CERNER CORP /MO/
Form 10-K
February 12, 2018
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended: December 30, 2017

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: 0-15386

CERNER CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	43-1196944
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
2800 Rockcreek Parkway North Kansas City, MO	64117
(Address of principal executive offices)	(Zip Code)

(816) 221-1024
(Registrant's telephone number, including area code)

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

Title of each class	Name of each exchange on which registered
Common Stock, $0.01 par value per share	The NASDAQ Stock Market LLC (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 [X] 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 [X]

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 [X] No [ ]
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes [X] No [ ]
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant’s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [X]
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.
Large accelerated filer [X] Accelerated filer [ ] Non-accelerated filer [ ] (do not check if smaller reporting company) Smaller reporting company [ ] Emerging growth company [ ]
If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards pursuant to Section 13(a) of the Exchange Act. [ ]
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes [ ] No [X]
As of June 30, 2017, the aggregate market value of the registrant’s common stock held by non-affiliates of the registrant was $19.5 billion based on the closing sale price as reported on the NASDAQ Global Select Market. Shares of common stock held by each executive officer, director and holder of 10% or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status for purposes of this calculation is not intended as a conclusive determination of affiliate status for other purposes.

Indicate the number of shares outstanding of the issuer’s classes of common stock, as of the latest practicable date.

Class	Outstanding at February 1, 2018
Common Stock, $0.01 par value per share	332,597,323 shares

DOCUMENTS INCORPORATED BY REFERENCE

Document	Parts into Which Incorporated
Portions of the registrant's Proxy Statement for the Annual Shareholders' Meeting to be held May 18, 2018	Part III

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CERNER CORPORATION

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PART I.

Item 1. Business

Overview

Cerner Corporation started doing business as a Missouri corporation in 1980 and was merged into a Delaware corporation in 1986. Unless the context otherwise requires, references in this report to "Cerner," the "Company," "we," "us" or "our" mean Cerner Corporation and its subsidiaries.

Our corporate world headquarters is located in a Company-owned office park in North Kansas City, Missouri, with our principal place of business located at 2800 Rockcreek Parkway, North Kansas City, Missouri 64117. Our telephone number is 816.221.1024. Our Web site, which we use to communicate important business information, can be accessed at: www.cerner.com. We make our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports available free of charge on or through this Web site as soon as reasonably practicable after such material is electronically filed with or furnished to the Securities and Exchange Commission ("SEC"). We do not intend for information contained in our website to be part of this annual report on Form 10-K.

Cerner is a leading supplier of health care information technology ("HCIT") solutions and services. Our mission is to contribute to the systemic improvement of health care delivery and the health of communities. We offer a wide range of intelligent solutions and services that support the clinical, financial and operational needs of organizations of all sizes. We have systems in more than 27,000 facilities worldwide, including hospitals, physician practices, laboratories, ambulatory centers, behavioral health centers, cardiac facilities, radiology clinics, surgery centers, extended care facilities, retail pharmacies, and employer sites.

Cerner® solutions are offered on the unified Cerner Millennium® architecture and on the HealtheIntent℠ cloud-based platform. Cerner Millennium is a person-centric computing framework, which includes integrated clinical, financial and management information systems. This architecture allows providers to securely access an individual's electronic health record ("EHR") at the point of care, and it organizes and proactively delivers information to meet the specific needs of physicians, nurses, laboratory technicians, pharmacists, front- and back-office professionals and consumers. Our HealtheIntent platform is a cloud-based platform designed to scale at a population level while facilitating health and care at a person and provider level. On the HealtheIntent platform, we offer solutions that aggregate, transform and reconcile data across the continuum of care, enabling key stakeholders to manage the health of populations, improve outcomes and lower costs. Cerner also has an EHR agnostic platform, CareAware®, that facilitates connectivity of health care devices to EHRs, allowing for more efficient and effective care.

On February 2, 2015, Cerner acquired Siemens Health Services (now referred to as "Cerner Health Services"). Cerner Health Services offers a portfolio of enterprise-level clinical and financial health care information technology solutions, as well as departmental, connectivity, population health, and care coordination solutions globally.

We offer a broad range of services, including implementation and training, remote hosting, operational management services, revenue cycle services, support and maintenance, health care data analysis, clinical process optimization, transaction processing, employer health centers, employee wellness programs and third party administrator services for employer-based health plans.

In addition to software and services, we offer a wide range of complementary hardware and devices, both directly from Cerner and as a reseller for third parties.

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The following table presents our consolidated revenues by major solutions and services and by segment, as a percentage of total revenues:

	For the Years Ended		
	2017	2016	2015
Revenues by Solutions & Services			
System sales	26%	26%	29%
Support and maintenance	21%	21%	22%
Services	51%	51%	47%
Reimbursed travel	2%	2%	2%
	100%	100%	100%
Revenues by Segment			
Domestic	89%	89%	88%
Global	11%	11%	12%
	100%	100%	100%

Health Care and Health Care IT Industry

Health care expenditures continue to consume an increasing portion of most economies. In the U.S., health care spending increased 4.3 percent to $3.30 trillion in 2016, growing to 17.9 percent of the U.S.'s Gross Domestic Product ("GDP"). The Centers for Medicare and Medicaid Services ("CMS") estimates annual U.S. health care spending will be $5.55 trillion, or 19.9 percent of GDP, by 2025. We believe this trajectory is unsustainable and that health care IT can play an important role in facilitating a shift from a high-cost health care system that incents volume to a proactive system that incents health, quality and efficiency.

For this change to occur, we believe traditional fee-for-service ("FFS") reimbursement models must continue to shift to value-based approaches that are more aligned with quality, outcomes, and efficiency. A signal of this shift occurred in January of 2015 when the U.S. Department of Health & Human Services laid out a plan to shift 50 percent of Medicare payments to value-based payment models by the end of 2018, and to tie 90 percent of the remaining traditional FFS payments to quality measures.

The shift away from traditional FFS is also evident in growth of lives covered under Accountable Care Organizations ("ACOs"). ACOs are groups of hospitals and providers that focus on providing coordinated, high quality care to Medicare, Medicaid, or commercially insured populations and then share in savings created by lowering the cost of care. According to the Leavitt Partners publication, Projected Growth of Accountable Care Organizations, December 2015, lives covered under ACOs grew from approximately 5 million in 2011 to more than 20 million in 2015 and are projected to be more than 100 million by 2020.

Another step towards a value-based model occurred with the passage of The Medicare Access and CHIP Reauthorization Act ("MACRA"), which enacts significant reforms to the payment programs under the Medicare Physician Fee Schedule and consolidated three current value-based programs into one.

While each of the different approaches to aligning reimbursement with value has faced challenges in implementation and will continue to evolve, we believe the trend away from traditional FFS will continue. We believe this growth in government and private models aligning payment with value, quality and outcomes will drive major changes in the way health care is provided in the next decade, and we expect a much greater focus on patient engagement, wellness and prevention. As health care providers become accountable for proactively managing the health of the populations

they serve, we expect them to need ongoing investment in sophisticated information technology solutions that will enable them to predict when intervention is needed so they can improve outcomes and lower the cost of providing care.

The increasingly complex and more clinical outcomes-based reimbursement environment is also contributing to a heightened demand for revenue cycle solutions and services and a desire for these solutions and services to be closely aligned with clinical solutions. We believe this trend is positive for Cerner because our Cerner Millennium revenue cycle solutions and services are integrated with our clinical solutions, creating a clinically driven revenue cycle solution that has had significant adoption in recent years.

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Over the past several years, we have also seen a shift in the U.S. marketplace towards a preference for a single platform across inpatient and ambulatory settings. The number of physicians employed by hospitals has increased as hospitals have acquired physician groups, and health systems are recognizing the benefit of having a single patient record at the hospital and the physician office. We are benefiting from this trend due to our unified Cerner Millennium platform, which spans multiple venues, and ongoing enhancements we have made to our physician solutions.

While health care providers are showing a preference for a single platform across multiple venues, there is also an increased push for interoperability across disparate systems to address the reality that no patient's record will only have information from a single health care IT system. We believe health information should be shareable and accessible among primary care physicians, specialists, and hospital physicians.

As a result, Cerner has led or been a key participant in nearly every major industry effort to advance interoperability and system openness. One example is Cerner's role as a founding member of the CommonWell Health Alliance, an open, not-for-profit industry consortium that brought health care IT firms together for the purpose of enabling safe nationwide interoperability. The vision of CommonWell is for a patient to be able to visit a new doctor, give their consent, and, within moments, have his or her lifetime record available from all the prior places he or she has visited.

CommonWell members represent about 70 percent of the acute care market and about 30 percent of the ambulatory market. CommonWell membership also spans a diverse range of clinical care settings beyond acute and ambulatory, including health IT market leaders in imaging, perinatal, emergency department, laboratory, retail pharmacy, oncology, care management, patient portal, post-acute care, and state and federal government agencies. In 2016, CommonWell and CareQuality, another national interoperability framework, announced an agreement to work together and leverage the respective strengths of each organization to create a level interoperability playing field for all provider organizations that wish to share clinical information using standards-based queries. This agreement is expected to create near-universal connectivity that establishes a baseline query capability for all providers, regardless of their EHR supplier.

Outside the United States, we believe Cerner's growth opportunities are good, as most countries are also dealing with health care expenditures growing faster than their economies, which is leading to a focus on controlling costs while also improving quality of care.

Cerner Vision and Growth Strategy

For nearly four decades, Cerner has focused on creating innovation at the intersection of health care and information technology. Together with our clients, we are creating a future where the health care system works to improve the well-being of individuals and communities. Our vision has always guided our large investments in research and development ("R&D"), which have created strong levels of organic growth throughout our history. Our proven ability to innovate has led to what we believe to be industry-leading architectures and an unmatched breadth and depth of solutions and services. The strength of our solutions and services has led to our ability to gain market share in recent years, which has contributed to our growth. We believe we are positioned to continue gaining share in coming years as regulatory requirements and industry shifts continue to pressure health care providers to improve quality while lowering costs, which we believe will require having more sophisticated information technology than many of our competitors provide. We also have opportunities to gain market share as our large health system clients purchase other hospitals, which is often followed by purchasing Cerner solutions for the acquired hospitals so they can benefit from standardization across the combined entities.

