation	—	36,763	—	—	—	36,763
Shares issued and forfeited, net, under stock plans	—	(1,340)	—	17,821	—	16,481
Repurchase of 1,228,102 shares of common stock	—	—	—	(35,617)	—	(35,617)
Repurchase of stock-based compensation awards for tax withholdings	—	—	—	(3,986)	—	(3,986)
Balance as of December 31, 2019	702	667,658	930,830	(377,639)	(91,583)	1,129,968
Net income	—	—	72,660	—	—	72,660
Other comprehensive loss	—	—	—	—	(862)	(862)
Stock-based compensation	—	29,602	—	—	—	29,602
Shares issued and forfeited, net, under stock plans	—	(14,829)	—	30,507	—	15,678
Repurchase of 1,000,000 shares of common stock	—	—	—	(28,881)	—	(28,881)
Repurchase of stock-based compensation awards for tax withholdings	—	—	—	(11,568)	—	(11,568)
Balance as of December 31, 2020	$ 702	$ 682,431	$ 1,003,490	$ (387,581)	$ (92,445)	$ 1,206,597

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

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

	Years Ended December 31,		
	2020	2019	2018
Cash flows from operating activities:			
Net income	$ 72,660	$ 67,062	$ 68,921
Adjustments to reconcile net income to net cash flows from operating activities:			
Depreciation	24,728	24,092	23,805
Amortization	115,588	98,477	73,545
Amortization of operating lease right-of-use assets	23,448	15,934	—
Amortization of deferred debt issuance costs	4,802	4,128	4,637
Deferred income taxes	3,349	(22,140)	(5,734)
Stock-based compensation expense	29,602	36,763	20,360
Other	6,017	5,175	2,007
Changes in operating assets and liabilities, net of impact of acquisitions:			
Receivables	8,793	(19,054)	(14,760)
Accounts payable	2,484	(7,703)	5,766
Accrued employee compensation	18,491	(10,829)	(9,684)
Deferred revenue	9,421	(37,561)	14,219
Other current and noncurrent assets and liabilities	16,919	(16,695)	850
Net cash flows from operating activities	336,302	137,649	183,932
Cash flows from investing activities:			
Purchases of property and equipment	(17,804)	(23,099)	(18,265)
Purchases of software and distribution rights	(28,829)	(24,915)	(25,628)
Acquisition of businesses, net of cash acquired	—	(757,268)	—
Other	15,934	(25,199)	(1,467)
Net cash flows from investing activities	(30,699)	(830,481)	(45,360)
Cash flows from financing activities:			
Proceeds from issuance of common stock	3,759	3,591	3,098
Proceeds from exercises of stock options	11,924	12,985	19,674
Repurchase of stock-based compensation awards for tax withholdings	(11,568)	(3,986)	(2,588)
Repurchase of common stock	(28,881)	(35,617)	(54,527)
Proceeds from senior notes	—	—	400,000
Redemption of senior notes	—	—	(300,000)
Proceeds from revolving credit facility	30,000	280,000	109,000
Repayments of revolving credit facility	(214,000)	(41,000)	(111,000)
Proceeds from term portion of credit agreement	—	500,000	—
Repayments of term portion of credit agreement	(38,950)	(28,900)	(109,289)
Payment for debt issuance costs	—	(12,830)	(7,319)
Payments on or proceeds from other debt, net	(13,854)	(7,020)	(4,753)
Net cash flows from financing activities	(261,570)	667,223	(57,704)
Effect of exchange rate fluctuations on cash	(57)	(1,495)	(2,076)
Net increase (decrease) in cash and cash equivalents	43,976	(27,104)	78,792
Cash and cash equivalents, beginning of period	121,398	148,502	69,710
Cash and cash equivalents, end of period	$ 165,374	$ 121,398	$ 148,502
Supplemental cash flow information			
Income taxes paid, net	$ 27,760	$ 27,727	$ 32,205
Interest paid	$ 51,991	$ 58,980	$ 35,300

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 banks, intermediaries, merchants, and billers, both in domestic and international markets.

Consolidated Financial Statements

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. 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 for each matter subject to a stockholder's vote and to dividends, if and when declared by the board of directors (the "board").

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.

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.

Risks and Uncertainties

The Company is subject to risks and uncertainties as a result of the COVID-19 pandemic. The extent of the impact of the COVID-19 pandemic on the Company's business is highly uncertain and difficult to predict, as the response to the pandemic and available information continues to be evolving. The Company has experienced changes in volumes for certain Merchant and Biller customers and has received limited requests for extended payment terms under existing contracts. Furthermore, capital markets and economies worldwide have also been negatively impacted by the COVID-19 pandemic, and it is possible that it could cause a local and/or global economic recession. Such economic disruption could have a material adverse effect on our business as our customers curtail and reduce capital and overall spending. Policymakers around the globe have responded with fiscal policy actions to support the economy as a whole. The magnitude and overall effectiveness of these actions remains uncertain.

The severity of the impact of the COVID-19 pandemic on the Company's business will depend on a number of factors, including, but not limited to, the duration and severity of the pandemic and the extent and severity of the impact on the Company's customers, all of which are uncertain and cannot be predicted. The Company's future results of operations and liquidity could be adversely impacted by delays in payments of outstanding receivable amounts beyond normal payment terms, uncertain demand, and the impact of any initiatives or programs that the Company may undertake to address financial and operational challenges faced by its customers. As of the date of issuance of these consolidated financial statements, the extent to which the COVID-19 pandemic may materially impact the Company's financial condition, liquidity, or results of operations is uncertain.

Other Current Liabilities

The components of other current liabilities are included in the following table (in thousands):

	December 31,	
	2020	2019
Operating lease liabilities	$ 13,438	$ 15,049
Vendor financed licenses	12,901	9,667
Accrued interest	8,745	9,212
Royalties payable	3,959	6,107
Other	42,569	36,936
Total other current liabilities	$ 81,612	$ 76,971

Settlement Assets and Liabilities

Individuals and businesses settle their obligations to the Company's various Biller clients using credit or debit cards or via automated clearing house ("ACH") payments. The Company creates a receivable for the amount due from the credit or debit card processor and an offsetting payable to the client. Upon confirmation that the funds have been received, the Company settles the obligation to the client. Due to timing, in some instances, the Company may (1) 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 and (2) disburse funds to its clients in advance of receiving funds from the credit or debit card processor, resulting in a net settlement receivable position.

Off Balance Sheet Settlement Accounts

The Company also enters into agreements with certain Biller clients to process payment funds on their behalf. When an ACH 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, these 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, 2020 and 2019, were $246.8 million and $274.0 million, respectively.

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, 2020 and 2019, net property and equipment consisted of the following (in thousands):

		December 31,	
	Useful Lives	2020	2019
Computer and office equipment	3 - 5 years	$ 133,346	$ 143,942
Leasehold improvements	Lesser of useful life of improvement or remaining life of lease	29,535	33,346
Building and improvements	7 - 30 years	14,588	14,553
Furniture and fixtures	7 years	8,539	12,980
Land	Non-depreciable	1,785	1,785
Property and equipment, gross		187,793	206,606
Less: accumulated depreciation		(123,059)	(136,226)
Property and equipment, net		$ 64,734	$ 70,380

Software

Software may be for internal use or for resale. Costs related to certain software, which is for resale, are capitalized in accordance with Accounting Standards Codification ("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 for resale as technological feasibility generally coincides with general availability of the software. The Company capitalizes the costs of software developed or obtained for internal use in accordance with ASC 350-40, *Internal Use Software*. The Company expenses all costs incurred during the preliminary project stage of its development and capitalizes the costs incurred during the application development stage. Costs incurred relating to upgrades and enhancements to the software are capitalized if it is determined that these upgrades or enhancements add additional functionality to the software. Costs incurred during the application development stage include purchased software licenses, implementation costs, consulting costs, and payroll-related costs for projects that qualify for capitalization. All other costs, primarily related to maintenance and minor software fixes, are expensed as incurred.

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

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.

Fair Value

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.

The fair value of the Company's 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 5.750% Senior Notes due 2026 ("2026 Notes") was $424.5 million and $432.0 million as of December 31, 2020 and 2019, respectively.

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).

Goodwill and Other Intangibles

In accordance with ASC 350, *Intangibles – Goodwill and Other*, 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 using the discounted cash flow valuation model and allocates goodwill to these reporting units using a relative fair value approach. During this assessment, management relies on a number of factors, including operating results, business plans, and anticipated future cash flows. The Company has identified its reportable segments, ACI On Demand and ACI On Premise, as the reporting units.

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 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 the 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 during the year ended December 31, 2020, were as follows (in thousands):

	ACI On Demand	ACI On Premise	Total
Gross Balance, prior to December 31, 2018	$ 183,783	$ 773,340	$ 957,123
Total impairment prior to December 31, 2018	—	(47,432)	(47,432)
Balance, December 31, 2018	183,783	725,908	909,691
Goodwill from acquisitions (1)	370,834	—	370,834
Balance, December 31, 2019	554,617	725,908	1,280,525
Goodwill from acquisitions (1)	(299)	—	(299)
Balance, December 31, 2020	$ 554,318	$ 725,908	$ 1,280,226

(1) Goodwill from acquisitions relates to the goodwill recorded, as well as adjustments, for the acquisitions of E Commerce Group Products, Inc. ("ECG"), along with ECG's subsidiary, Speedpay, Inc. (collectively referred to as "Speedpay"), and Walletron, Inc. ("Walletron"), as discussed in Note 3, *Acquisition*.

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

Equity Method Investment

On July 23, 2019, the Company invested $18.3 million for a 30% non-controlling financial interest in a payment technology and services company in India. The Company accounted for this investment using the equity method in accordance with ASC 323, *Investments - Equity Method and Joint Ventures*. The Company records its share of earnings and losses in the investment on a one-quarter lag basis. Accordingly, the Company recorded an investment of $19.3 million and $18.5 million, which is included in other noncurrent assets in the consolidated balance sheet as of December 31, 2020 and 2019, respectively.

Name Change

Effective January 1, 2020, Official Payments Corporation, a wholly owned subsidiary, changed its name to ACI Payments, Inc. An amended and restated certificate of incorporation was filed with the state of Delaware to reflect the change. The Official Payments Corporation name and corresponding trade name may continue to be used until all stationary and marketing materials are transitioned to ACI Payments, Inc. equivalents.

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 and restricted share units, 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.

Stock-Based Compensation Plans

In accordance with ASC 718, *Compensation – Stock Compensation,* ("ASC 718") the Company recognizes stock-based compensation expense 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. Stock-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. To determine the grant date fair value of the supplemental stock options and total shareholder return awards ("TSRs"), a Monte Carlo simulation model was used. The assumptions utilized in the Black-Scholes option-pricing and Monte Carlo simulation models, as well as the description of the plans the stock-based awards are granted under, are described in further detail in Note 6, *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 (loss). 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 (loss).