In addition to growth by gaining market share, we believe we have a significant opportunity to grow revenues by expanding our solution footprint with existing clients. For example, only about 40 percent of our Cerner Millennium EHR clients have implemented Cerner revenue cycle solutions. This penetration has been growing in recent years and we expect it to continue because of the preference for having EHR and revenue cycle systems provided on the same

platform. There is also opportunity to expand penetration of other solutions, such as women's health, anesthesiology, imaging, clinical process optimization, critical care, health care devices, device connectivity, emergency department and surgery.

We also have an opportunity to grow by expanding penetration of services we offer that are targeted at capturing a larger percentage of our clients' existing IT spending. These services leverage our proven operational capabilities and the success of our CernerWorks[SM] managed services business, where we have demonstrated the ability to improve our clients' service levels at a cost that is at or below amounts they were previously spending. One of these services is Cerner ITWorks[SM], a suite of solutions and services that improves the ability of hospital IT departments to meet their organization's needs while also creating a closer alignment between Cerner and our clients. A second example is Cerner RevWorks[SM], which includes solutions and services to help health care organizations improve their revenue cycle functions.

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Over the past several years, we have had success at selling our solutions to smaller hospitals because of progress at reducing the total cost of owning our solutions. Our CommunityWorks℠ offering leverages a shared instance of the Cerner Millennium platform across multiple clients, allowing us to offer low-cost, high-value solutions and services to smaller community hospitals and critical access hospitals. We believe there continues to be a good opportunity to grow in the small hospital market given many of the existing suppliers in this market have struggled to keep up with ongoing regulatory requirements and marketplace expectations.

We also expect to drive growth over the course of the next decade through initiatives outside the core HCIT market. For example, we offer clinic, pharmacy, wellness and third-party administrator services directly to employers. These offerings have been shaped by what we have learned from changes we have implemented at Cerner. We have removed our third-party administrator and become self-administered, launched an on-site clinic and pharmacy, incorporated biometric measurements for our associate population, realigned the economic incentives for associates in our health plan, and implemented a data-driven wellness management program. These changes have had a positive impact on the health of our associates while also keeping our health care costs below industry averages.

As discussed below, another significant opportunity for future growth, and a large area of investment for Cerner, is leveraging the vast amounts of data being created as the health care industry is digitized and using this data to help providers and employers manage the health of populations.

Population Health

Population Health Management involves a shift from solely automating health systems to managing a person’s health. Getting there requires complete, accurate patient data and meaningfully using that data to engage individuals, exchange information between providers and ultimately drive better outcomes at a lower cost. This shift will shape the future of health care and enable a system driven by accountability, transparency and value.

Cerner's approach to population health is to enable organizations to:

- KNOW what is happening and predict what will happen within their population through solutions for data exchange, longitudinal record, enterprise data warehouse, analytics and quality and regulatory reporting;
- ENGAGE providers and patients in health and care delivery through personal health portals and solutions for care management, home care, long-term care, and retail pharmacy; and
- MANAGE health and improve care with capacity and workforce management, clinical research, predictive modeling, health registries, and contract and network management.

These solutions are enabled by Cerner’s HealtheIntent platform, which is a multi-purpose, programmable platform designed to scale at a population level while facilitating health and care at a person and provider level. This cloud-based platform enables organizations to aggregate, transform and reconcile data across the continuum of care, and helps improve outcomes and lower costs.

HealtheIntent is scalable, secure and can be accessed anywhere, anytime. It is able to receive data from any EHR, existing HCIT system and other data sources, such as pharmacy benefits managers or insurance claims. HealtheIntent collects data from multiple, disparate sources in near real-time, providing clarity to millions of data points in an actionable and programmable workflow. It enables organizations to identify, score and predict the risks of individual patients, allowing them to match the right care programs to the right individuals. The EHR-agnostic nature of our HealtheIntent platform allows us to offer our solutions to the entire marketplace, not just existing Cerner clients.

We have created a series of initial solutions on the HealtheIntent platform, including the following solutions that are generally available or being released soon:

- Longitudinal Record - provides clinicians and the patient a view of their consolidated clinical record, gathered and normalized from multiple sources.
- Registries and Scorecards - identifies and automatically segments patients by disease, guides interventions according to clinical best practice, provides visibility to quality measures for provider's population, produces client-defined performance scorecards, and tracks their health and their interventions according to clinical best practice.
- Enterprise and Population Health Analytics - allows the integrated data to be analyzed for the purpose of population health management and research.
- Provider Performance Management - creates visibility for providers on their performance against key clinical and operation metrics and can be aligned with payment models that incentivize high quality and efficient care.

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- Patient/Member Engagement - an enhanced patient portal complemented by engagement services to help health care organizations create more meaningful interactions and engagement with the members they serve, and provides the ability to target individuals at risk of becoming chronically ill.
- Community Care Management - provides a person-centric approach of proactive surveillance, coordination and facilitation of health services across the care continuum to achieve optimal health status, quality and costs.
- Population Health Programs - leverages evidence-based guidelines and the contextual information within HealtheIntent to provide identification, prediction and management of a condition at the population, provider and person level and facilitates a personalized plan of care for each member.
- Contract and Network Management - for managing provider networks, modeling to inform payer negotiations, determining appropriate business models, and managing contract performance in near real-time.

In less than four years since the first HealtheIntent solution went live at our alpha client, more than 140 clients have purchased HealtheIntent solutions. The broad addressable market for population health solutions is reflected in the diversity of these clients, which include health systems, physician groups, employers, health plans, state governments, and accountable care organizations. The initial adoption by a large number of clients is encouraging and positions us for larger contributions to revenue from HealtheIntent solutions as these initial clients and others transition away from FFS models to value-based and at-risk models that require population health solutions and services. The data variety and scalability of the HealtheIntent platform has also grown quickly, as reflected in its over 500 data connections, including over 30 EHR systems and 55 claims and payer systems, and records for more than 100 million people.

In summary, we believe our comprehensive architectural approach to population health is differentiated in the marketplace. We expect population health to be a large contributor to our long-term growth as health care continues to evolve towards a model that incents keeping people healthy.

Software Development

We commit significant resources to developing new health information system solutions and services. As of the end of 2017, approximately 6,600 associates were engaged in research and development activities. Total expenditures for the development and enhancement of our software solutions were $706 million, $705 million and $685 million during the 2017, 2016 and 2015 fiscal years, respectively. These figures include both capitalized and non-capitalized portions and exclude amounts amortized for financial reporting purposes.

As discussed above, continued investment in R&D remains a core element of our strategy. This will include ongoing enhancement of our core solutions and development of new solutions and services.

Intellectual Property

We have a broad portfolio of intellectual property rights to protect the proprietary interests in our solutions, services, devices and brands. Our solutions constitute works of authorship protected by copyrights in the U.S. and globally. We own valuable trade secrets embodied in, or related to, our solutions, services and devices and protect these rights through a number of technical and legal measures. We have registered or applied to register certain trademarks and service marks in a number of countries with particular emphasis on the Cerner branding elements. We continue to develop our patent portfolio and own more than 400 issued patents with hundreds of patent applications pending. We do not consider any of our businesses to be dependent upon any one patent, copyright, trademark, or trade secret, or any family or families of the same.

Our solutions, devices and services incorporate or rely on intellectual property rights licensed from third parties, including software subject to open source software licenses. Certain technologies licensed to Cerner are also important for internal use in running our business and supporting our clients. Although replacing any existing licenses could be inconvenient, based on our experiences, existing contractual relationships, and the incentives of our technology suppliers, we believe that Cerner will continue to obtain these technologies or suitable alternatives for commercially

reasonable prices on commercially reasonable terms or under open source software licenses acceptable to Cerner.

Sales and Marketing

The markets for Cerner HCIT solutions, health care devices and services include integrated delivery networks, physician groups and networks, managed care organizations, hospitals, medical centers, free-standing reference laboratories, home health agencies, blood banks, imaging centers, pharmacies, pharmaceutical manufacturers, employers, governments and public health organizations. The majority of our sales are clinical and revenue cycle solutions and services to hospitals and health systems, but our solutions and services are highly scalable and sold to organizations ranging from physician practices, to community hospitals, to complex integrated delivery networks, to local, regional and national government agencies. Sales

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to large health systems typically take approximately nine to 18 months, while the sales cycle is often shorter when selling to smaller hospitals and physician practices.

Our executive marketing management is located at our Realization Campus in Kansas City, Missouri, while our client representatives are deployed across the United States and globally. In addition to the United States, through our subsidiaries, we have sales associates and/or offices giving us a presence in more than 35 countries.

We support our sales force with technical personnel who perform demonstrations of Cerner solutions and services and assist clients in determining the proper hardware and software configurations. Our primary direct marketing strategy is to generate sales contacts from our existing client base and through presentations at industry seminars and tradeshows. We market the PowerWorks® solutions, offered on a subscription basis, directly to the physician practice market using lead generation activities and through existing acute care clients that are looking to extend Cerner solutions to affiliated physicians. We attend a number of major tradeshows each year and sponsor executive user conferences, which feature industry experts who address the HCIT needs of large health care organizations.

Client Services

Substantially all of Cerner's clients that buy software solutions also enter into software support agreements with us for maintenance and support of their Cerner systems. In addition to immediate software support in the event of problems, these agreements allow clients to access new releases of the Cerner solutions covered by support agreements. Each client has 24-hour access to the applicable client support teams, including those located at our world headquarters in North Kansas City, Missouri, our Continuous Campus in Kansas City, Kansas, our campus in Malvern, Pennsylvania, and our global support organizations in Germany, England and Ireland.

Most clients who buy hardware through Cerner also enter into hardware maintenance agreements with us. These arrangements normally provide for a fixed monthly fee for specified services. In the majority of cases, we utilize subcontractors to meet our hardware maintenance obligations. We also offer a set of managed services that include remote hosting, operational management services and disaster recovery.

Backlog

At the end of 2017, we had a revenue backlog of $17.5 billion, which compares to $15.9 billion at the end of 2016. Such backlog represents contracted revenue that has not yet been recognized. We currently estimate that approximately 26% percent of the backlog at the end of 2017 will be recognized as revenue during 2018.

Competition

The market for HCIT solutions, devices and services is intensely competitive, rapidly evolving and subject to rapid technological change. We offer a suite of intelligent solutions and services that support the clinical, financial and operational needs of organizations of all sizes. The principle markets in which we compete include, without limitation, health care software solutions, HCIT services, ambulatory, health care device and technology resale, health care revenue cycle and transaction services, value-based care technologies, analytics systems, care management solutions, population health management, and post-acute care. Our principal existing competitors, including their affiliates, in these markets include, but are not limited to:

- Allscripts Healthcare Solutions, Inc.
- athenahealth, Inc.
- Computer Programs and Systems, Inc.
- eClinicalWorks, LLC
- Epic Systems Corporation
- InterSystems Corporation
- MEDHOST, Inc.
- Medical Information Technology, Inc. (MEDITECH)
- Optum, Inc.

In addition, we expect that major software information systems companies, large information technology consulting service providers and system integrators, start-up companies, managed care companies, healthcare insurance companies, accountable care organizations and others specializing in the health care industry may offer competitive software solutions, devices or services. The pace of change in the HCIT market is rapid and there are frequent new software solutions, devices or services introductions, enhancements and evolving industry standards and requirements. We believe that the principal competitive factors in our markets include the breadth and quality of solution and service offerings, the stability of the solution provider, the features and capabilities of the information systems and devices, the ongoing support for the systems and devices and the potential for enhancements and future compatible software solutions and devices. We believe that we compete favorably with our competitors on the basis of these factors and that we are the leader- or among the leaders- in each of our main offerings. Our brand recognition and reputation for innovative technology and service delivery, combined

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with our breadth of solution and services offerings, global distribution channels and client relationships position us as a strong competitor going forward.

Number of Employees (Associates)
At the end of 2017, we employed approximately 26,000 associates worldwide.

Operating Segments
Information about our operating segments, which are geographically based, may be found in Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" below and in Note (17) of the notes to consolidated financial statements.

Executive Officers of the Registrant
The following table sets forth the names, ages, positions and certain other information regarding the Company's executive officers as of February 1, 2018. Officers are elected annually and serve at the discretion of the Board of Directors.

Name	Age	Positions
Brent Shafer	60	Chairman of the Board of Directors and Chief Executive Officer
Clifford W. Illig	67	Vice Chairman of the Board of Directors
Zane M. Burke	52	President
Marc G. Naughton	62	Executive Vice President and Chief Financial Officer
Michael R. Nill	53	Executive Vice President and Chief Operating Officer
Randy D. Sims	57	Senior Vice President, Chief Legal Officer and Secretary
Jeffrey A. Townsend	54	Executive Vice President and Chief of Staff
Julia M. Wilson	55	Executive Vice President and Chief People Officer

Brent Shafer was appointed Chief Executive Officer and Chairman of the Board of Directors effective February 1, 2018. Prior to joining the Company, Mr. Shafer served as Chief Executive Officer of Philips North America, a health technology company and the North American division of Koninklijke Philips N.V. ("Philips") since February 2014. In that position, Mr. Shafer led an organization of 17,000 employees and oversaw a health technology portfolio that included a broad range of solutions and services covering patient monitoring, imaging, clinical informatics, sleep and respiratory care as well as a group of market-leading consumer-oriented brands. For 12 years, Mr. Shafer played a key role in helping Philips develop and strengthen its health care focus, increase its profitability and grow its market share. Prior to his most recent position, Mr. Shafer served as Chief Executive Officer of the global Philips' Home Healthcare Solutions business, a home healthcare services provider with 6,000 employees, from May 2010 until May 2014, as Chief Executive Officer of the North America region for Royal Philips Electronics from January 2009 until May 2010, and as president and Chief Executive Officer of the Healthcare Sales and Service business for Philips North America from May 2005 until May 2010. Prior to joining Philips, Mr. Shafer served in various senior leadership positions with other companies, including Hill-Rom Company Inc., GE Medical Systems, and Hewlett-Packard.

Clifford W. Illig, co-founder of the Company, has been a Director of the Company for more than five years. He previously served as Chief Operating Officer of the Company until October 1998, President of the Company until

March of 1999, and Interim Chief Executive Officer from July 2017 to January 2018. Mr. Illig was appointed Vice Chairman of the Board of Directors in March of 1999 and served in that capacity until July 2017 when he was appointed as Chairman of the Board of Directors. He resumed his role as Vice Chairman of the Board of Directors concurrent with the appointment of Mr. Shafer as Chief Executive Officer and Chairman, effective February 1, 2018.

Zane M. Burke joined the Company in September 1996. Since that time, he has held a variety of client-facing sales, implementation and support roles, including Corporate Controller and Vice President of Finance. He was promoted to President of the Company’s West region in 2002 and Senior Vice President of National Alignment in 2006. He was further promoted to Executive Vice President - Client Organization in July 2011 and to President of the Company in September 2013.

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Marc G. Naughton joined the Company in November 1992 as Manager of Taxes. In November 1995 he was named Chief Financial Officer and in February 1996 he was promoted to Vice President. He was promoted to Senior Vice President in March 2002 and promoted to Executive Vice President in March 2010.

Michael R. Nill joined the Company in November 1996. Since that time he has held several positions in the Technology, Intellectual Property and CernerWorks Client Hosting Organizations. He was promoted to Vice President in January 2000, promoted to Senior Vice President in April 2006 and promoted to Executive Vice President and named Chief Engineering Officer in February 2009. Mr. Nill was appointed Chief Operating Officer in May 2011.

Randy D. Sims joined the Company in March 1997 as Vice President and Chief Legal Officer and was promoted to Senior Vice President in March 2011. Prior to joining the Company, Mr. Sims worked at Farmland Industries, Inc. for three years where he last served as Associate General Counsel. Prior to Farmland, Mr. Sims was in-house legal counsel at The Marley Company for seven years, holding the position of Assistant General Counsel when he left to join Farmland.

Jeffrey A. Townsend joined the Company in June 1985. Since that time he has held several positions in the Intellectual Property Organization and was promoted to Vice President in February 1997. He was appointed Chief Engineering Officer in March 1998, promoted to Senior Vice President in March 2001, named Chief of Staff in July 2003 and promoted to Executive Vice President in March 2005.

Julia M. Wilson first joined the Company in July 1990. Since that time, she has held several positions in the Functional Group Organization. She was promoted to Vice President and Chief People Officer in August 2003, to Senior Vice President in March 2007 and to Executive Vice President in March 2013.

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Item 1A. Risk Factors

Risks Related to our Business

We may incur substantial costs related to product-related liabilities. Many of our software solutions, health care devices, technology-enabled services or other services (collectively referred to as "Solutions and Services") are intended for use in collecting, storing and displaying clinical and health care-related information used in the diagnosis and treatment of patients and in related health care settings such as registration, scheduling and billing. We attempt to limit by contract our liability; however, the limitations of liability set forth in the contracts may not be enforceable or may not otherwise protect us from liability for damages. We may also be subject to claims that are not covered by contract. Although we maintain liability insurance coverage, there can be no assurance that such coverage will cover any particular claim that has been brought or that may be brought in the future, that such coverage will prove to be adequate or that such coverage will continue to remain available on acceptable terms, if at all. A successful material claim or series of claims brought against us, if uninsured or under-insured, could materially harm our business, results of operations and financial condition. Product-related claims, even if not successful, could damage our reputation, cause us to lose existing clients, limit our ability to obtain new clients, divert management’s attention from operations, result in significant revenue loss, create potential liabilities for our clients and us and increase insurance and other operational costs.

We may be subject to claims for system errors and warranties. Our Solutions and Services are very complex and may contain design, coding or other errors, especially when first introduced. It is not uncommon for HCIT providers to discover errors in Solutions and Services after their introduction to the market. Similarly, the installation of our Solutions and Services is very complex and errors in the implementation and configuration of our systems can occur. Our Solutions and Services are intended for use in collecting, storing, and displaying clinical and health care-related information used in the diagnosis and treatment of patients and in related health care settings such as registration, scheduling and billing. Therefore, users of our Solutions and Services are less tolerant of errors than the market for other types of technologies generally. Our client agreements typically provide warranties concerning material errors and other matters. If a client's Solutions and Services fail to meet these warranties or leads to faulty clinical decisions or injury to patients, it could 1) constitute a material breach under the client agreement, allowing the client to terminate the agreement and possibly obtain a refund or damages or both, or require us to incur additional expense in order to make the Solution or Service meet these criteria; or 2) subject us to claims or litigation by our clients or clinicians or directly by the patient. Additionally, such failures could damage our reputation and could negatively affect future sales. Our client agreements generally limit our liability arising from such claims but such limits may not be enforceable in certain jurisdictions or circumstances. Although we maintain liability insurance coverage, there can be no assurance that such coverage will cover any particular claim that has been brought or that may be brought in the future, that such coverage will prove to be adequate or that such coverage will continue to remain available on acceptable terms, if at all. A successful material claim or series of claims brought against us, if uninsured or under-insured, could materially harm our business, results of operations and financial condition.