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, 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 February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-02, *Leases* (codified as "ASC 842"). ASC 842 requires lessees to recognize right-of-use ("ROU") assets and lease liabilities on the balance sheet for all leases unless, as a policy election, a lessee elects not to apply ASC 842 to short-term leases. In addition, this standard requires both lessees and lessors to disclose certain key information about lease transactions. The Company adopted ASC 842 on January 1, 2019 (the effective date) using the optional transition method to not apply the new lease standard in the comparative periods presented and elected the "practical expedient package", which permits the Company to not reassess prior conclusions about lease identification, lease classification, and initial direct costs. ASC 842 also provides practical expedients for the Company's ongoing accounting, including the combination of lease and non-lease components into a single lease component, which the Company has elected to apply to its leases. As of January 1, 2019, the Company recognized ROU assets and operating lease liabilities of $63.3 million and $68.6 million, respectively. Refer to Note 12, *Leases*, for further details.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments – Credit Losses: Measurement of Credit Losses on Financial Instruments,* codified as ASC 326. Subsequent amendments to the guidance were issued as follows: ASU 2018-19 in November 2018; ASU 2019-04 in April 2019; ASU 2019-05 in May 2019; ASU's 2019-10 and 2019-11 in November 2019; and ASU 2020-02 in February 2020. This ASU provides financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. The amendments in ASU 2016-13 replace the incurred loss impairment methodology in current U.S. GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The Company is required to use a forward-looking expected credit loss model for billed and accrued receivables. The Company adopted ASU 2016-13 as of January 1, 2020. The adoption of ASU 2016-13 did not have a material impact on the consolidated financial statements.

In February 2020, the FASB issued ASU 2020-03, *Codification Improvements to Financial Instruments*, which clarifies or improves various financial instruments topics in the accounting standards codification to increase stakeholder awareness. ASU 2020-03 was effective upon issuance and did not have a material impact on the consolidated financial statements.

In March 2020, the FASB issued ASU 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting.* The update provides optional guidance for a limited period of time to ease potential accounting impacts associated with transitioning away from reference rates that are expected to be discontinued, such as the London Interbank Offered Rate ("LIBOR"). This guidance includes optional expedients and exceptions for applying U.S. GAAP to transactions affected by reference rate reform if certain criteria are met. ASU 2020-04 is effective for all entities as of March 12, 2020, through December 31, 2022, when the reference rate replacement activity is expected to be completed. In January 2021, the FASB issued ASU 2021-01, *Reference Rate Reform - Scope*, which clarified the scope and application of the original guidance. The adoption of ASU 2020-04 did not have an impact on the Company's consolidated financial statements.

Recently Issued Accounting Standards Not Yet Effective

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes,* as part of its initiative to reduce complexity in accounting standards. The amendments in this update simplify the accounting for income taxes by removing certain exceptions within ASC 740, as well as clarify and simplify other aspects of the accounting for income taxes to promote consistency among reporting entities. ASU 2019-12 is effective for annual and interim periods beginning after December 15, 2020. The adoption of ASU 2019-12 will not have a material impact on the Company's consolidated financial statements.

In October 2020, the FASB issued ASU 2020-10, *Codification Improvements*, which improves the consistency of the codification by including all disclosure related guidance in the appropriate disclosure sections and clarifies application of various provisions in the codification by amending and adding new headings, cross referencing to other guidance, and refining or correcting terminology. ASU 2020-10 is effective for annual periods after December 15, 2020, and early application is permitted for any annual or interim period for which financial statements have not been issued. The adoption of ASU 2020-10 will not have a material impact on the Company's consolidated financial statements.

2. Revenue

Revenue Recognition

In accordance with ASC 606, *Revenue From Contracts With Customers*, revenue is recognized upon transfer of control of promised products and/or services to customers in an amount that reflects the consideration the Company expects to be entitled to in exchange for those products and services. Revenue is recognized net of any taxes collected from customers and subsequently remitted to governmental authorities.

Contract Combination. The Company may execute more than one contract or agreement with a single customer at or near the same time. The separate contracts or agreements may be viewed as one combined arrangement or separate agreements for revenue recognition purposes. In order to reach appropriate conclusions regarding whether such agreements should be combined, the Company evaluates whether the agreements were negotiated as a package with a single commercial objective, whether the amount of consideration to be paid in one agreement depends on the price and/or performance of another agreement, or whether the product(s) or services promised in the agreements represent a single performance obligation. The conclusions reached can impact the allocation of the transaction price to each performance obligation and the timing of revenue recognition related to those arrangements.

Software as a Service (“SaaS”) and Platform as a Service (“PaaS”) Arrangements. The Company’s SaaS-based and PaaS-based arrangements, including implementation, support and other services, represent a single promise to provide continuous access (i.e. a stand-ready performance obligation) to its software solutions and their processing capabilities in the form of a service through one of the Company’s data centers. As each day of providing access to the software solution(s) is substantially the same and the customer simultaneously receives and consumes the benefits as access is provided, the Company’s single promise under its SaaS-based and PaaS-based arrangements is comprised of a series of distinct service periods. The Company’s SaaS-based and PaaS-based arrangements may include fixed consideration, variable consideration, or a combination of the two. Fixed consideration is recognized over the term of the arrangement or longer if the fixed consideration relates to a material right. A material right would be a separate performance obligation. The Company estimates the stand-alone selling price for a material right by reference to the services expected to be provided and the corresponding expected consideration. Variable consideration in these arrangements is typically a function of transaction volume or another usage-based measure. Depending upon the structure of a particular arrangement, the Company: (1) allocates the variable amount to each distinct service period within the series and recognizes revenue as each distinct service period is performed, (2) estimates total variable consideration at contract inception (giving consideration to any constraints that may apply and updating the estimates as new information becomes available) and recognizes the total transaction price over the period to which it relates, or (3) applies the ‘right to invoice’ practical expedient and recognizes revenue based on the amount invoiced to the customer during the period.

License Arrangements. The Company’s software license arrangements provide the customer with the right to use functional intellectual property (as it exists at the point in time at which the license is granted) for the duration of the contract term. Implementation, support, and other services are typically considered distinct performance obligations when sold with a software license.

Payment terms for the Company’s software license arrangements generally include fixed license and capacity fees that are payable up front or over time. These arrangements may also include incremental usage-based fees that are payable when the customer exceeds its contracted license capacity limits. The Company accounts for capacity overages as a usage-based royalty that is recognized when the usage occurs.

When a software license arrangement contains payment terms that are extended beyond one year, a significant financing component may exist. The significant financing component is calculated as the difference between the stated value and present value of the software license fees and is recognized as interest income over the extended payment period. The total fixed software license fee net of the significant financing component is recognized as revenue at the point in time when the software is transferred to the customer.

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.

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 control of the products and is responsible for providing the product or service. For software license arrangements in which the Company acts as a sales agent for another company's product, revenues are recorded on a net basis. These include arrangements in which the Company does not take control of products and is not 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 upon transfer of control of the software license(s) to the third-party distributor or sales agent.

The Company's software license arrangements typically provide the customer with a standard 90-day assurance-type warranty. These warranties do not represent an additional performance obligation as services beyond assuring that the software license complies with agreed-upon specifications are not provided.

Software license arrangements typically include an initial post contract customer support (maintenance or "PCS") term of one year with subsequent renewals for additional years within the initial license period. The Company's promise to those customers who elect to purchase PCS represents a stand-ready performance obligation that is distinct from the license performance obligation and recognized over the PCS term.

The Company also provides various professional services to customers with software licenses. These include project management, software implementation, and software modification services. Revenues from arrangements to provide professional services are generally distinct from the other promises in the contract(s) and are recognized as the related services are performed. Consideration received under these arrangements is either fixed fee or on a time-and-materials basis, which represents variable consideration that must be estimated using the most likely amount based on the range of hours expected to be incurred in providing the services.

The Company estimates the stand-alone selling price ("SSP") for maintenance and professional services based on observable stand-alone sales. The Company applies the residual approach to estimate the SSP for software licenses.

Refer to Note 10, *Segment Information*, for further details, including disaggregation of revenue based on primary solution category and geographic location.

Significant Judgments

The Company applies judgment in determining the customer's ability and intention to pay, which is based on a variety of factors including the customer's historical payment experience or, in the case of a new customer, published credit and financial information.

The Company also applies judgment in determining the term of an arrangement when early termination rights are provided to the customer.

The Company's software license arrangements with its customers often include multiple promises to transfer licensed software products and services. Determining whether the products and/or services are distinct performance obligations that should be accounted for separately may require significant judgment.

The Company's SaaS and PaaS arrangements may include variable consideration in the form of usage-based fees. If the arrangement that includes variable consideration in the form of usage-based fees does not meet the allocation exception for variable consideration, the Company estimates the amount of variable consideration at the outset of the arrangement using either the expected value or most likely amount method, depending on the specifics of each arrangement. These estimates are constrained to the extent that it is probable that a significant reversal of incremental revenue will not occur and are updated each reporting period as additional information becomes available.

Judgment is used in determining: (1) whether the financing component in a software license agreement is significant and, if so, (2) the discount rate used in calculating the significant financing component. The Company assesses the significance of the financing component based on the ratio of license fees paid over time to total license fees. If determined to be significant, the financing component is calculated using a rate that discounts the license fees to the cash selling price.

Judgment is also used in assessing whether the extension of payment terms in a software license arrangement results in variable consideration and, if so, the amount to be included in the transaction price. The Company applies the portfolio approach to estimate the amount of variable consideration in these arrangements using the most likely amount method that is based on the Company's historical collection experience under similar arrangements.

Significant judgment is required to determine the SSP for each performance obligation, the amount allocated to each performance obligation and whether it depicts the amount that the Company expects to be entitled to in exchange for the related product and/or service. As the selling prices of the Company's software licenses are highly variable, the Company estimates SSP of its software licenses using the residual approach when the software license is sold with other services and observable SSPs exist for the other services. The Company uses a range of amounts to estimate SSP for maintenance and services. These ranges are based on stand-alone sales and vary based on the type of service and geographic region. If the SSP of a performance obligation is not directly observable, the Company will maximize observable inputs to determine its SSP.

Contract Balances

Timing of revenue recognition may differ from the timing of invoicing to customers. The Company records an accrued receivable when revenue is recognized prior to invoicing and the Company's right to consideration only requires the passage of time, or deferred revenue when revenue is recognized subsequent to invoicing.

Total receivables represent amounts billed and amounts earned that are to be billed in the future (i.e., accrued receivables). Included in accrued receivables are services and SaaS and PaaS revenues earned in the current period but billed in the following period and amounts due under multi-year software license arrangements with extended payment terms for which the Company has an unconditional right to invoice and receive payment subsequent to invoicing.

Total receivables, net is comprised of the following (in thousands):

	December 31,	
	2020	**2019**
Billed receivables	$ 179,177	$ 213,654
Allowance for doubtful accounts	(3,912)	(5,149)
Billed receivables, net	175,265	208,505
Current accrued receivables, net	167,614	150,692
Long-term accrued receivables, net	215,772	213,041
Total accrued receivables, net	383,386	363,733
Total receivables, net	$ 558,651	$ 572,238

No customer accounted for more than 10% of the Company's consolidated receivables balance as of December 31, 2020 and 2019.

The Company maintains an allowance for doubtful accounts for expected future credit losses that is calculated based on historical experience, current economic trends, and expectations of near term economic trends. The Company regularly monitors its credit risk exposures in consolidated receivables.

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

	Years Ended December 31,		
	2020	**2019**	**2018**
Balance, beginning of period	$ (5,149)	$ (3,912)	$ (4,799)
Provision (increase) decrease	374	(2,561)	(1,505)
Amounts written off, net of recoveries	941	1,368	2,269
Foreign currency translation adjustments and other	(78)	(44)	123
Balance, end of period	$ (3,912)	$ (5,149)	$ (3,912)

Provision (increases) decreases recorded in general and administrative expense during the years ended December 31, 2020, December 31, 2019, and 2018, reflect (increases) decreases in the allowance for doubtful accounts based upon collection experience, net of collection of customer-specific receivables that were previously reserved for as doubtful of collection.