We may experience interruptions at our data centers or client support facilities, which could interrupt clients' access to their data, exposing us to significant costs and reputational harm. We perform data center and/or hosting services for certain clients, including the storage of critical patient and administrative data and support services through various client support facilities. Our business relies on the secure electronic transmission, data center storage and hosting of sensitive information, including protected health information, personally identifiable information, financial information and other sensitive information relating to our clients, company and workforce. Complete failure of all local public power and backup generators; impairment of all telecommunications lines; a concerted denial of service attack; a significant system, network or data breach; damage, injury or impairment (environmental, accidental or intentional) to the buildings, the equipment inside the buildings housing our data centers, the personnel operating such facilities or the client data contained therein; or errors by the personnel trained to operate such facilities could cause a

disruption in operations and negatively impact clients who depend on us for data center and system support services. We offer our clients disaster recovery services for additional fees to protect clients from isolated data center failures, leveraging our multiple data center facilities; however only a small percentage of our hosted clients choose to contract for these services. Additionally, Cerner's core systems are disaster tolerant as we have implemented redundancy across physically diverse data centers. If any of these systems are interrupted, damaged or breached by an unforeseen event or actions of a Cerner associate or contractor or a third party or fail for any extended period of time, it could damage our reputation, cause us to lose existing clients, hurt our ability to obtain new clients, result in significant revenue loss, create potential liabilities for our clients and us, increase insurance and other operating costs and have a material adverse impact on our results of operations.

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If our IT security is breached, we could be subject to increased expenses, exposure to legal claims and regulatory actions, and clients could be deterred from using our Solutions and Services. We are in the information technology business, and in providing our Solutions and Services, we store, retrieve, process and manage our clients' information and data (and that of their patients), as well as our own data. We believe we have a reputation for secure and reliable Solution and Service offerings, and we have invested a great deal of time and resources in protecting the security, confidentiality, integrity and availability of our Solutions and Services and the internal and external data that we manage. Third parties attempt to identify and exploit Solution and Service vulnerabilities, penetrate or bypass our security measures, and gain unauthorized access to our or our clients' and suppliers' software, hardware and cloud offerings, networks and systems, any of which could lead to disruptions in mission-critical systems or the unauthorized release or corruption of personal information or the confidential information or data of Cerner, our clients or their patients.

High-profile security breaches at other companies have increased in recent years, and security industry experts and government officials have warned about the risks of hackers and cyber-attacks targeting information technology products and businesses. Although this is an industry-wide problem that affects other software and hardware companies, we may be targeted by computer hackers because we are a prominent health care IT company and have high profile clients. These risks will increase as we continue to grow our cloud offerings, store and process increasingly large amounts of our clients' confidential data, including personal health information, and host or manage parts of our clients' businesses in cloud-based/multi-tenant IT environments. We may use third party public cloud providers in connection with our cloud-based offerings or third party providers to host our own data, in which case we have to rely on the processes, control and security such third parties have in place to protect the infrastructure.

We continue to invest in and improve our threat protection, detection and mitigation policies, procedures and controls. In addition, we work with other companies in the industry on increased awareness and enhanced protections against cybersecurity threats. Because of the evolving nature and sophistication of these security threats, which can be difficult to detect, there can be no assurance that our policies, procedures and controls will detect or prevent any of these threats and we cannot predict the full impact of any such past or future incident.

The costs we would incur to address and remediate these security incidents would increase our expenses, and our efforts to address these problems may not be successful and could result in interruptions, delays, cessation of service and loss of existing or potential clients that may impede our sales, development of solutions, provision of services or other critical functions. If a cyber-attack or other security incident described above were to allow unauthorized access to or modification of our clients' or suppliers' data, our own data or our IT systems, or if our Solutions or Services are perceived as having security vulnerabilities, we could suffer significant damage to our brand and reputation. This in turn could lead to fewer clients using our Solutions and Services and result in reduced revenue and earnings. These types of security incidents could also lead to lawsuits, regulatory investigations and claims and increased legal liability, including in some cases contractual costs related to notification and fraud monitoring of impacted persons.

Our proprietary technology may be subject to claims for infringement or misappropriation of intellectual property rights of others, or our intellectual property rights may be infringed or misappropriated by others. We rely upon a combination of confidentiality practices and policies, license agreements, confidentiality provisions in employment agreements, confidentiality agreements with third parties and technical security measures to maintain the confidentiality, exclusivity and trade secrecy of our proprietary information. We also rely on trademark and copyright laws to protect our intellectual property rights in the U.S. and abroad. We continue to develop our patent portfolio of U.S. and global patents, but these patents do not provide comprehensive protection for the wide range of Solutions and Services we offer. Despite our protective measures and intellectual property rights, we may not be able to adequately protect against theft, copying, reverse engineering, misappropriation, infringement or unauthorized use or disclosure of our intellectual property, which could have an adverse effect on our competitive position.

In addition, we are routinely involved in intellectual property infringement or misappropriation claims, and we expect this activity to continue or even increase as the number of competitors, patents and patent enforcement organizations in the HCIT and broader IT market increases, the functionality of our Solutions and Services expands, the use of open-source software increases and we enter new geographies and new market segments. These claims, even if unmeritorious, are expensive to defend and are often incapable of prompt resolution. If we become liable to third parties for infringing or misappropriating their intellectual property rights, we could be required to pay a substantial damage award, develop alternative technology, obtain a license or cease using, selling, offering for sale, licensing, implementing or supporting the applicable Solutions and Services.

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Many of our software solutions and technology-enabled services contain open source software that may pose particular risks to our proprietary software solutions and technology-enabled services in a manner that could have a negative effect on our business. We rely upon open source software in our software solutions and technology-enabled services. The licensing terms applicable for certain open source software have not been interpreted by U.S. or foreign courts and could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to provide and support our Solutions or Services.

Additionally, we may encounter claims from third parties claiming ownership and unauthorized use of the software purported to be licensed under the open source terms, demanding release of derivative works of open source software that could include our proprietary source code, or otherwise seeking to enforce the terms of the applicable open source licenses. These claims could result in litigation and, even if unmeritorious, could be expensive to defend and incapable of prompt resolution. If we become liable to third parties for such claims, we could be required to make our software source code available under the applicable open source license, utilize or develop alternative technology, or cease using, selling, offering for sale, licensing, implementing or supporting the applicable solutions or technology-enabled services. In addition, use of certain open source software may pose greater risks than use of third party commercial software, as most open source licensors and distributors do not provide commercial warranties or indemnities or controls on the origin of the software.

We may become subject to legal proceedings that could have a material adverse impact on our business, results of operations and financial condition. From time to time and in the ordinary course of our business, we and certain of our subsidiaries may become involved in various legal proceedings and subject to various claims, including for example, employment and client disputes and litigation alleging solution and implementation defects, personal injury, intellectual property infringement, violations of law and breaches of contract and warranties. In addition, we are a defendant in lawsuits filed in federal and state courts brought as putative class or collective actions on behalf of various groups of current and former associates in the U.S. alleging that we misclassified associates as exempt from overtime pay under the Fair Labor Standards Act and state wage and hour laws. All such legal proceedings are inherently unpredictable and, regardless of the merits of the claims, litigation may be expensive, time-consuming and disruptive to our operations and distracting to management. If resolved against us, such legal proceedings could result in excessive verdicts, injunctive relief or other equitable relief that may affect how we operate our business. Similarly, if we settle such legal proceedings, it may affect how we operate our business. Future court decisions, alternative dispute resolution awards, business expansion or legislative activity may increase our exposure to litigation and regulatory investigations. In some cases, substantial non-economic remedies or punitive damages may be sought. Although we maintain liability insurance coverage, there can be no assurance that such coverage will cover any particular verdict, judgment or settlement that may be entered against us, that such coverage will prove to be adequate or that such coverage will continue to remain available on acceptable terms, if at all. If we incur liability that exceeds our insurance coverage or that is not within the scope of the coverage in legal proceedings brought against us, it could have a material adverse effect on our business, results of operations and financial condition.

We are subject to risks associated with our global operations. We market, sell and support our Solutions and Services globally. We have established offices around the world, including in the Americas, Europe, the Middle East and the Asia Pacific region. We plan to continue to expand our non-U.S. operations and enter new global markets. This expansion will require significant management attention and financial resources to develop successful direct and indirect non-U.S. sales and support channels. Our business is generally transacted in the local functional currency. In some countries, our success will depend in part on our ability to form relationships with local partners. There is a risk that we may sometimes choose the wrong partner. For these and other reasons, we may not be able to maintain or increase non-U.S. market demand for our Solutions and Services.

Non-U.S. operations are subject to inherent risks, and our business, results of operations and financial condition, including our revenue growth and profitability, could be adversely affected by a variety of uncontrollable and

changing factors. These include, but are not limited to:

- Greater difficulty in collecting accounts receivable and longer collection periods;
- Difficulties and costs of staffing and managing non-U.S. operations;
- The impact of global economic and political market conditions;
- Effects of sovereign debt conditions, including budgetary constraints;
- Unfavorable or volatile foreign currency exchange rates;
- Legal compliance costs or business risks associated with our global operations where: i) local laws and customs differ from, or are more stringent than those in the U.S., such as those relating to data protection and data security, or ii) risk is heightened with respect to laws prohibiting improper payments and bribery, including without limitation

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the U.S. Foreign Corrupt Practices Act, the U.K. Anti-Bribery Act and similar laws and regulations in foreign jurisdictions;
- Certification, licensing or regulatory requirements and unexpected changes to those requirements;
- Changes to or reduced protection of intellectual property rights in some countries;
- Potentially adverse tax consequences as a result of changes in tax laws or otherwise, and difficulties associated with repatriating cash generated or held abroad in a tax-efficient manner;
- Different or additional functionality requirements or preferences;
- Trade protection measures;
- Export control regulations;
- Health service provider or government spending patterns or government-imposed austerity measures;
- Natural disasters, war or terrorist acts;
- Labor disruptions that may occur in a country; or
- Political unrest which may impact sales or threaten the safety of associates or our continued presence in these countries and the related potential impact on global stability.