Deferred revenue includes amounts due or received from customers for software licenses, maintenance, services, and/or SaaS and PaaS services in advance of recording the related revenue.

Changes in deferred revenue were as follows (in thousands):

Balance, December 31, 2018	$	156,135
Deferral of revenue		149,253
Recognition of deferred revenue		(187,069)
Foreign currency translation		620
Balance, December 31, 2019		118,939
Deferral of revenue		149,363
Recognition of deferred revenue		(141,313)
Foreign currency translation		2,424
Balance, December 31, 2020	$	129,413

Revenue allocated to remaining performance obligations represents contracted revenue that will be recognized in future periods, which is comprised of deferred revenue and amounts that will be invoiced and recognized as revenue in future periods. This does not include:

- Revenue that will be recognized in future periods from capacity overages that are accounted for as a usage-based royalty.
- SaaS and PaaS revenue from variable consideration that will be recognized in accordance with the 'right to invoice' practical expedient or meets the allocation objective.

Revenue allocated to remaining performance obligations was $846.9 million as of December 31, 2020, of which the Company expects to recognize approximately 50% over the next 12 months and the remainder thereafter.

During the year ended December 31, 2020, the revenue recognized by the Company from performance obligations satisfied in previous periods was $39.3 million.

Costs to Obtain and Fulfill a Contract

The Company accounts for costs to obtain and fulfill its contracts in accordance with ASC 340-40.

The Company capitalizes certain of its sales commissions that meet the definition of incremental costs of obtaining a contract and for which the amortization period is greater than one year. The costs associated with those sales commissions are capitalized during the period in which the Company becomes obligated to pay the commissions and are amortized over the period in which the related products or services are transferred to the customer. As of December 31, 2020 and 2019, $1.3 million and $0.5 million of these costs are included in other current assets, respectively, and $6.2 million and $6.9 million of these costs are included in other noncurrent assets, respectively, on the consolidated balance sheets. During the years ended December 31, 2020 and 2019, the Company recognized $4.7 million and $6.6 million of sales commission expense, respectively, related to the amortization of these costs, which is included in selling and marketing expense on the consolidated statements of operations.

The Company capitalizes costs incurred to fulfill its contracts that: (1) relate directly to the arrangement, (2) are expected to generate resources that will be used to satisfy the Company's performance obligation under the arrangement, and (3) are expected to be recovered through revenue generated under the arrangement. Contract fulfillment costs are expensed as the Company transfers the related services to the customer. As of December 31, 2020 and December 31, 2019, less than $0.1 million and $0.2 million of these costs are included in other current assets, and $9.5 million and $10.2 million of these costs are included in other noncurrent assets, respectively, on the consolidated balance sheets. The amounts capitalized primarily relate to direct costs that enhance resources under the Company's SaaS and PaaS arrangements. During the years ended December 31, 2020 and 2019, the Company recognized $4.4 million and $5.9 million of expense, respectively, related to the amortization of these costs, which is included in cost of revenue on the consolidated statements of operations.

3. Acquisition

Speedpay

On May 9, 2019, the Company acquired Speedpay, a subsidiary of The Western Union Company ("Western Union"), for $754.1 million in cash, including working capital adjustments, pursuant to a Stock Purchase Agreement, among the Company, Western Union, and ACI Worldwide Corp., a wholly owned subsidiary of the Company. The Company has included the financial results of Speedpay in the consolidated financial statements from the date of acquisition. The combination of the Company and Speedpay bill pay solutions serves more than 4,000 customers across the United States, bringing expanded reach in existing and complementary market segments such as consumer finance, insurance, healthcare, higher education, utilities, government, and mortgage. The acquisition of Speedpay increased the scale of the Company's On Demand platform business and allows the acceleration of platform innovation through increased research and development and investment in ACI's On Demand platform infrastructure.

To fund the acquisition, the Company amended its existing Credit Agreement, dated February 24, 2017, for an additional $500.0 million senior secured term loan ("Delayed Draw Term Loan"), in addition to drawing $250.0 million on the available Revolving Credit Facility. See Note 4, *Debt*, for terms of the Credit Agreement. The remaining acquisition consideration was funded with cash on hand.

The Company expensed approximately $22.2 million of costs related to the acquisition of Speedpay for the year ended December 31, 2019. These costs, which consist primarily of investment bank, consulting, and legal fees, are included in general and administrative expenses in the accompanying consolidated statements of operations.

Speedpay contributed approximately $329.2 million in total revenue the year ended December 31, 2020. Due to integration activities, the Company is no longer able to separately identify the contribution to operating income generated from the acquisition of Speedpay for the year ended December 31, 2020.

Speedpay contributed approximately $227.7 million in total revenue and $24.9 million in total operating income for the year ended December 31, 2019.

In connection with the acquisition, the Company recorded the following amounts based upon its purchase price allocation as of December 31, 2020 (in thousands, except weighted average useful lives):

	Amount	Weighted Average Useful Lives
Current assets:		
Cash and cash equivalents	$ 135	
Receivables, net of allowances	17,658	
Settlement assets	239,604	
Prepaid expenses	317	
Other current assets	19,585	
Total current assets acquired	277,299	
Noncurrent assets:		
Goodwill	366,508	
Software	113,600	7 years
Customer relationships	208,500	15 years
Trade names	10,900	5 years
Other noncurrent assets	3,745	
Total assets acquired	980,552	
Current liabilities:		
Accounts payable	6,623	
Settlement liabilities	212,892	
Employee compensation	1,959	
Other current liabilities	3,802	
Total current liabilities acquired	225,276	
Noncurrent liabilities:		
Other noncurrent liabilities	1,219	
Total liabilities acquired	226,495	
Net assets acquired	$ 754,057	

During the year ended December 31, 2020, the Company made adjustments to the preliminary purchase price allocation as additional information became available for accounts payable. These adjustments and any resulting adjustments to the statements of operations were not material to the Company's previously reported operating results or financial position. The Company's review of the purchase price allocation has been completed.

Factors contributing to the purchase price that resulted in the goodwill (which is 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.

Unaudited Pro Forma Financial Information

The pro forma financial information in the table below presents the combined results of operations for ACI and Speedpay as if the acquisition had occurred January 1, 2018. The pro forma information is shown for illustrative purposes only and is not necessarily indicative of future results of operations of the Company or results of operations of the Company that would have actually occurred had the transaction been in effect for the periods presented. This pro forma information is not intended to represent or be indicative of actual results had the acquisition occurred as of the beginning of each period, and does not reflect potential synergies, integration costs, or other such costs or savings.

Certain pro forma adjustments have been made to net income for the years ended December 31, 2019 and 2018, to give effect to estimated adjustments that remove the amortization expense on eliminated Speedpay historical identifiable intangible assets, add amortization expense for the value of acquired identified intangible assets (primarily acquired software, customer relationships, and trademarks), and add estimated interest expense on the Company's additional Delayed Draw Term Loan and Revolving Credit Facility borrowings. Additionally, certain transaction expenses that are a direct result of the acquisition have been excluded. The year ended December 31, 2020, is not presented, as Speedpay is included in the Company's consolidated results for the entire period.

The following is the unaudited summarized pro forma financial information for the periods presented (in thousands, except per share data):

	Years Ended December 31,	
	2019	2018
Pro forma revenue	$ 1,382,957	$ 1,361,729
Pro forma net income	$ 82,003	$ 88,428
Pro forma income per share:		
Basic	$ 0.71	$ 0.76
Diluted	$ 0.69	$ 0.75

Walletron

On May 9, 2019, the Company also completed the acquisition of Walletron, which delivers patented mobile wallet technology. The Company has included the financial results of Walletron in the consolidated financial statements from the date of acquisition, which were not material.

RevChip and TranSend

On October 1, 2019, the Company acquired certain technology assets of RevChip, LLC ("RevChip") and TranSend Integrated Technologies Inc. ("TranSend") for a combined $7.0 million. As substantially all of the value was in the developed technology, the purchase was recognized as an asset acquisition. The Company has included the financial results of RevChip and TranSend in the consolidated financial statements from the date of acquisition, which were not material.

4. Debt

As of December 31, 2020, the Company had $55.0 million, $717.1 million, and $400.0 million outstanding under its Revolving Credit Facility, Term Loan, and Senior Notes, respectively, with up to $443.5 million of unused borrowings under the Revolving Credit Facility portion of the Credit Agreement, as amended, and up to $1.5 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

On April 5, 2019, the Company (and its wholly-owned subsidiaries, ACI Worldwide Corp. and ACI Payments, Inc. entered into the Second Amended and Restated Credit Agreement (the "Credit Agreement"), with the lenders, and Bank of America, N.A., as administrative agent for the lenders, to amend and restate the Company's existing agreement, as amended, dated February 24, 2017. The amended Credit Agreement permitted the Company to borrow up to $500.0 million in the form of an additional senior secured term loan; extended the revolver and the existing term loan maturity date from February 24, 2022, to April 5, 2024; increased the maximum consolidated senior secured net leverage ratio covenant from 3.50:1.00 to 3.75:1.00; and increased the maximum consolidated total net leverage ratio covenant from 4.25:1.00 to 5.00:1.00, with subsequent decreases occurring every three quarters thereafter for a specified period of time; among other things. In connection with amending the Credit Agreement, the Company incurred and paid debt issuance costs of $12.8 million during the year ended December 31, 2019.

The Credit Agreement consists of (a) a five-year $500.0 million senior secured revolving credit facility (the "Revolving Credit Facility"), which includes sublimits for (1) the issuance of standby letters of credit and (2) swingline loans, (b) a five-year $279.0 million senior secured term loan facility (the "Initial Term Loan") and (c) a five-year $500.0 million Delayed Draw Term Loan (together with the Initial Term Loan, the "Term Loans", and together with the Initial Term Loan and 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.

At the Company’s option, borrowings under the Credit Facility bear interest at an annual rate equal to either (a) a base rate determined by reference to the highest of (1) the annual interest rate publicly announced by the administrative agent as its Prime Rate, (2) the federal funds effective rate plus 1/2 of 1% or (3) a LIBOR 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 rate determined by reference to the costs of funds for U.S. dollar deposits for the interest period relevant to such borrowings, adjusted for certain additional costs plus an applicable margin. Based on the calculation of the applicable consolidated total leverage ratio, the applicable margin for borrowings under the Credit Facility is between 0.25% to 1.25% with respect to base rate borrowings and between 1.25% and 2.25% with respect to LIBOR rate borrowings. Interest is due and payable monthly. The interest rate in effect for the Credit Facility as of December 31, 2020, was 2.15%.

The Company is also required to pay (a) a commitment fee related to the unutilized commitments under the Revolving Credit Facility, payable quarterly in arrears, (b) 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 rate borrowings under the Revolving Credit Facility on an annual basis, payable quarterly in arrears, and (c) customary fronting fees for the issuance of letters of credit fees and agency fees.

The Company’s obligations under the Credit Facility and cash management arrangements entered into with lenders under the Credit Facility (or affiliates thereof) and the obligations of the subsidiary guarantors 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 Worldwide Corp. 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, in each case subject to certain exclusions set forth in the credit documentation governing the Credit Facility. The collateral agreement of the Credit Agreement, as amended, released the lien on certain assets of ACI Payments, Inc., our electronic bill presentment and payment affiliate, to allow ACI Payments, Inc. to comply with certain eligible securities and unencumbered asset requirements related to money transmitter or transfer license rules and regulations.

The Credit Agreement contains a number of covenants that, among other things and subject to certain exceptions, restrict the Company’s and its subsidiaries' ability to: create, incur, assume or suffer to exist any additional indebtedness; create, incur, assume or suffer to exist any liens; enter into agreements and other arrangements that include negative pledge clauses; pay dividends on capital stock or redeem, repurchase or retire capital stock or subordinated indebtedness; create restrictions on the payment of dividends or other distributions by subsidiaries; make investments, loans, advances and acquisitions; merge, consolidate or enter into any similar combination or sell assets, including equity interests of the subsidiaries; enter into sale and leaseback transactions; directly or indirectly engage in transactions with affiliates; alter in any material respect the character or conduct of the business; enter into amendments of or waivers under subordinated indebtedness, organizational documents and certain other material agreements; and hold certain assets and incur certain liabilities.

Letter of Credit

On August 12, 2020, the Company and ACI Payments, Inc. entered into a standby letter of credit (the “Letter of Credit”), under the terms of the Credit Agreement, for $1.5 million. The Letter of Credit expires on July 31, 2021, with automatic renewals for twelve month periods thereafter. The Letter of Credit reduces the maximum available borrowings under the Revolving Credit Facility to $498.5 million. Upon expiration of the Letter of Credit, maximum borrowings will return to $500.0 million.

Expected Discontinuation of LIBOR

In July 2017, the United Kingdom’s Financial Conduct Authority, which regulates LIBOR, announced it will no longer compel banks to submit rates for the calculation of LIBOR after 2021. The Alternative Reference Rates Committee has proposed the Secured Overnight Financing Rate ("SOFR") as its recommended alternative to LIBOR, and the first publication of SOFR rates was released in April 2018.

The Company is evaluating the potential impact of the transition from LIBOR as an interest rate benchmark to other potential alternative reference rates, including SOFR. The Company's Credit Agreement is currently indexed to LIBOR and the maturity date of the Credit Agreement extends beyond 2021. The Credit Agreement contemplates the discontinuation of LIBOR and provides options for the Company in such an event. The Company will continue to actively assess the related opportunities and risks involved in this transition.

Senior Notes

On August 21, 2018, the Company completed a $400.0 million offering of the 2026 Notes at an issue price of 100% of the principal amount in a private placement for resale to qualified institutional buyers. The 2026 Notes bear interest at an annual rate of 5.750%, payable semi-annually in arrears on February 15 and August 15 of each year, which commenced on February 15, 2019. Interest accrued from August 21, 2018. The 2026 Notes will mature on August 15, 2026. In connection with the issuance of the 2026 Notes, the Company incurred and paid debt issuance costs of $7.3 million for the year ended December 31, 2018.

The Company used the net proceeds of the offering described above to redeem, in full, the Company's outstanding 6.375% Senior Notes due 2020, including accrued interest, and repaid a portion of the outstanding amount under the Term Credit Facility.

Maturities on debt outstanding at December 31, 2020, are as follows (in thousands):

Fiscal Year Ending December 31,		
2021	$	38,950
2022		50,431
2023		69,906
2024		612,823
2025		—
Thereafter		400,000
Total	$	1,172,110

The Revolving Credit Facility and 2026 Notes do not amortize. The Term Loans do amortize, with principal payable in consecutive quarterly installments.

The Credit Agreement and 2026 Notes contain certain customary affirmative covenants and negative covenants that limit or restrict, subject to certain exceptions, the incurrence of liens, indebtedness of subsidiaries, mergers, advances, investments, acquisitions, transactions with affiliates, change in nature of business, and the sale of the assets. In addition, the Credit Agreement and 2026 Notes contain certain customary mandatory prepayment provisions. The Company is also required to maintain a consolidated leverage ratio at or below a specified amount and an interest coverage ratio at or above a specified amount. As specified in the Credit Agreement and 2026 Notes agreement, if certain events occur and continue, the Company may be required to repay all amounts outstanding under the Credit Facility and 2026 Notes. As of December 31, 2020, and at all times during the period, the Company was in compliance with its financial debt covenants.

Total debt is comprised of the following (in thousands):

	December 31,	
	2020	**2019**
Term loans	$ 717,110	$ 756,060
Revolving credit facility	55,000	239,000
5.750% Senior Notes, due August 2026	400,000	400,000
Debt issuance costs	(17,103)	(21,905)
Total debt	1,155,007	1,373,155
Less: current portion of term loans	38,950	38,950
Less: current portion of debt issuance costs	(4,685)	(4,802)
Total long-term debt	$ 1,120,742	$ 1,339,007

Overdraft Facility

In 2019, the Company and ACI Payments, Inc. entered in to an uncommitted overdraft facility with Bank of America, N.A. The overdraft facility bears interest at LIBOR plus 2.25% based on the Company's average outstanding balance and the frequency in which overdrafts occur. The overdraft facility acts as a secured loan under the terms of the Credit Agreement to provide an additional funding mechanism for timing differences that can occur in the bill payment settlement process. Amounts outstanding on the overdraft facility are included in other current liabilities in the consolidated balance sheet. As of December 31, 2020, there was $100.0 million available and no amount outstanding on the overdraft facility. As of December 31, 2019, there was $1.5 million outstanding on the overdraft facility.

Other

The Company finances certain multi-year license agreements for internal-use software. Upon execution, these arrangements are treated as a non-cash investing and financing activity for purposes of the consolidated statements of cash flows. During the year ended December 31, 2019, the Company financed agreements for $10.4 million with annual payments through April 2022. As of December 31, 2020, $7.8 million was outstanding under these and other license agreements previously entered into, of which $5.6 million and $2.2 million is included in other current liabilities and other noncurrent liabilities, respectively, in the consolidated balance sheet. As of December 31, 2019, $13.8 million was outstanding, of which $6.0 million and $7.8 million was included in other current liabilities and other noncurrent liabilities, respectively, in the consolidated balance sheet.

5. Software and Other Intangible Assets

The carrying amount and accumulated amortization of the Company's software assets subject to amortization at each balance sheet date are as follows (in thousands):

	December 31, 2020			December 31, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net Balance	Gross Carrying Amount	Accumulated Amortization	Net Balance
Software for resale	$ 130,261	$ (123,418)	$ 6,843	$ 138,823	$ (122,061)	$ 16,762
Software for internal use	430,330	(240,717)	189,613	400,065	(182,310)	217,755
Total software	$ 560,591	$ (364,135)	$ 196,456	$ 538,888	$ (304,371)	$ 234,517

Software for resale amortization expense recorded during the years ended December 31, 2020, 2019, and 2018, totaled $8.5 million, $11.0 million, and $12.8 million, respectively. These software amortization expense amounts are reflected in cost of revenue in the consolidated statements of operations.

Software for internal use amortization expense recorded during the years ended December 31, 2020, 2019, and 2018, totaled $70.0 million, $55.6 million, and $41.7 million, respectively. These software amortization expense amounts are reflected in depreciation and amortization in the consolidated statements of operations.

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

	December 31, 2020			December 31, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net Balance	Gross Carrying Amount	Accumulated Amortization	Net Balance
Customer relationships	$ 512,389	$ (197,787)	$ 314,602	$ 507,785	$ (160,775)	$ 347,010
Trademarks and trade names	24,115	(16,734)	7,381	27,312	(17,353)	9,959
Total other intangible assets	$ 536,504	$ (214,521)	$ 321,983	$ 535,097	$ (178,128)	$ 356,969

Other intangible assets amortization expense recorded during the years ended December 31, 2020, 2019, and 2018, totaled $37.1 million, $31.9 million, and $19.0 million, respectively.

Based on capitalized intangible assets as of December 31, 2020, estimated amortization expense amounts in future fiscal years are as follows (in thousands):

Fiscal Year Ending December 31,	Software Amortization	Other Intangible Assets Amortization
2021	$ 67,599	$ 37,062
2022	50,179	36,903
2023	32,004	36,564
2024	20,608	32,044
2025	18,354	23,452
Thereafter	7,712	155,958
Total	$ 196,456	$ 321,983

6. Stock-Based Compensation Plans

Employee Stock Purchase Plan

On April 6, 2017, the board approved the 2017 Employee Stock Purchase Plan (“2017 ESPP”), which was approved by shareholders at the 2017 Annual Shareholder meeting. The 2017 ESPP provides employees with an opportunity to purchase shares of the Company’s common stock. Under the Company’s 2017 ESPP, a total of 3,000,000 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.

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 expense related to the ESPP for the years ended December 31, 2020, 2019, and 2018, was approximately $0.7 million, $0.6 million, and $0.5 million, respectively.

Stock Incentive Plans – Active Plans

2020 Equity and Incentive Compensation Plan

On June 9, 2020, upon recommendation of the board, stockholders approved the ACI Worldwide, Inc. 2020 Equity and Incentive Compensation Plan (the “2020 Plan”). The 2020 Plan authorizes the board to provide for equity-based compensation in the form of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance units, dividend equivalents, and certain other awards, including those denominated or payable in, or otherwise based on, the Company’s common stock ("awards"). The purpose of the 2020 Plan is to provide incentives and rewards for service and/or performance by providing awards to non-employee directors, officers, other employees, and certain consultants and other service providers of the Company and its subsidiaries. Following the approval of the 2020 Plan, the 2016 Equity and Performance Incentive Plan (the “2016 Incentive Plan”) was terminated. Termination of the 2016 Incentive Plan did not affect any equity awards outstanding under the 2016 Incentive Plan.

Subject to adjustment and share counting rules as described in the 2020 Plan, a total of 6,658,754 shares of common stock are available for awards granted under the 2020 Plan. Shares underlying certain awards under the 2020 Plan, the Company’s 2005 Equity and Performance Incentive Plan (the "2005 Incentive Plan"), and the 2016 Incentive Plan (each including as amended or amended and restated) that are cancelled or forfeited, expire, are settled for cash, or are unearned after June 9, 2020, will again be available under the 2020 Plan.

The board generally will be able to amend the 2020 Plan, subject to stockholder approval in certain circumstances, as described in the 2020 Plan.

2016 Equity and Performance Incentive Plan

On March 23, 2016, the board approved 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 Incentive Plan was terminated. Termination of the 2005 Incentive Plan did not affect any equity awards outstanding under the 2005 Incentive Plan.

The 2016 Incentive Plan provides for the grant of incentive stock options, nonqualified stock options, stock appreciation rights, restricted share and restricted share units, performance shares and performance units, 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 cancelled 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 cancelled 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 share awards, restricted share 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.

2005 Equity and Performance Incentive Plan

The Company had a 2005 Incentive Plan, as amended, under which shares of the Company's common stock were reserved for issuance to eligible employees or non-employee directors of the Company. The 2005 Incentive Plan provided 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 was issued or transferred in connection with awards granted under the 2005 Incentive Plan was the sum of (i) 23,250,000 shares and (ii) any shares represented by outstanding options that had been granted under designated terminated stock option plans that were subsequently forfeited, expired, or are cancelled without delivery of the Company's common stock.

Stock Options

Stock options granted pursuant to the Company's incentive plans were granted at an exercise price not less than the market value per share of the Company's common stock on the date of grant. 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 and the administrator of the respective plan and can vary based upon the individual award agreements. In addition, outstanding options do not have dividend equivalent rights associated with them.

A summary of stock option activity 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, 2019	4,006,816	$ 18.18		
Exercised	(1,756,471)	18.53		
Forfeited	(57,744)	19.08		
Expired	(6,090)	18.44		
Outstanding, December 31, 2020	2,186,511	$ 17.87	3.96	$ 44,944,958
Exercisable, December 31, 2020	2,039,275	$ 17.72	4.16	$ 42,231,530

The weighted average grant date fair value of stock options granted during the year ended December 31, 2018, was $7.03. The Company did not grant stock options during the years ended December 31, 2020 and 2019. The total intrinsic value of stock options exercised during the years ended December 31, 2020, 2019, and 2018, was $19.5 million, $16.0 million, and $15.8 million, respectively.