Fluctuations in foreign currency exchange rates could materially affect our financial results. Our consolidated financial statements are presented in U.S. dollars. In general, the functional currency of our subsidiaries is the local currency. For each subsidiary, assets and liabilities denominated in foreign currencies are translated into U.S. dollars at the exchange rates in effect at the balance sheet dates and revenues and expenses are translated at the average exchange rates prevailing during the month of the transaction. Therefore, increases or decreases in the value of the U.S. dollar against other major currencies affect our revenues, net earnings and the value of balance sheet items denominated in foreign currencies. Future fluctuations in foreign currency exchange rates, particularly the strengthening of the U.S. dollar against major currencies, could materially affect our financial results.

We are subject to tax legislation in numerous countries; changes in tax laws or challenges to our tax positions could adversely affect our business, results of operations and financial condition. We are a global corporation with a presence in more than 35 countries. As such, we are subject to tax laws, regulations and policies of the U.S. federal, state and local governments and of comparable taxing authorities in other country jurisdictions. Changes in tax laws, including the recently enacted U.S. federal tax legislation commonly referred to as the Tax Cuts and Jobs Act of 2017 ("Tax Act"), as well as other factors, could cause us to experience fluctuations in our tax obligations and effective tax rates in 2018 and thereafter and otherwise adversely affect our tax positions and/or our tax liabilities. We are currently evaluating the Tax Act with our professional advisers. The full impact of the Tax Act on us cannot be predicted at this time and may change significantly as regulations, interpretations and rulings relating to the Tax Act are issued and additional changes in U.S. federal and state tax laws may be made in the future. There can be no assurance that our effective tax rates, tax payments, tax credits or incentives will not be adversely affected by these or other initiatives.

In addition, U.S. federal, state and local, as well as other countries' tax laws and regulations, are extremely complex and subject to varying interpretations and requires significant judgment in determining our worldwide provision for income taxes and other tax liabilities. In the ordinary course of a global business, there are many intercompany transactions and calculations which could be subject to challenge by tax authorities. We are regularly under audit by tax authorities and those authorities often do not agree with positions taken by us on our tax returns. Our intercompany transfer pricing has been reviewed by the U.S. Internal Revenue Service ("IRS") and by foreign tax jurisdictions and will likely be subject to additional audits in the future. There can be no assurance that our tax positions will not be challenged by relevant tax authorities or that we would be successful in any such challenge, which could result in additional taxation, penalties and interest payments.

The vote by the United Kingdom (UK) to leave the European Union (EU) could adversely affect our financial results. In June 2016, UK voters approved a referendum to withdraw the UK's membership from the EU, which is commonly referred to as "Brexit". In March 2017, the UK government initiated the exit process under Article 50 of the Treaty of

the European Union, commencing a period of up to two years for the UK and the other EU member states to negotiate the terms of the withdrawal. We have operations in the UK and the EU, and as a result, we face risks associated with the potential uncertainty and disruptions that may lead up to and follow Brexit, including with respect to volatility in exchange rates and interest rates and potential material changes to the regulatory regime applicable to our operations in the UK. Brexit could adversely affect European or worldwide political, regulatory, economic or market conditions and could contribute to instability in global political institutions, regulatory agencies and financial markets. For example, depending on the terms of Brexit, the UK could also lose access to the single EU market and to the global trade deals negotiated by the EU on behalf of its members. Disruptions and uncertainty caused by Brexit may also cause our clients to closely monitor their costs and reduce their spending budget on our Solutions and Services. Any of these effects of Brexit, and others we cannot anticipate or that may evolve over time, could adversely affect our business, results of operations and financial condition.

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Our success depends upon the recruitment and retention of key personnel. To remain competitive in our industries, we must attract, motivate and retain highly skilled managerial, sales, marketing, consulting and technical personnel, including executives, consultants, programmers and systems architects skilled in the HCIT, health care devices, health care transactions, population health management and revenue cycle industries and the technical environments in which our Solutions and Services are offered. Competition for such personnel in our industries is intense in both the U.S. and abroad. Our failure to attract additional qualified personnel to meet our needs could have a material adverse effect on our prospects for long-term growth. In addition, we invest significant time and expense in training our associates, which increases their value to clients and competitors who may seek to recruit them and increases the cost of replacing them. Our success is dependent to a significant degree on the continued contributions of key management, sales, marketing, consulting and technical personnel. The unexpected loss of key personnel, or the failure to successfully develop and execute effective succession planning to assure smooth transitions of those key associates and their knowledge, relationships and expertise, could disrupt our business and have a material adverse impact on our results of operations and financial condition, and could potentially inhibit development and delivery of our Solutions and Services and market share advances.

We depend on strategic relationships and third party suppliers and our revenue and operating earnings could suffer if we fail to manage these relationships properly. To be successful, we must continue to maintain our existing strategic relationships and establish additional strategic relationships as necessary with leaders in the markets in which we operate. We believe that these relationships contribute to our ability to further build our brand, extend the reach of our Solutions and Services and generate additional revenues and cash flows. If we were to lose critical strategic relationships, this could have a material adverse impact on our business, results of operations and financial condition.

We license or purchase certain intellectual property and technology (such as software, hardware and content) from third parties, including some competitors, and depend on such third party intellectual property and software, hardware or content in the operation and delivery of our Solutions and Services. Additionally, we sell or license third party intellectual property and software, hardware or content in conjunction with our Solutions and Services. For instance, we currently depend on Microsoft, Cloudera, Oracle, VMWare and IBM technologies for portions of the operational capabilities of our Millennium and HealtheIntent solutions. Our remote hosting and cloud services businesses also rely on a limited number of suppliers for certain functions of these businesses, such as Oracle and Microsoft database technologies, CITRIX technologies and Cisco technologies. Additionally, we rely on Dell EMC, Hewlett-Packard Enterprise, Veritas, HP Inc., NetApp, IBM and others for our hardware technology platforms.

Most of our third party software license support contracts expire within one to five years, can be renewed only by mutual consent and may be terminated if we breach the terms of the license and fail to cure the breach within a specified period of time. Most of these third party software licenses are non-exclusive; therefore, our competitors may obtain the right to use any of the technology covered by these licenses and use the technology to compete directly with us.

If any of our third party suppliers were to change product offerings, cease actively supporting the technologies, fail to update and enhance the technologies to keep pace with changing industry standards, encounter technical difficulties in the continuing development of these technologies, significantly increase prices, change delivery models, terminate our licenses or supply contracts, suffer significant capacity or supply chain constraints or suffer significant disruptions, we may need to seek alternative suppliers and incur additional internal or external development costs to ensure continued performance of our Solutions and Services. Such alternatives may not be available on attractive terms, or may not be as widely accepted or as effective as the intellectual property or technology provided by our existing suppliers. If the cost of licensing, purchasing or maintaining our third party intellectual property or technology significantly increases, our operating earnings could significantly decrease. In addition, interruption in functionality of our Solutions and Services as a result of changes in third party suppliers could adversely affect our commitments to clients, future sales

of Solutions and Services, and negatively affect our revenue and operating earnings.

We intend to continue strategic business acquisitions and other combinations, which are subject to inherent risks. In order to expand our Solutions and Services offerings and grow our market and client base, we may continue to seek and complete strategic business acquisitions and other combinations that we believe are complementary to our business. Acquisitions have inherent risks which may have a material adverse effect on our business, results of operations, financial condition or prospects, including, but not limited to: 1) failure to successfully integrate the business, culture and financial operations, services, intellectual property, solutions or personnel of an acquired business and to maintain uniform standard controls, policies, procedures and information systems; 2) diversion of our management’s attention from other business concerns; 3) management of a larger company and entry into markets in which we have little or no direct prior experience; 4) failure to achieve projected synergies and performance targets; 5) failure to commercialize "go forward" Solutions and

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Services under development and increase revenues from existing marketed Solutions and Services; 6) loss of clients, key personnel, supplier, research and development, distribution, marketing, promotion and other important relationships; 7) incurrence of debt or assumption of known and unknown liabilities; 8) write-off of software development costs, goodwill, client lists and amortization of expenses related to intangible assets; 9) dilutive issuances of equity securities; and 10) accounting deficiencies that could arise in connection with, or as a result of, the acquisition of an acquired company, including issues related to internal control over financial reporting and the time and cost associated with remedying such deficiencies. If we fail to successfully integrate acquired businesses or fail to implement our business strategies with respect to these acquisitions, we may not be able to achieve projected results or support the amount of consideration paid for such acquired businesses.

Volatility and disruption resulting from global economic or market conditions could negatively affect our business, results of operations and financial condition. Our business, results of operations, financial condition and outlook may be impacted by the health of the global economy. Volatility and disruption in global capital and credit markets may lead to slowdowns or declines in client spending which could adversely affect our business and financial performance. Our business and financial performance, including new business bookings and collection of our accounts receivable, may be adversely affected by current and future economic conditions (including a reduction in the availability of credit, higher energy costs, rising interest rates, financial market volatility and lower than expected economic growth) that cause a slowdown or decline in client spending. Reduced purchases by our clients or changes in payment terms could adversely affect our revenue growth and cause a decrease in our cash flow from operations. Bankruptcies or similar events affecting clients may cause us to incur bad debt expense at levels higher than historically experienced. Further, volatility and disruption in global financial markets may also limit our ability to access the capital markets at a time when we would like, or need, to raise capital, which could have an impact on our ability to react to changing economic and business conditions. Accordingly, if global financial and economic volatility continues or worsens, our business, results of operations and financial condition could be materially and adversely affected.