The fair value of options granted during the year ended December 31, 2018, were estimated on the date of grant using the Black-Scholes option-pricing model, acceptable under ASC 718, with the following weighted average assumptions:

	Year Ended December 31, 2018
Expected life (years)	5.6
Risk-free interest rate	2.7 %
Expected volatility	26.4 %
Expected dividend yield	—

Expected volatilities are based on the Company's historical common stock volatility, derived from historical stock price data for periods commensurate with the options' expected life. The expected life of options granted represents the period of time options 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 bonds 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.

Long-term Incentive Program Performance Share Awards

During the year ended December 31, 2017, pursuant to the Company's 2016 Incentive Plan, the Company granted long-term incentive program performance share awards ("LTIP performance shares"). These LTIP performance shares were earned 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 EBITDA over the performance period as determined by the Company. Up to 200% of the LTIP performance shares could be earned upon achievement of performance goals equal to or exceeding the maximum target levels for the performance goals over the performance period. On a quarterly basis, management evaluated the probability that the threshold performance goals would be achieved, if at all, and the anticipated level of attainment to determine the amount of compensation expense to record in the consolidated financial statements.

A summary of the nonvested LTIP performance shares is as follows:

	Number of Shares at Expected Attainment	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2019	669,469	$ 20.12
Vested	(668,240)	20.12
Forfeited	(5,368)	20.12
Change in expected attainment	4,139	20.12
Nonvested at December 31, 2020	—	$ —

During the year ended December 31, 2020, a total of 668,240 LTIPs vested. The Company withheld 165,237 of those shares to pay the employees' portion of the minimum payroll withholding taxes.

Restricted Share Awards

During the year ended December 31, 2017, pursuant to the Company's 2016 Incentive Plan, the Company granted RSAs. The awards had requisite service periods of three years and vested in increments of 33% on the anniversary of the grant dates. Under each arrangement, shares were issued without direct cost to the employee. The Company estimated the fair value of the RSAs based upon the market price of the Company's stock on the date of grant. The RSA grants provided for the payment of dividends on the Company's common stock, if any, to the participant during the requisite service period, and the participant had voting rights for each share of common stock. The Company recognized compensation expense for RSAs on a straight-line basis over the requisite service period.

A summary of nonvested RSAs is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2019	92,842	$ 20.13
Vested	(88,913)	20.12
Forfeited	(3,929)	20.35
Nonvested at December 31, 2020	—	$ —

During the year ended December 31, 2020, a total of 88,913 RSAs vested. The Company withheld 28,233 of those shares to pay the employees' portion of the minimum payroll withholding taxes.

Total Shareholder Return Awards

During the years ended December 31, 2020, 2019, and 2018, pursuant to the 2016 Incentive Plan, the Company granted total shareholder return awards ("TSRs"). TSRs are performance shares that are earned, if at all, based upon the Company's total shareholder return as compared to a group of peer companies over a three-year performance period. The award payout can range from 0% to 200%. To determine the grant date fair value of the TSRs, a Monte Carlo simulation model is used. The Company recognizes compensation expense for the TSRs over a three-year performance period based on the grant date fair value.

A summary of nonvested TSRs is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested as of December 31, 2019	1,062,291	$ 35.77
Granted	677,195	30.01
Vested	(199,413)	24.37
Forfeited	(158,086)	36.69
Change in payout rate	(14,259)	24.37
Nonvested as of December 31, 2020	1,367,728	$ 34.59

During the year ended December 31, 2020, a total of 199,413 TSRs awards granted in fiscal 2017 vested and achieved a payout rate of 93% based on the Company's total shareholder return as compared to a group of peer companies over a three-year performance period. The Company withheld 53,033 of those shares to pay the employees' portion of the minimum payroll withholding taxes.

The fair value of TSRs granted during the years ended December 31, 2020, 2019, and 2018, were estimated on the date of grant using the Monte Carlo simulation model, acceptable under ASC 718, using the following weighted-average assumptions:

	Years Ended December 31,		
	2020	2019	2018
Expected life (years)	2.8	2.8	2.9
Risk-free interest rate	0.5 %	2.5 %	2.4 %
Volatility	31.4 %	29.3 %	28.0 %
Expected dividend yield	—	—	—

Restricted Share Units

During the years ended December 31, 2020, 2019, and 2018, pursuant to the 2020 Plan and the 2016 Incentive Plan, the Company granted restricted share unit awards (“RSUs”). RSUs generally have requisite service periods of three years and vest in increments of 33% on the anniversary of the grant dates. RSUs granted to the board vest one year from grant or as of the next annual shareholders meeting, whichever is earlier. Under each arrangement, RSUs are issued without direct cost to the employee on the vesting date. The Company estimates the fair value of the RSUs based upon the market price of the Company’s stock on the date of grant. The Company recognizes compensation expense for RSUs on a straight-line basis over the requisite service period.

A summary of nonvested RSUs is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested as of December 31, 2019	1,009,404	$ 29.96
Granted	816,543	25.72
Vested	(431,504)	29.60
Forfeited	(276,261)	28.57
Nonvested as of December 31, 2020	1,118,182	$ 27.34

During the year ended December 31, 2020, a total of 431,504 RSUs vested. The Company withheld 121,564 of those shares to pay the employees’ portion of the minimum payroll withholding taxes.

As of December 31, 2020, there was unrecognized compensation expense of $18.9 million related to RSUs, $17.6 million related to TSRs, and less than $0.1 million related to nonvested stock options, which the Company expects to recognize over weighted average periods of 1.8 years, 1.9 years, and 0.2 years, respectively.

The Company recorded stock-based compensation expense recognized under ASC 718 during the years ended December 31, 2020, 2019, and 2018, of $29.6 million, $36.8 million, and $20.4 million, respectively, with corresponding tax benefits of $5.4 million, $5.9 million, and $3.9 million, respectively. The Company recognizes compensation expense for stock option awards that vest with only service conditions on a straight-line basis over the requisite service period. The Company recognizes compensation expense 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.

7. Common Stock and Treasury Stock

In 2005, the board approved a stock repurchase program authorizing the Company, as market and business conditions warrant, to acquire its common stock and periodically authorize additional funds for the program. In February 2018, the board approved the repurchase of the Company's common stock of up to $200.0 million, in place of the remaining purchase amounts previously authorized.

The Company repurchased 1,000,000 shares for $28.9 million under the program for the year ended December 31, 2020. Under the program to date, the Company has repurchased 46,357,495 shares for approximately $612.3 million. As of December 31, 2020, the maximum remaining amount authorized for purchase under the stock repurchase program was $112.1 million.

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 (LTIP performance shares and TSRs), vesting of RSUs, and for issuances of common stock pursuant to the Company's ESPP. Treasury shares issued by award type are as follows:

	Years Ended December 31,		
	2020	**2019**	**2018**
Stock options	1,756,471	854,524	1,379,704
LTIP performance shares	668,240	—	—
TSRs	199,413	—	—
RSUs	431,504	259,634	10,000
ESPP	151,542	126,983	148,520
Total treasury shares issued	3,207,170	1,241,141	1,538,224

8. Earnings Per Share

Basic earnings per share is computed in accordance with ASC 260, *Earnings per Share,* based on weighted average outstanding common shares. Diluted earnings per share is computed based on basic weighted average outstanding common shares adjusted for the dilutive effect of stock options, RSUs, and certain contingently issuable shares for which performance targets have been achieved.

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

	Years Ended December 31,		
	2020	**2019**	**2018**
Weighted average shares outstanding:			
Basic weighted average shares outstanding	116,397	116,175	116,057
Add: Dilutive effect of stock options, RSUs, and contingently issuable shares	1,682	2,396	1,575
Diluted weighted average shares outstanding	118,079	118,571	117,632

The diluted earnings per share computation excludes 1.5 million, 1.8 million, and 2.2 million options to purchase shares, RSUs, and contingently issuable shares during the years ended December 31, 2020, 2019, and 2018, respectively, as their effect would be anti-dilutive.

Common stock outstanding as of December 31, 2020 and 2019, was 117,112,185 and 115,986,352, respectively.

9. Other, Net

Other, net is primarily comprised of foreign currency transaction gains and losses. Other, net was $1.1 million of expense, $0.5 million of income, and $3.7 million of expense for the years ended December 31, 2020, 2019, and 2018, respectively.

10. Segment Information

The Company reports financial performance based on its segments, ACI On Demand and ACI On Premise, and analyzes Segment Adjusted EBITDA as a measure of segment profitability.

The Company's Chief Executive Officer is also the chief operating decision maker ("CODM"). The CODM, together with other senior management personnel, focus their review on consolidated financial information and the allocation of resources based on operating results, including revenues and Segment Adjusted EBITDA, for each segment, separate from corporate operations.

ACI On Demand serves the needs of banks, merchants, and billers who use payments to facilitate their core business. These on-demand solutions are maintained and delivered through the cloud via our global data centers and are available in either a single-tenant environment for SaaS offerings, or in a multi-tenant environment for PaaS offerings.

ACI On Premise serves customers who manage their software on site or through a third-party public cloud environment. These on-premise customers use the Company's software to develop sophisticated solutions, which are often part of a larger system located and managed at the customer specified site. These customers require a level of control and flexibility that ACI On Premise solutions can offer, and they have the resources and expertise to take a lead role in managing these solutions.

Revenue is attributed to the reportable segments based upon the product sold and mechanism for delivery to the customer. Expenses are attributed to the reportable segments in one of three methods, (1) direct costs of the segment, (2) labor costs that can be attributed based upon time tracking for individual products, or (3) costs that are allocated. Allocated costs are generally marketing and sales related activities as well as information technology and facilities related expense for which multiple segments benefit. The Company also allocates certain depreciation costs to the segments.

Segment Adjusted EBITDA is the measure reported to the CODM for purposes of making decisions on allocating resources and assessing the performance of the Company's segments and, therefore, Segment Adjusted EBITDA is presented in conformity with ASC 280, *Segment Reporting*. Segment Adjusted EBITDA is defined as earnings (loss) from operations before interest, income tax expense (benefit), depreciation and amortization ("EBITDA") adjusted to exclude stock-based compensation, and net other income (expense).

Corporate and unallocated expenses consist of the corporate overhead costs that are not allocated to reportable segments. These overhead costs relate to human resources, finance, legal, accounting, merger and acquisition activity, and other costs that are not considered when management evaluates segment performance.

The following is selected financial data for the Company's reportable segments for the periods indicated (in thousands):

	Years Ended December 31,		
	2020	2019	2018
Revenues			
ACI On Demand	$ 769,180	$ 678,960	$ 433,025
ACI On Premise	525,142	579,334	576,755
Total revenue	$ 1,294,322	$ 1,258,294	$ 1,009,780
Segment Adjusted EBITDA			
ACI On Demand	$ 149,610	$ 66,501	$ 12,015
ACI On Premise	290,310	321,305	323,902
Depreciation and amortization	(140,316)	(122,569)	(97,350)
Stock-based compensation expense	(29,602)	(36,763)	(20,360)
Corporate and unallocated expenses	(125,258)	(104,718)	(92,296)
Interest, net	(45,002)	(52,066)	(30,388)
Other, net	(1,116)	520	(3,724)
Income before income taxes	$ 98,626	$ 72,210	$ 91,799
Depreciation and amortization			
ACI On Demand	$ 40,594	$ 34,395	$ 31,541
ACI On Premise	13,207	11,992	11,634
Corporate	86,515	76,182	54,175
Total depreciation and amortization	$ 140,316	$ 122,569	$ 97,350
Stock-based compensation expense			
ACI On Demand	$ 8,852	$ 7,995	$ 4,338
ACI On Premise	8,872	7,651	4,348
Corporate	11,878	21,117	11,674
Total stock-based compensation expense	$ 29,602	$ 36,763	$ 20,360

Assets are not allocated to segments, and the Company's CODM does not evaluate operating segments using discrete asset information.

The following is revenue by primary geographic market and primary solution category for the Company's reportable segments for the periods indicated (in thousands):

	Year Ended December 31, 2020			Year Ended December 31, 2019		
	ACI On Demand	ACI On Premise	Total	ACI On Demand	ACI On Premise	Total
Primary Geographic Markets						
Americas - United States	$ 687,923	$ 142,588	$ 830,511	$ 609,160	$ 172,660	$ 781,820
Americas - Other	11,561	61,533	73,094	9,350	68,020	77,370
EMEA	58,857	234,369	293,226	50,629	251,035	301,664
Asia Pacific	10,839	86,652	97,491	9,821	87,619	97,440
Total	$ 769,180	$ 525,142	$ 1,294,322	$ 678,960	$ 579,334	$ 1,258,294
Primary Solution Categories						
Bill Payments	$ 586,047	$ —	$ 586,047	$ 510,300	$ —	$ 510,300
Digital Channels	46,269	29,438	75,707	44,731	32,980	77,711
Merchant Payments	84,997	23,730	108,727	77,204	25,693	102,897
Payments Intelligence	40,495	21,570	62,065	36,019	33,790	69,809
Real-Time Payments	3,902	77,158	81,060	3,456	97,153	100,609
Issuing and Acquiring	7,470	373,246	380,716	7,250	389,718	396,968
Total	$ 769,180	$ 525,142	$ 1,294,322	$ 678,960	$ 579,334	$ 1,258,294

	Year Ended December 31, 2018		
	ACI On Demand	ACI On Premise	Total
Primary Geographic Markets			
Americas - United States	$ 369,097	$ 131,382	$ 500,479
Americas - Other	9,577	61,969	71,546
EMEA	48,889	296,157	345,046
Asia Pacific	5,462	87,247	92,709
Total	$ 433,025	$ 576,755	$ 1,009,780
Primary Solution Categories			
Bill Payments	$ 275,526	$ —	$ 275,526
Digital Channels	40,342	35,231	75,573
Merchant Payments	64,956	30,447	95,403
Payments Intelligence	41,330	42,353	83,683
Real-Time Payments	2,193	92,068	94,261
Issuing and Acquiring	8,678	376,656	385,334
Total	$ 433,025	$ 576,755	$ 1,009,780

The following is the Company's long-lived assets by geographic location for the periods indicated (in thousands):

	December 31,	
	2020	2019
Long-lived Assets		
United States	$ 1,423,862	$ 1,526,046
Other	750,651	759,501
Total	$ 2,174,513	$ 2,285,547

No single customer accounted for more than 10% of the Company's consolidated revenues during the years ended December 31, 2020, 2019, and 2018. No other country outside the United States accounted for more than 10% of the Company's consolidated revenues during the years ended December 31, 2020, 2019, and 2018.

11. Income Taxes

On December 22, 2017, the Tax Cuts and Jobs Act ("Tax Act") was signed into U.S. Law. As of December 31, 2018, the Company had completed its accounting for the tax effects related to the enactment of the Tax Act.

The Tax Act reduced the U.S. federal corporate income tax rate from 35% to 21%, effective January 1, 2018. During the year ended December 31, 2017, the Company remeasured certain deferred tax assets and liabilities and recorded a $15.0 million provisional tax charge. During the year ended December 31, 2018, the Company reduced the initial provisional tax charge by recording a $4.9 million benefit related to accelerated tax deductions claimed on the 2018 U.S. Federal Income Tax Return.

The Tax Act required U.S. companies to pay a one-time transition tax on certain unremitted foreign earnings. During the year ended December 31, 2017, the Company recorded a $20.9 million provisional tax charge based on post-1986 earnings and profits of foreign subsidiaries that were previously deferred from U.S. income taxes. Upon further analysis, the Company reduced the initial provisional tax charge by recording an $8.1 million benefit during the year ended December 31, 2018.

During the year ended December 31, 2018, the Company recorded a $15.5 million valuation allowance on its deferred tax asset related to U.S. foreign tax credits based upon business conditions and tax laws in effect at that time.

During the year ended December 31, 2019, following the acquisition of Speedpay, the Company determined it will more likely than not be able to utilize foreign tax credits in future years due to additional income generated by Speedpay; therefore, the Company released the $15.5 million valuation allowance that had been established on this deferred tax asset.

The Tax Act subjects a U.S. shareholder to tax on global intangible low-taxed income ("GILTI") earned by certain foreign subsidiaries. The Company has elected to account for GILTI in the year the tax is incurred.

Prior to 2018, the Company considered all earnings in foreign subsidiaries to be indefinitely reinvested, and accordingly, recorded no deferred income taxes related to unremitted earnings. As of December 31, 2020, 2019, and 2018 the Company considered only the earnings in its Indian subsidiaries to be indefinitely reinvested. The earnings of all other foreign subsidiaries are no longer considered indefinitely reinvested. The Company is also permanently reinvested for outside book/tax basis differences related to foreign subsidiaries.

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

	Years Ended December 31,		
	2020	2019	2018
United States	$ 19,405	$ (16,317)	$ 16,312
Foreign	79,221	88,527	75,487
Total	$ 98,626	$ 72,210	$ 91,799

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

	Years Ended December 31,		
	2020	2019	2018
Federal			
Current	$ (2,683)	$ 3,738	$ 6,545
Deferred	(3,477)	(25,150)	(6,587)
Total	(6,160)	(21,412)	(42)
State			
Current	2,514	590	4,441
Deferred	(1,758)	342	(2,649)
Total	756	932	1,792
Foreign			
Current	22,786	22,960	17,626
Deferred	8,584	2,668	3,502
Total	31,370	25,628	21,128
Total	$ 25,966	$ 5,148	$ 22,878

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

	Years Ended December 31,		
	2020	2019	2018
Tax expense at federal rate of 21%	$ 20,711	$ 15,164	$ 19,278
State income taxes, net of federal benefit	321	1,227	5,246
Change in valuation allowance	2,459	(12,760)	12,657
Foreign tax rate differential	(1,809)	(2,535)	(4,796)
Unrecognized tax benefit increase (decrease)	(4,405)	898	1,262
Tax effect of foreign operations	11,373	6,698	8,546
Tax benefit of research & development	(2,173)	(2,506)	(2,557)
Transition tax	—	—	(8,112)
Revaluation of deferred tax balances	—	—	(4,937)
Performance-based compensation	(2,624)	(560)	(4,541)
Other	2,113	(478)	832
Income tax provision	$ 25,966	$ 5,148	$ 22,878

The countries having the greatest impact on the tax rate adjustment line shown in the above table as “Foreign tax rate differential” are Ireland, Mexico, Singapore, and the United Kingdom for the year ended December 31, 2020; Ireland, Luxembourg, and the United Kingdom for the year ended December 31, 2019; and Ireland and Luxembourg for the year ended December 31, 2018.

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,	
	2020	2019
Deferred income tax assets:		
Net operating loss carryforwards	$ 20,347	$ 23,030
Tax credits	40,188	47,411
Compensation	18,731	18,791
Deferred revenue	19,169	25,599
Operating lease	10,162	12,956
Other	9,051	8,517
Gross deferred income tax assets	117,648	136,304
Less: valuation allowance	(10,112)	(7,653)
Net deferred income tax assets	$ 107,536	$ 128,651
Deferred income tax liabilities:		
Depreciation and amortization	$ (48,967)	$ (52,978)
Operating lease right-of-use asset	(7,650)	(11,917)
Deferred revenue	(33,947)	(44,198)
Total deferred income tax liabilities	(90,564)	(109,093)
Net deferred income taxes	$ 16,972	$ 19,558
Deferred income taxes / liabilities included in the balance sheet are:		
Deferred income tax asset – noncurrent	$ 57,476	$ 51,611
Deferred income tax liability – noncurrent	(40,504)	(32,053)
Net deferred income taxes	$ 16,972	$ 19,558

The Company has reclassified certain prior period amounts between deferred income tax line items to conform to the current year presentation of deferred income tax disclosures. The Company reclassified $13.0 million from other deferred tax assets to operating lease deferred tax assets and $11.9 million from other deferred tax assets to operating lease right-of-use asset deferred tax liabilities as of December 31, 2019. The Company also reclassified $5.5 million from tax credit deferred tax assets to other deferred tax assets as of December 31, 2019.

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, 2019, the Company decreased its valuation allowance by $12.8 million which relates to a reduction in the valuation allowance on U.S. foreign tax credits offset by an increase in valuation allowance on foreign net operating losses.

At December 31, 2020, the Company had domestic federal tax net operating losses ("NOLs") of $59.9 million, which will begin to expire in 2021. The Company had deferred tax assets equal to $1.5 million related to domestic state tax NOLs which will begin to expire in 2021. The Company does not have any valuation allowance against the federal tax NOLs but has provided a $1.2 million valuation allowance against the deferred tax asset associated with the state NOLs. The Company had foreign tax NOLs of $25.0 million, of which $22.8 million may be utilized over an indefinite life, with the remainder expiring over the next 10 years. The Company has provided a $0.7 million valuation allowance against the deferred tax asset associated with the foreign NOLs.

The Company had U.S. foreign tax credit carryforwards at December 31, 2020, of $38.9 million, for which a $2.3 million valuation allowance has been provided. The U.S. foreign tax credits will begin to expire in 2025. The Company had foreign tax credit carryforwards in other foreign jurisdictions at December 31, 2020, of $2.3 million, of which $1.1 million may be utilized over an indefinite life, with the remainder expiring over the next seven years. The Company has provided a $1.2 million valuation allowance against the tax benefit associated with these foreign credits. The Company also has domestic federal and state general business tax credit carryforwards at December 31, 2020, of $17.1 million and $0.8 million, respectively, which will begin to expire in 2021 and 2022, respectively.

The unrecognized tax benefit at December 31, 2020 and 2019, was $24.3 million and $29.0 million, respectively, of which $17.7 million and $22.4 million, respectively, are included in other noncurrent liabilities in the consolidated balance sheets. Of the total unrecognized tax benefit amounts at December 31, 2020 and 2019, $23.2 million and $28.2 million, respectively, represent the net unrecognized tax benefits that, if recognized, would favorably impact the effective income tax rate in the respective years.

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

	2020	2019	2018
Balance of unrecognized tax benefits at beginning of year	$ 29,000	$ 28,406	$ 27,237
Increases for tax positions of prior years	4,219	2,784	315
Decreases for tax positions of prior years	—	(96)	(61)
Increases for tax positions established for the current period	3,912	2,542	1,185
Decreases for settlements with taxing authorities	(285)	(220)	—
Reductions resulting from lapse of applicable statute of limitation	(12,630)	(4,462)	(115)
Adjustment resulting from foreign currency translation	94	46	(155)
Balance of unrecognized tax benefits at end of year	$ 24,310	$ 29,000	$ 28,406

The Company files income tax returns in the U.S. federal jurisdiction, various state and local jurisdictions, and many foreign jurisdictions. The United States, India, Ireland, Mexico, Singapore, and the 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 2016 are open for audit. In the foreign jurisdictions, the tax returns open for audit generally vary by jurisdiction between 2003 and 2019.