We operate in intensely competitive and dynamic industries, and our ability to successfully compete and continue to grow our business depends on our ability to respond quickly to market changes and changing technologies and to bring competitive new Solutions and Services and features to market in a timely fashion. The market for health care information systems, Solutions and Services to the health care industry is intensely competitive, dynamically evolving and subject to rapid technological advances and innovative enhancements, changing delivery models, evolving standards in computer hardware and software development and communications infrastructure, and changing and increasingly sophisticated client needs. Development of new proprietary Solutions or Services is complex, entails significant time and expense, may not be successful and often involves a long return on investment cycle. We cannot guarantee that the market for our Solutions and Services will develop as quickly as expected or at all or that we will be able to introduce new Solutions or Services on schedule or at all. Moreover, we cannot guarantee that errors will not be found in our new Solution releases before or after commercial release, which could result in Solution delivery redevelopment costs, harm to our reputation, lost sales, license terminations or renegotiations, product liability claims, diversion of resources to remedy errors and loss of, or delay in, market acceptance. We believe that we must continue to dedicate a significant amount of resources to our research and development efforts to maintain our competitive position; and oftentimes, successful investments require several years before generating significant revenue.

In addition, we expect that major software information systems companies, large information technology consulting service providers and system integrators, start-up companies and others specializing in the health care industry may offer competitive Solutions and Services. As we continue to develop new Solutions and Services to address areas such as analytics, transaction services, device integration, revenue cycle and population health management, we expect to face new competitors, and these competitors may have more experience in these markets, better brand recognition and/or more established relationships with prospective clients. We face strong competition and often face downward price pressure, which could adversely affect our results of operations or liquidity. Additionally, the pace of change in the health care information systems market is rapid and there are frequent new software solution introductions,

software solution enhancements, device introductions, device enhancements and evolving industry standards and requirements. There are a limited number of hospitals and other health care providers in the U.S. market and in recent years, the health care industry has been subject to increasing consolidation. If we are unable to recognize the impact of industry consolidation, falling costs and technological advancements in a timely manner, or we are too inflexible to rapidly adjust our business models, our prospects and financial results could be negatively affected materially.

Our success also depends on our ability to maintain and expand our business with our existing clients and effectively transition existing clients to current Solutions and Services, as well as attracting additional clients. Certain clients originally purchased one or a limited number of our Solutions and Services. These clients may choose not to expand their use of or purchase additional Solutions and Services. Also, as we develop new applications and features for our existing Solutions and Services

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or introduce new Solution and Service offerings, our current clients could choose not to purchase these new offerings. Failure to generate additional business from our current clients could materially and adversely impact our business, financial condition and operating results.

If we are unable to manage our growth in the new markets in which we offer Solutions and Services, our business, results of operations and financial condition could suffer. Our future financial results will depend in part on our ability to profitably manage our business in the new markets that we enter. Over the past several years, we have engaged in the identification of, and competition for, growth and expansion opportunities in the areas of analytics, revenue cycle and population health. In order to achieve those initiatives, we will need to, among other things, recruit, train, retain and effectively manage associates, manage changing business conditions and implement and improve our technical, administrative, financial control and reporting systems for offerings in those areas. Difficulties in managing future growth in new markets could have a material adverse impact on our business, results of operations and financial condition.

Long sales cycles for our Solutions and Services could have a material adverse impact on our future results of operations. Some of our Solutions and Services have long sales cycles, ranging from several months to eighteen months or more beginning at initial contact with the client through execution of a contract. How and when to implement, replace, or expand an information system, or modify, add or outsource business processes, are major decisions for health care organizations. Many of the Solutions and Services we provide require a substantial capital investment and time commitments by the client or prospective client. Any decision by our clients or prospective clients to delay a purchasing decision could have a material adverse impact on our results of operations.

Our work with government clients exposes us to additional risks inherent in the government contracting environment. Our clients include national, provincial, state, local and foreign governmental entities and their agencies. Our government work carries various risks inherent in contracting with such government entities and agencies. These risks include, but are not limited to, the following:

- Government entities, particularly in the U.S., often reserve the right to audit our contracts and conduct inquiries and investigations of our business practices with respect to government contracts. U.S. government agencies conduct reviews and investigations and make inquiries regarding our systems in connection with our performance and business practices with respect to our government contracts. Negative findings from audits, investigations or inquiries could affect our future sales and profitability by preventing us, by operation of law or in practice, from receiving new government contracts for some period of time.

- If a government client discovers improper or illegal activities in the course of audits or investigations, we may become subject to various civil and criminal penalties, including those under the civil U.S. False Claims Act, and administrative sanctions, which may include termination of contracts, suspension of payments, fines and suspensions or debarment from doing business with other agencies of that government. The inherent limitations of internal controls may not prevent or detect all improper or illegal activities.

- U.S. government contracting regulations impose strict compliance and disclosure obligations. Disclosure is required if certain company personnel have knowledge of "credible evidence" of a violation of federal criminal laws involving fraud, conflict of interest, bribery or improper gratuity, a violation of the civil U.S. False Claims Act or receipt of a significant overpayment from the government. Failure to make required disclosures could be a basis for suspension and/or debarment from federal government contracting in addition to breach of the specific contract and could also impact contracting beyond the U.S. federal level. Reported matters also could lead to audits or investigations and other civil, criminal or administrative sanctions.

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Government contracts are subject to heightened reputational and contractual risks compared to contracts with commercial clients. For example, government contracts and the proceedings surrounding them are often subject to more extensive scrutiny and publicity. Negative publicity, including allegations of improper or illegal activity, poor contract performance, deficiencies in services or other deliverables, or information security breaches, regardless of accuracy, may adversely affect our reputation.

Terms and conditions of government contracts also tend to be more onerous and are often more difficult to negotiate. Because government contracts are subject to specific procurement regulations and a variety of other socio-economic requirements, we must comply with such requirements. We must also comply with various statutes, regulations and requirements related to employment practices, recordkeeping and accounting. These regulations and requirements

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affect how we transact business with our clients and suppliers, and in some instances, impose additional costs on our business operations.

- Government entities typically fund projects through appropriated monies. While these projects are often planned and executed as multi-year projects, government entities usually reserve the right to change the scope of projects or terminate these projects at their convenience either for lack of approved funding or any other reason. Changes in government or political developments, including budget deficits, shortfalls or uncertainties, government spending reductions (e.g., U.S. Congressional sequestration of funds under the Budget Control Act of 2011) or other debt constraints could result in our projects being reduced in price or scope or terminated altogether, which also could limit our recovery of reimbursable expenses. Furthermore, if insufficient funding is appropriated to the government entity to cover termination costs, we may not be able to fully recover our investments.

- Our failure to comply with a variety of complex procurement rules and regulations could result in our being liable for penalties, including termination of our government contracts, disqualification from bidding on future government contracts and suspension or debarment from government contracting. We must comply with laws and regulations relating to the formation, administration and performance of government contracts, which affect how we do business with our customers and may impose added costs on our business. Significant statutes and regulations in the U.S. that we must comply with include the Federal Acquisition Regulation and supplements, the Truth in Negotiations Act, the Procurement Integrity Act, and the Civil False Claims Act.

- Government contracts may be protested by unsuccessful bidders. These protests could result in administrative procedures and litigation, could be expensive to defend and incapable of prompt resolution. Loss of a bid protest may result in loss of the award, contract modification, expense or delay.

The occurrences or conditions described above could affect not only our business with the particular government entities involved, but also our business with other entities of the same or other governmental bodies or with certain commercial clients, and could have a material adverse effect on our business, results of operations and financial condition.

There are risks associated with our outstanding and future indebtedness. We have customary restrictive covenants in our current debt agreements, which may limit our flexibility to operate our business. These covenants include limitations on priority debt, liens, mergers, asset dispositions, and transactions with affiliates, and require us to maintain certain leverage and interest coverage ratios. Failure to comply with these covenants could result in an event of default that, if not cured or waived, could result in reduced liquidity for the Company and could have a material adverse effect on our business, results of operations and financial condition. Additionally, our ability to pay interest and repay the principal for our indebtedness is dependent upon our ability to manage our business operations, generate sufficient cash flows to service such debt and the other factors discussed in this section. There can be no assurance that we will be able to manage any of these risks successfully.

Changes in accounting standards issued by the Financial Accounting Standards Board ("FASB") or other standard-setting bodies may adversely affect our financial statements. Our financial statements are subject to the application of U.S. GAAP, which is periodically revised and/or expanded. From time to time, we are required to adopt new or revised accounting standards issued by recognized authoritative bodies, including the FASB and the SEC. It is possible that future accounting standards we are required to adopt, such as amended guidance for revenue recognition and leases, may require changes to the current accounting treatment that we apply to our consolidated financial statements and may require us to make significant changes to our processes and systems. Refer to Note (1) of the notes to consolidated financial statements relating to summary of significant accounting policies and recently issued accounting pronouncements for more information. Such changes could result in a material adverse impact on our business, results of operations and financial condition.

Goodwill and other intangible assets represent approximately 21% of our total assets and we could suffer losses due to asset impairment charges. We assess our goodwill and other intangible assets for impairment periodically in accordance with applicable authoritative accounting guidance. Declines in business performance or other factors could result in a non-cash impairment charge. This could materially and negatively affect our results of operations and financial condition.

Risks Related to our Industries

The health care industry is subject to changing political, economic and regulatory influences, which could impact the purchasing practices and operations of our clients and increase our costs to deliver compliant Solutions and Services. For example, the Health Insurance Portability and Accountability Act of 1996 (as modified by The Health Information Technology for Economic and Clinical Health Act ("HITECH") provisions of the American Recovery and Reinvestment Act of

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2009) (collectively, "HIPAA") continues to have a direct impact on the health care industry by requiring national provider identifiers and standardized transactions/code sets, operating rules and necessary security and privacy measures in order to ensure the appropriate level of privacy of protected health information. A recent example of these measures was the adoption by the Centers for Medicare & Medicaid Services of ICD 10, which set forth new medical diagnoses and billing codes for reimbursement. These regulatory factors affect the purchasing practices and operation of health care organizations.

Many health care providers are consolidating to create integrated health care delivery systems with greater market power. These providers may try to use their market power to negotiate price reductions for our Solutions and Services. As the health care industry consolidates, our client base could be consolidated with fewer buyers, competition for clients could become more intense and the importance of landing new client relationships becomes greater.

The Patient Protection and Affordable Care Act (the "ACA"), which was amended by the Health Care and Education Reconciliation Act of 2010, became law in 2010. This comprehensive health care reform legislation included provisions to introduce value based principles into federal health insurance payments systems, improve health care quality, and expand access to affordable health insurance. Subsequent federal legislation including the Protecting Access to Medicare Act of 2014 and the Medicare and CHIP Reauthorization Act of 2015 built upon the value based policies introduced by the ACA. Particularly in the case of MACRA which served to restructure physician payment under the Medicare program, the adoption of "Alternative Payment Models" or APMs accelerated as bundled payment models based on episodes of care or per capita payment for defined populations emerged as alternatives to traditional fee for service payments for providers. Together with ongoing statutory and budgetary policy developments at a federal level, the collective impact of this health care reform legislation could include changes in Medicare and Medicaid payment policies and other health care delivery administrative reforms that could potentially negatively impact our business and the business of our clients. The actions taken by the Trump Administration and Congress to slow down, moderate and in some cases, roll back regulatory initiatives of the prior Administration during 2017 have created uncertainty for the continued implementation of the ACA and other health care-related legislation. Because of that uncertainty, because some administrative rules implementing health care reform under current legislation have been moderated or reversed, and because of ongoing federal fiscal budgetary pressures yet to be resolved for federal health programs, we cannot predict the full effect of health care legislation on our business at this time. There can be no assurances that the direction and pace of health care reform initiatives will not adversely impact either our operational results or the manner in which we operate our business, including changes to existing regulatory oversight that have uncertain effect on operating expenses and compliance risks. While federal health insurance programs still routinely require adoption of certified HCIT as a program requirement or prerequisite, the future adoption of new requirements may slow. In response to this uncertainty, purchasers of HCIT may reduce their investments or postpone investment decisions, including investments in our Solutions and Services. Future legislation and regulation may ultimately impact the fiscal stability and sustainability of HCIT purchasers. A lowering or slowing demand in new regulatory requirements and/or near-term compliance deadlines that contribute to demand for our Solutions and Services could impact our financial results. There can be no certainty that incentives will be offered in regard to our Solutions and Services, nor can there be any assurance that any legislation that may be adopted would be favorable to our business. We cannot predict whether or when future health care reform initiatives at the federal or state level or other initiatives affecting our business will be proposed, enacted or implemented or what impact those initiatives may have on our business, results of operations and financial condition.

The health care industry is highly regulated, and thus, we are subject to a number of laws, regulations and industry initiatives, non-compliance with certain of which could materially adversely affect our operations or otherwise adversely affect our business, results of operations and financial condition. As a participant in the health care industry, our operations and relationships, and those of our clients, are regulated by a number of U.S. federal, state, local and foreign governmental entities. The impact of these regulations on us is direct, to the extent that we are ourselves subject to these laws and regulations, and is also indirect, both in terms of the level of government reimbursement

available to our clients and because, in a number of situations, even though we may not be directly regulated by specific health care laws and regulations, our Solutions and Services must be capable of being used by our clients in a way that complies with those laws and regulations. There is a significant and wide-ranging number of regulations both within the U.S. and abroad, such as regulations in the areas of health care fraud, e-prescribing, claims processing and transmission, health care devices, the security and privacy of patient data and interoperability standards, that may be directly or indirectly applicable to our operations and relationships or the business practices of our clients. Specific risks include, but are not limited to, the following:

Health Care Fraud. U.S. federal and state governments continue to enhance regulation of and increase their scrutiny over practices involving health care fraud, waste and abuse perpetuated by health care providers and professionals whose services are reimbursed by Medicare, Medicaid and other government health care programs. Our health care provider clients, as well as our provision of Solutions and Services to government entities, subject our business to laws and regulations on fraud and abuse which, among other things, prohibit the direct or indirect payment or receipt of any remuneration for patient referrals,

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or arranging for or recommending referrals or other business paid for in whole or in part by these federal or state health care programs. U.S. federal enforcement personnel have substantial funding, powers and remedies to pursue suspected or perceived fraud and abuse. The effect of this government regulation on our clients is difficult to predict. Many of the regulations applicable to our clients and that may be applicable to us, including those relating to marketing incentives offered in connection with health care device sales, are vague or indefinite and have not been interpreted by the courts. They may be interpreted or applied by a prosecutorial, regulatory or judicial authority in a manner that could broaden their applicability to us or require our clients to make changes in their operations or the way in which they deal with us. If such laws and regulations are determined to be applicable to us and if we fail to comply with any applicable laws and regulations, we could be subject to civil and criminal penalties, sanctions or other liability, including exclusion from government health programs, which could have a material adverse effect on our business, results of operations and financial condition. Even an unsuccessful challenge by a regulatory or prosecutorial authority of our activities could result in adverse publicity, require a costly response from us and adversely affect our business, results of operations and financial condition.

Preparation, Transmission, Submission and Collection of Medical Claims for Reimbursement. Our Solutions and Services are capable of electronically transmitting claims for services and items rendered by a physician to many patients' payers for approval and reimbursement. We also provide revenue cycle management services to our clients that include the coding, preparation, submission and collection of claims for medical service to payers for reimbursement. Such claims are governed by U.S. federal and state laws. U.S. federal law provides civil liability to any persons that knowingly submit, or cause to be submitted, a claim to a payer, including Medicare, Medicaid and private health plans, seeking payment for any services or items that overbills or bills for services or items that have not been provided to the patient. U.S. federal law may also impose criminal penalties for intentionally submitting such false claims. In addition, federal and state law regulates the collection of debt and may impose monetary penalties for violating those regulations. We have policies and procedures in place that we believe result in the accurate and complete preparation, transmission, submission and collection of claims, provided that the information given to us by our clients is also accurate and complete. The HIPAA security, privacy and transaction standards, as discussed below, also have a potentially significant effect on our claims preparation, transmission and submission services, since those services must be structured and provided in a way that supports our clients' HIPAA compliance obligations. In connection with these laws, we may be subjected to U.S. federal or state government investigations and possible penalties may be imposed upon us; false claims actions may have to be defended; private payers may file claims against us; and we may be excluded from Medicare, Medicaid or other government-funded health care programs. Any investigation or proceeding related to these laws, even if unwarranted or without merit, may have a material adverse effect on our business, results of operations and financial condition.

Regulation of Health Care Devices. The U.S. Food and Drug Administration ("FDA") has determined that certain of our Solutions and Services are medical devices that are actively regulated under the Federal Food, Drug and Cosmetic Act ("Act") and amendments to the Act. Other countries have similar regulations in place related to medical devices, that now or may in the future apply to certain of our Solutions and Services. If other of our Solutions and Services are deemed to be actively regulated medical devices by the FDA or similar regulatory agencies in countries where we do business, we could be subject to extensive requirements governing pre- and post-marketing activities including pre-market notification clearance. Complying with these medical device regulations globally is time consuming and expensive and could be subject to unanticipated and significant delays. Further, it is possible that these regulatory agencies may become more active in regulating software and devices that are used in health care. If we are unable to obtain the required regulatory approvals for any such Solutions and Services, our short and long term business plans for these Solutions and Services could be delayed or canceled.

There have been nine FDA inspections at various Cerner sites since 2003. Inspections conducted at our Headquarters Campus and Realization Campus (formerly known as our Innovations Campus) in 2010 and 2017 resulted in the issuance of an FDA Form 483 observation to which we responded promptly. The FDA has taken no further action

with respect to the Form 483 observations that were issued in 2010 and 2017. The remaining FDA inspections, including inspections at our Headquarters Campus in 2006, 2007 and 2014, resulted in no issuance of a Form 483. We remain subject to periodic FDA inspections and we could be required to undertake additional actions to comply with the Act and any other applicable regulatory requirements. Our failure to comply with the Act and any other applicable regulatory requirements could have a material adverse effect on our ability to continue to manufacture, distribute and deliver our Solutions and Services. The FDA has many enforcement tools including recalls, product corrections, seizures, injunctions, refusal to grant pre-market clearance of products, civil fines and criminal prosecutions. Any of the foregoing could have a material adverse effect on our business, results of operations and financial condition.

Security and Privacy. U.S. federal, state and local and foreign laws regulate the confidentiality of personal information, how that information may be used, and the circumstances under which such information may be released. These regulations

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govern both the disclosure and use of confidential personal and patient medical record information and require the users of such information to implement specified security and privacy measures. U.S. regulations currently in place governing electronic health data transmissions continue to evolve and are often unclear and difficult to apply. Laws in non-U.S. jurisdictions are also evolving and may have similar or even stricter requirements related to the treatment of personal or patient information.

In the U.S., HIPAA regulations apply national standards for some types of electronic health information transactions and the data elements used in those transactions to ensure the integrity, security and confidentiality of health information and standards to protect the privacy of individually identifiable health information. Covered entities under HIPAA, which include health care organizations such as our clients, our employer clinic business and our claims processing, transmission and submission services, are required to comply with HIPAA privacy standards, transaction regulations and security regulations. Moreover, the HITECH provisions of ARRA, and associated regulatory requirements, extend many of the HIPAA obligations, formerly imposed only upon covered entities, to business associates as well. As a business associate of our clients who are covered entities, we were in most instances already contractually required to comply with the HIPAA regulations as they pertain to handling of covered client data. However, the extension of these HIPAA obligations to business associates by law has created additional liability risks related to the privacy and security of individually identifiable health information.

Evolving HIPAA and HITECH-related laws and regulations in the U.S. and data privacy and security laws and regulations in non-U.S. jurisdictions could restrict the ability of our clients to obtain, use or disseminate patient information. This could adversely affect demand for our Solutions and Services if they are not re-designed in a timely manner in order to meet the requirements of any new interpretations or regulations that seek to protect the privacy and security of patient data or enable our clients to execute new or modified health care transactions. We may need to expend additional capital, software development and other resources to modify our Solutions and Services to address these evolving data security and privacy issues. Furthermore, our failure to maintain confidentiality of sensitive personal information in accordance with the applicable regulatory requirements could damage our reputation and expose us to claims, fines and penalties.