The Company's Indian income tax returns covering fiscal years 2005, 2010 through 2014, 2016, and 2017 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 $3.6 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, 2020 and 2019, $1.2 million is accrued for the payment of interest and penalties related to income tax liabilities. The aggregate amount of interest and penalties expense (benefit) recorded in the statements of operations for the years ended December 31, 2020, 2019, and 2018, was less than $0.1 million, $0.2 million, and less than $(0.1) million, respectively.

12. Leases

The Company has operating leases for corporate offices and data centers. Excluding office leases, leases with an initial term of 12-months or less that do not include an option to purchase the underlying asset are not recorded on the consolidated balance sheet and are expensed on a straight-line basis over the lease term.

The Company's leases typically include certain renewal options to extend the leases for up to 25 years, some of which include options to terminate the leases within one year. The exercise of lease renewal options is at the Company's sole discretion. The Company combines lease and non-lease components of its leases and currently has no leases with options to purchase the leased property. Payments of maintenance and property tax costs paid by the Company are accounted for as variable lease cost, which are expensed as incurred.

The components of lease cost are as follows (in thousands):

	Years Ended December 31,	
	2020	2019
Operating lease cost	$ 25,148	$ 18,486
Variable lease cost	3,588	3,756
Sublease income	(134)	(528)
Total lease cost	$ 28,602	$ 21,714

Supplemental cash flow information related to leases is as follows (in thousands):

	Years Ended December 31,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 18,827	$ 19,578
Right-of-use assets obtained in exchange for new lease obligations:		
Operating leases	$ 11,431	$ 10,478

Supplemental balance sheet information related to leases is as follows (in thousands, except lease term and discount rate):

	December 31,	
	2020	2019
Assets:		
Operating lease right-of-use assets	$ 41,243	$ 57,382
Liabilities:		
Other current liabilities	$ 13,438	$ 15,049
Operating lease liabilities	39,958	46,766
Total operating lease liabilities	$ 53,396	$ 61,815
Weighted average remaining operating lease term (years)	6.01	6.58
Weighted average operating lease discount rate	3.67 %	4.00 %

The Company uses its incremental borrowing rate as the discount rate. As the Company enters into operating leases in multiple jurisdictions and denominated in currencies other than the U.S. dollar, judgment is used to determine the Company's incremental borrowing rate including (1) conversion of its subordinated borrowing rate (using published yield curves) to an unsubordinated and collateralized rate, (2) adjusting the rate to align with the term of each lease, and (3) adjusting the rate to incorporate the effects of the currency in which the lease is denominated.

Maturities on lease liabilities as of December 31, 2020, are as follows (in thousands):

Fiscal Year Ending December 31,		
2021	$	15,116
2022		12,991
2023		10,436
2024		5,545
2025		4,016
Thereafter		11,573
Total lease payments		59,677
Less: imputed interest		6,281
Total lease liability	$	53,396

13. 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, to identify if a loss has occurred. If the Company determines it is probable a loss has occurred, then any 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.

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, 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.

14. 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 $19,500 (for employees who are under the age of 50 on December 31, 2020) or a maximum of $26,000 (for employees aged 50 or older on December 31, 2020). After one year of service, the Company matches 100% of the first 4% of eligible participant contributions and 50% of the next 4% of eligible participant contributions, not to exceed $5,000 per employee annually. Company contributions charged to expense were $6.3 million during the year ended December 31, 2020, and $6.4 million during both the years ended December 31, 2019 and 2018.

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 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 were $1.5 million during both the years ended December 31, 2020 and 2019, and $1.6 million during the year ended December 31, 2018.

15. Quarterly Financial Data (Unaudited)

The following consists of quarterly financial data (in thousands, except per share amounts):

	Quarter Ended				Year Ended
	March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020	December 31, 2020
Revenues:					
Software as a service and platform as a service	$ 192,950	$ 180,573	$ 190,369	$ 205,288	$ 769,180
License	28,129	50,136	56,773	111,858	246,896
Maintenance	53,280	52,749	53,049	52,619	211,697
Services	17,126	16,452	15,692	17,279	66,549
Total revenues	291,485	299,910	315,883	387,044	1,294,322
Operating expenses:					
Cost of revenue (1)	165,837	147,346	158,579	150,697	622,459
Research and development	39,024	35,578	33,573	31,118	139,293
Selling and marketing	30,083	24,455	22,154	26,875	103,567
General and administrative	35,926	29,758	37,000	49,784	152,468
Depreciation and amortization	31,898	33,635	33,395	32,863	131,791
Total operating expenses	302,768	270,772	284,701	291,337	1,149,578
Operating income (loss)	(11,283)	29,138	31,182	95,707	144,744
Other income (expense):					
Interest expense	(17,171)	(14,142)	(12,925)	(12,392)	(56,630)
Interest income	2,900	2,954	2,927	2,847	11,628
Other, net	(9,758)	2,041	1,356	5,245	(1,116)
Total other income (expense)	(24,029)	(9,147)	(8,642)	(4,300)	(46,118)
Income (loss) before income taxes	(35,312)	19,991	22,540	91,407	98,626
Income tax expense (benefit)	(10,885)	5,916	6,674	24,261	25,966
Net income (loss)	$ (24,427)	$ 14,075	$ 15,866	$ 67,146	$ 72,660
Earnings (loss) per share					
Basic	$ (0.21)	$ 0.12	$ 0.14	$ 0.57	$ 0.62
Diluted	$ (0.21)	$ 0.12	$ 0.13	$ 0.56	$ 0.62

(1) The cost of revenue excludes charges for depreciation but includes amortization of purchased and developed software for resale.

	Quarter Ended				Year Ended
	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019	December 31, 2019
Revenues:					
Software as a service and platform as a service	$ 108,557	$ 172,499	$ 192,952	$ 203,661	$ 677,669
License	21,078	52,541	92,058	122,584	288,261
Maintenance	55,111	51,922	52,638	53,738	213,409
Services	21,109	20,656	17,253	19,937	78,955
Total revenues	205,855	297,618	354,901	399,920	1,258,294
Operating expenses:					
Cost of revenue (1)	114,941	155,240	174,168	173,104	617,453
Research and development	36,194	39,235	36,543	34,601	146,573
Selling and marketing	29,430	32,962	30,417	30,875	123,684
General and administrative	31,517	49,319	27,286	27,174	135,296
Depreciation and amortization	21,866	26,744	31,169	31,753	111,532
Total operating expenses	233,948	303,500	299,583	297,507	1,134,538
Operating income (loss)	(28,093)	(5,882)	55,318	102,413	123,756
Other income (expense):					
Interest expense	(11,614)	(15,323)	(18,987)	(18,109)	(64,033)
Interest income	3,033	2,997	2,988	2,949	11,967
Other, net	(1,912)	1,402	(2,369)	3,399	520
Total other income (expense)	(10,493)	(10,924)	(18,368)	(11,761)	(51,546)
Income (loss) before income taxes	(38,586)	(16,806)	36,950	90,652	72,210
Income tax expense (benefit)	(12,623)	(22,531)	5,136	35,166	5,148
Net income (loss)	$ (25,963)	$ 5,725	$ 31,814	$ 55,486	$ 67,062
Earnings (loss) per share					
Basic	$ (0.22)	$ 0.05	$ 0.27	$ 0.48	$ 0.58
Diluted	$ (0.22)	$ 0.05	$ 0.27	$ 0.47	$ 0.57

(1) The cost of revenue excludes charges for depreciation but includes amortization of purchased and developed software for resale.

EXHIBIT INDEX

Exhibit No.		Description
3.01	(1)	2013 Amended and Restated Certificate of Incorporation of the Company
3.02	(2)	Amended and Restated Bylaws of the Company
4.01	(3)	Form of Common Stock Certificate (P)
4.02	(4)	Indenture, dated as of August 21, 2018, among ACI Worldwide, Inc., the guarantors listed therein, and Wilmington Trust, National Association, as trustee
4.03		Form of 5.750% Senior Notes due 2026 (Included as Exhibit A to Exhibit 4.02)
4.04		Description of Securities
10.01	(5)*	ACI Worldwide, Inc. 2017 Employee Stock Purchase Plan
10.02	(6)*	ACI Worldwide, Inc. 2005 Equity and Performance Incentive Plan, as amended
10.03	(7)*	Form of Indemnification Agreement between the Company and certain officers, including executive officers
10.04	(8)*	ACI Worldwide, Inc. 2013 Executive Management Incentive Compensation Plan
10.05	(9)*	Amended and Restated Deferred Compensation Plan
10.06	(10)	Amended and Restated Credit Agreement, dated February 24, 2017, by and among ACI Worldwide, Inc., Bank of America, N.A. and the lenders that are party thereto
10.07	(11)*	Form of 2015 Supplemental LTIP Performance Shares Agreement for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.08	(12)*	ACI Worldwide, Inc. 2016 Equity and Performance Incentive Plan
10.09	(13)*	Form of 2016 Restricted Share Unit Award Agreement for the Company’s 2016 Equity and Performance Incentive Plan
10.10	(14)*	Form of Performance Share Award Agreement CEO (rTSR Performance Share Awards)
10.11	(15)*	Form of Restricted Share Unit Award Agreement (RSUs)
10.12	(16)*	Form of Performance Share Award Agreement (rTSR Performance Share Awards)
10.13	(17)	Amendment Agreement to the Amended and Restated Credit Agreement, dated April 5, 2019
10.14	(18)	November 5, 2019 Retirement and General Release Agreement between the Company and Philip G. Heasley
10.15	(19)*	Form of Severance Agreement between ACI Worldwide, Inc. and Odilon Almeida
10.16	(20)*	Form of Change in Control Employment Agreement between ACI Worldwide, Inc. and certain officers, including executive officers
10.17	(21)*	Form of Nonqualified Stock Option Agreement – Employee for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.18	(22)*	Form of 2015 Supplemental Nonqualified Stock Option Agreement - Employee for the Company’s 2005 Equity and Performance Incentive Plan, as amended
10.19	(23)*	Form of 2015 Nonqualified Stock Option Agreement - Employee for the Company's 2005 Equity and Performance Incentive Plan, as amended
10.20	(24)*	Form of 2016 Nonqualified Stock Option Agreement for the Company’s 2016 Equity and Performance Incentive Plan, as amended
10.21	(25)*	ACI Worldwide, Inc. 2020 Equity and Incentive Compensation Plan
10.22	(26)*	Form of Restricted Share Unit Award Agreement for the Company's 2020 Equity and Incentive Compensation Plan
10.23	(27)*	Form of Performance Share Award Agreement for the Company's 2020 Equity and Incentive Compensation Plan
21.01		Subsidiaries of the Registrant (filed herewith)
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 - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL 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
104		Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

(1) Incorporated herein by reference to Exhibit 3.1 to the registrant’s current report on Form 8-K filed August 17, 2017.
(2) Incorporated herein by reference to Exhibit 3.1 to the registrant’s current report on Form 8-K filed February 27, 2017.
(3) Incorporated herein by reference to Exhibit 4.01 to the registrant’s Registration Statement No. 33-88292 on Form S-1.
(4) Incorporated herein by reference to Exhibit 4.1 to the registrant’s current report on Form 8-K filed August 21, 2018.
(5) Incorporated herein by reference to Annex A to the registrant’s Proxy Statement filed on April 27, 2017.
(6) Incorporated herein by reference to Exhibit 10.07 to the registrant’s quarterly report on Form 10-Q for the period ended June 30, 2014.
(7) Incorporated herein by reference to Exhibit 10.10 to the registrant’s annual report on Form 10-K for the year ended December 31, 2009.
(8) 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.
(9) 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
(10) Incorporated herein by reference to Exhibit 10.1 to the registrant’s current report on Form 8-K filed February 27, 2017.
(11) Incorporated herein by reference to Exhibit 10.1 to the registrant’s current report on Form 8-K filed January 30, 2015.
(12) Incorporated herein by reference to Exhibit 10.1 to the registrant’s current report on Form 8-K filed June 20, 2016.
(13) Incorporated herein by reference to Exhibit 10.26 to the registrant’s annual report on Form 10-K for the year ended December 31, 2017.
(14) Incorporated herein by reference to Exhibit 10.2 to the registrant’s current report on Form 8-K filed March 8, 2019.
(15) Incorporated herein by reference to Exhibit 10.3 to the registrant’s current report on Form 8-K filed March 8, 2019.
(16) Incorporated herein by reference to Exhibit 10.4 to the registrant’s current report on Form 8-K filed March 8, 2019.
(17) Incorporated herein by reference to Exhibit 10.1 to the registrant’s current report on Form 8-K filed April 11, 2019.
(18) Incorporated herein by reference to Exhibit 10.1 to the registrant’s current report on Form 8-K filed November 7, 2019.
(19) Incorporated herein by reference to Exhibit 10.1 to the registrant’s current report on Form 8-K filed February 20, 2020.
(20) Incorporated herein by reference to Exhibit 10.2 to the registrant’s current report on Form 8-K filed February 20, 2020.
(21) Incorporated herein by reference to Exhibit 10.01 to the registrant's quarterly report on Form 10-Q for the period ended March 31, 2020.
(22) Incorporated herein by reference to Exhibit 10.02 to the registrant's quarterly report on Form 10-Q for the period ended March 31, 2020.
(23) Incorporated herein by reference to Exhibit 10.03 to the registrant's quarterly report on Form 10-Q for the period ended March 31, 2020.
(24) Incorporated herein by reference to Exhibit 10.04 to the registrant's quarterly report on Form 10-Q for the period ended March 31, 2020.
(25) Incorporated herein by reference to Appendix A to the registrant's definitive proxy statement on Schedule 14A (Commission File No. 000-25346) filed April 24, 2020.
(26) Incorporated herein by reference to Exhibit 10.06 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2020.
(27) Incorporated herein by reference to Exhibit 10.07 to the registrant's quarterly report on Form 10-Q for the period ended June 30, 2020.

* 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.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ACI WORLDWIDE, INC.
(Registrant)

Date: February 25, 2021

By: /s/ ODILON ALMEIDA
Odilon Almeida
President, Chief Executive Officer, and Director (Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Name	Title	Date
/s/ ODILON ALMEIDA Odilon Almeida	President, Chief Executive Officer, and Director *(Principal Executive Officer)*	February 25, 2021
/s/ SCOTT W. BEHRENS Scott W. Behrens	Executive Vice President, Chief Financial Officer, and Chief Accounting Officer *(Principal Financial Officer)*	February 25, 2021
/s/ DAVID A. POE David A. Poe	Chairman of the Board and Director	February 25, 2021
/s/ CHARLES K. BOBRINSKOY Charles K. Bobrinskoy	Director	February 25, 2021
/s/ JANET O. ESTEP Janet O. Estep	Director	February 25, 2021
/s/ JAMES C. HALE James C. Hale	Director	February 25, 2021
/s/ DIDIER R. LAMOUCHE Didier R. Lamouche	Director	February 25, 2021
/s/ PAMELA H. PATSLEY Pamela H. Patsley	Director	February 25, 2021
/s/ CHARLES E. PETERS, JR Charles E. Peters, JR	Director	February 25, 2021
/s/ ADALIO T. SANCHEZ Adalio T. Sanchez	Director	February 25, 2021
/s/ THOMAS W. WARSOP, III Thomas W. Warsop, III	Director	February 25, 2021

DESCRIPTION OF REGISTRANT'S SECURITIES

General

The following is a brief description of the capital stock of ACI Worldwide, Inc. ("us", "our", "we", or the "Company"). This description is not complete and is subject to and qualified in its entirety by reference to the complete text of our 2013 Amended and Restated Certificate of Incorporation, as amended and restated from time to time ("Certificate of Incorporation"), and our Amended and Restated Bylaws, as amended and restated from time to time ("Bylaws"), both of which were previously filed with the U.S. Securities and Exchange Commission and incorporated by reference as an exhibit to this Annual Report on Form 10-K of which this Exhibit 4.[04] is a part. We encourage you to read our Certificate of Incorporation, our Bylaws and the applicable provisions of the Delaware General Corporation Law carefully.

The Company's Certificate of Incorporation provides that it may issue 280,000,000 shares of common stock, par value $0.005 per share ("Common Stock"), and 5,000,000 shares of preferred stock, par value $0.01 per share ("Preferred Stock").

Listing and Transfer Agent

Our Common Stock is listed on The Nasdaq Global Select Market under the symbol "ACIW." EQ Shareowners Services is our transfer agent.

Common Stock

Subject to the rights of the holders of any series of Preferred Stock, holders of Common Stock are entitled to one vote per share of record on each matter submitted to a vote of stockholders and to vote together as a single class for the election of directors and in respect of other corporate matters. At a meeting of stockholders at which a quorum is present, the affirmative vote of the holders of a majority of the stock present in person or represented by proxy and entitled to vote on the subject matter and which has actually been voted will be the act of the stockholders, unless otherwise provided in the Certificate of Incorporation, the Bylaws, a Preferred Stock Designation (as defined in the Certificate of Incorporation) or by law. The election of directors is determined by a plurality vote. Holders of Common Stock do not have cumulative voting rights, dividend rights, preemptive rights, liquidation rights or conversion rights. The rights, preferences and privileges of holders of Common stock are subject to, and may be adversely affected by, the rights of the holders of any series of Preferred Stock.

Preferred Stock

The Board of Directors of the Company (the "Board") has the authority to issue Preferred Stock from time to time in one or more series. The Board has the authority to determine the terms of each series of Preferred Stock, within the limits of the Certificate of Incorporation and the Delaware General Corporation Law, including the number of shares in a series, dividend rights, preemptive rights, sinking fund provisions, liquidation rights, redemption rights, conversion rights and voting rights. The rights, preferences and privileges of holders of Common Stock are subject to the rights of the holders of Preferred Stock.

Anti-takeover Effects of Certain Provisions of the Certificate of Incorporation, Bylaws and the Delaware General Corporation Law

The provisions of the Company's Certificate of Incorporation and Bylaws and the Delaware General Corporation Law summarized below may have an anti-takeover effect and may delay, defer or prevent a tender offer or takeover attempt.

Authorized but Unissued Common Stock and Preferred Stock

The Company's shares of authorized and unissued Common Stock will be available for future issuance without additional stockholder approval. The existence of authorized but unissued shares of Common Stock may enable our Board to render more difficult or to discourage an attempt to obtain control of the Company by means of a merger, tender offer or otherwise. Additionally, our Certificate of Incorporation also authorizes our Board, without further stockholder approval, to issue one or more series of Preferred Stock, which could have voting and conversion rights that adversely affect or dilute the voting power of the holders of our Common Stock.

Special Meetings of the Stockholders

Special meetings of the stockholders may only be called by the Company's (i) Chairman, (ii) President, or (iii) Secretary within ten calendar days after a written request of a majority of the total number of directors of the Board that the Company would have if there were no vacancies. Requests for a special meeting must be sent to the Company's Chairman and Secretary and must state the purpose of the proposed meeting.

Notice Provisions Relating to Stockholder Proposals and Nominees

The Company's Bylaws contain provisions requiring stockholders to give advance written notice to the Company of a director nomination in order to have the nominee considered at an annual meeting of stockholders. The notice for a shareholder proposal must be received not less than 90 days prior nor more than 120 days prior to the first anniversary of the date of the immediately preceding year's annual meeting of stockholders.

Board of Directors

The Bylaws provide that the authorized number of directors of the Board will be determined from time to time only by a vote of a majority of the entire Board, but which authorized number will be no less than three and no more than ten.

Our Certificate of Incorporation and Bylaws provide that, subject to the rights of the holders of any series of Preferred Stock, vacancies on the Board, whether resulting from newly created directorships or from death, resignation, disqualification or removal, will be filled solely by the affirmative vote of a majority of the remaining Directors then in office, even if less than a quorum of the Board, or by a sole remaining director.

Delaware Anti-takeover Law

The Company is subject to Section 203 of the Delaware General Corporation Law ("Section 203"), an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date such person became an interested stockholder, unless the business combination or the transaction in which such person became an interested stockholder is approved in a prescribed manner. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. Generally, an "interested stockholder" is a person that, together with affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation's voting stock. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the Board, including discouraging attempts that might result in a premium over the market price for the shares of Common Stock.

Exhibit 21.01

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, 2020:

ACI Australia Pty. Ltd	Australia
ACI Worldwide (Pacific) Pty. Ltd.	Australia
ACI Payments, Inc.	Delaware
Applied Communications Holding GmbH	Germany
ACI Worldwide Solutions Private Limited	India
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 (Mexico) S.A. de C.V.	Mexico
ACI Worldwide Corp.	Nebraska
ACI Worldwide B.V.	Netherlands
ACI (Singapore) Pte. Ltd.	Singapore
ACI Worldwide (Asia) Pte. Ltd.	Singapore
ACI South Africa (Proprietary) Ltd.	South Africa
ACI Global Limited	United Kingdom
Applied Communications Inc. U.K. Holding Limited	United Kingdom
ACI Worldwide (EMEA) Limited	United Kingdom
Applied Communications (Uruguay) S.A.	Uruguay

Exhibit 23.01

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-123263, 333-146794, 333-182584, 333-212948, 333-169293, 333-219608, and 333-239054 on Form S-8 of our reports dated February 25, 2021, relating to the financial statements of ACI Worldwide, Inc. (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the adoption of FASB Accounting Standards Update 2016-02, *Leases*, effective January 1, 2019) and the effectiveness of ACI Worldwide, Inc.'s internal control over financial reporting appearing in this Annual Report on Form 10-K for the year ended December 31, 2020.

/s/ DELOITTE & TOUCHE LLP

Omaha, Nebraska
February 25, 2021

Exhibit 31.01

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Odilon Almeida, 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: February 25, 2021

/s/ ODILON ALMEIDA

Odilon Almeida

President, Chief Executive Officer, and Director
(Principal Executive Officer)

Exhibit 31.02

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: February 25, 2021	/s/ SCOTT W. BEHRENS
	Scott W. Behrens
	Executive Vice President, Chief Financial Officer, and Chief Accounting Officer
	(Principal Financial Officer)

Exhibit 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

In connection with the annual report of ACI Worldwide, Inc. (the “Company”) on Form 10-K for the fiscal year ended December 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Odilon Almeida, 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: February 25, 2021

/s/ ODILON ALMEIDA

Odilon Almeida

President, Chief Executive Officer, and Director
(Principal Executive Officer)

Exhibit 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

In connection with the annual report of ACI Worldwide, Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2020, 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: February 25, 2021

/s/ SCOTT W. BEHRENS

Scott W. Behrens

Executive Vice President, Chief Financial Officer, and Chief Accounting Officer

(Principal Financial Officer)