In Europe, we are subject to EU data protection legislation, including the 1995 Data Protection Directive, which requires member states to impose minimum restrictions on the collection and use of personal data that, in some respects, are more stringent, and impose more significant burdens on subject businesses, than current privacy standards in the U.S. The EU directives establish several obligations that organizations must follow with respect to use of personal data, including a prohibition on the transfer of personal information from the EU to other countries whose laws do not adequately protect the privacy and security of personal data to European standards. In addition to this EU-wide legislation, certain member states have adopted more stringent data protection standards. We have addressed these requirements, relative to data transfers, by self-certifying our compliance with the EU-U.S. Privacy Shield Framework to the U.S. Department of Commerce International Trade Administration ("ITA"). The ITA has approved our self-certification. However, continued criticism of the Privacy Shield by officials in Europe casts uncertainty as to the long-term effectiveness of the Privacy Shield to support EU-U.S. transfers of personal data. For that reason, we are pursuing alternative methods of compliance, but those methods also may be subject to scrutiny by data protection authorities in European member states.

On April 14, 2016, the European Parliament approved the General Data Protection Regulation ("GDPR"), which replaces the 1995 Data Protection Directive and becomes enforceable on May 24, 2018. The GDPR will have significant impacts on how businesses, including both us and our clients, can collect and process the personal data of EU individuals. We may incur increased development costs and delays in delivering Solutions and Services as we need to update our Solutions and Services to enable our European clients to comply with these varying and evolving standards to the extent that they differ from the standards of the previous 1995 Data Protection Directive. In addition, delays in interpreting the GDPR's standards may result in postponement or cancellation of our clients' decisions to

purchase our Solutions and Services. The costs of compliance with, and other burdens imposed by, such laws, regulations and policies, or modifications thereto, that are applicable to us may limit the use and adoption of our Solutions and Services and could have a material adverse impact on our business, results of operations and financial condition.

Both the 1995 Data Protection Directive and the GDPR grant broad enforcement powers to regulatory agencies to investigate and enforce our compliance with their data privacy and security requirements. Governmental enforcement personnel, particularly in the EU, have substantial funding, powers and remedies to pursue suspected or perceived violations. If we fail to comply with any applicable laws or regulations or fail to deliver compliant Solutions and Services, we could be subject to civil penalties, sanctions or contract liability. Enforcement investigations, even if meritless, could have a negative impact on our reputation, cause us to lose existing clients or limit our ability to attract new clients.

Interoperability Standards. Our clients are concerned with and often require that our Solutions and Services be interoperable with other third party HCIT suppliers. Market forces or governmental/regulatory authorities could create software

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interoperability standards that would apply to our Solutions and Services, and if our Solutions and Services are not consistent with those standards, we could be forced to incur substantial additional development costs to conform. The Office of the National Coordinator for Health Information Technology (ONC) has developed a comprehensive set of criteria for the functionality, interoperability and security of various software modules in the HCIT industry. ONC, however, continues to modify and refine those standards. Achieving certification is becoming a competitive requirement. We may incur increased software development and administrative expense and delays in delivering Solutions and Services if we need to update our Solutions and Services to conform to these varying and evolving requirements. In addition, delays in interpreting these standards may result in postponement or cancellation of our clients' decisions to purchase our Solutions and Services. If our Solutions and Services are not compliant with these evolving standards, our market position and sales could be impaired and we may have to invest significantly in changes to our Solutions and Services.

Federal Requirements for Certified Health Information Technology. Various U.S. federal, state and non-government agencies continue to generate requirements for the use of information technology. In many cases, these requirements have become conditions for receiving payment for health care services to beneficiaries of federal health insurance programs. These requirements are expansions of the statutory ARRA HITECH program that began providing incentive payments in 2011 to hospitals and eligible providers for the "meaningful use of certified electronic health record technology ("CEHRT")." In 2015, MACRA required the use of CEHRT as part of its Quality Payment Program for eligible providers under Medicare. CEHRT is also one of the areas measured under the Merit based Incentive Payment System (known as MIPS) by which the Medicare Physician Fee Schedule was restructured. In the last two years, participation in Medicare's "alternative payment models" to replace traditional "fee for service" payments with quality and risk-sharing payment models has been conditioned on CEHRT. Adopted in 2016, the 21st Century Cures Act has tied CEHRT to its policy goals of reducing barriers to the exchange of health information data blocking, encouraging nationwide interoperability, consumer access to health information and improving health information availability between consumers and their care teams. The regulations establishing the certification standards for CEHRT will continue to be updated to support these policy goals with greater emphasis on interoperability, consumer engagement, patient safety and health information privacy and security. The ONC is due to develop additional regulations under the 21st Century Cures Act to enforce the act’s policy directives relating to data blocking and interoperability. In addition, the ONC has increased its surveillance activities concerning vendor compliance relative to CEHRT.

We are completing our efforts to meet current CEHRT requirements as they become mandatory on January 1, 2019 and we will continue to address additional regulatory requirements as they evolve. However, these standards and specifications are subject to interpretation by the entities designated to certify our electronic health care technology as CEHRT compliant. Because the modifications to the federal Medicare regulations have slowed or moderated requirements for adoption of CEHRT, our clients' decision to purchase our Solutions and Services to achieve compliance with these regulations may be postponed or canceled, which could have an adverse impact on our sales. Additionally, if our business practices, Solutions and Services are not compliant with these evolving regulatory requirements, our market position and sales could be impaired and we may have to invest significantly in changes to our Solutions and Services. Further, we bear potential financial risks where we are alleged to have not appropriately complied with these regulations. We also bear financial risk where we have entered into agreements with clients to warrant their ability to meet future federal program requirements that require use of CEHRT. While a client's ability to meet future federal health program related attestation requirements may be dependent on the client's ability to adopt, rollout and attain sufficient use of our certified Solutions and Services on a timely basis, we may face risks that come from issues in full adoption of our certified Solutions and Services, which in turn could lead to a client missing its attestation targets. These risks are enhanced when we are under agreements to provide application management services to our clients that place responsibilities on us for application configuration and implementation as a prerequisite to meaningful use attainment ordinarily borne by the client.

Risks Related to Our Common Stock

Our quarterly operating results may vary, which could adversely affect our stock price. Our quarterly operating results have varied in the past and may continue to vary in future periods, including variations from guidance, expectations or historical results or trends. Quarterly operating results may vary for a number of reasons including demand for our Solutions and Services, the financial condition of our current and potential clients, our long sales cycle, potentially long installation and implementation cycles for larger, more complex systems, accounting policy changes and other factors described in this section and elsewhere in this report. As a result of health care industry trends and the market for our Solutions and Services, a large percentage of our revenues are generated by the sale and installation of larger, more complex and higher-priced systems. The sales process for these systems is lengthy and involves a significant technical evaluation and commitment of capital and other resources by the client. Sales may be subject to delays due to changes in clients' internal budgets, procedures for approving large capital expenditures, competing needs for other capital expenditures, additions or amendments to U.S. federal, state or local regulations, availability of personnel resources or by actions taken by competitors. Delays in the expected

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sale, installation or implementation of these large systems may have a significant negative impact on our anticipated quarterly revenues and consequently our earnings, since a significant percentage of our expenses are relatively fixed. Because of the complexity and value of our contracts, the loss of even a small number of clients could have a significant negative effect on our financial results.

Revenue recognized in any quarter may depend upon our or our clients' abilities to meet project milestones. Delays in meeting these milestone conditions or modification of the project plan could result in a shift of revenue recognition from one quarter to another and could have a material adverse effect on results of operations for a particular quarter.

Our revenues from system sales historically have been lower in the first quarter of the year and greater in the fourth quarter of the year, primarily as a result of clients' year-end efforts to make final capital expenditures for the then-current year.

Our sales forecasts may vary from actual sales in a particular quarter. We use a "pipeline" system, a common industry practice, to forecast sales and trends in our business. Our sales associates monitor the status of all sales opportunities, such as the date when they estimate that a client will make a purchase decision and the potential dollar amount of the sale. These estimates are aggregated periodically to generate a sales pipeline. We compare this pipeline at various points in time to evaluate trends in our business. This analysis provides guidance in business planning and forecasting, but these pipeline estimates are by their nature speculative. Our pipeline estimates are not necessarily reliable predictors of revenues in a particular quarter or over a longer period of time, partially because of changes in the pipeline and in conversion rates of the pipeline into contracts that can be very difficult to estimate. A negative variation in the expected conversion rate or timing of the pipeline into contracts, or in the pipeline itself, could cause our plan or forecast to be inaccurate and thereby adversely affect business results. For example, a slowdown in information technology spending, adverse economic conditions, new or changed U.S. federal, state or local regulations related to our industry or a variety of other factors can cause purchasing decisions to be delayed, reduced in amount or cancelled, which would reduce the overall pipeline conversion rate in a particular period of time. Because a substantial portion of our contracts are completed in the latter part of a quarter, we may not be able to adjust our cost structure quickly enough in response to a revenue shortfall resulting from a decrease in our pipeline conversion rate in any given fiscal quarter.

The trading price of our common stock may be volatile. The market for our common stock may experience significant price and volume fluctuations in response to a number of factors including actual or anticipated variations in operating results, articles or rumors about our performance or Solutions and Services, announcements of technological innovations or new services or products by our competitors or us, changes in expectations of future financial performance or estimates of securities analysts, governmental regulatory action, health care reform measures, client relationship developments, economic conditions and changes occurring in the securities markets in general and other factors, many of which are beyond our control. For instance, our quarterly operating results have varied in the past and may continue to vary in future periods, due to a number of reasons including, but not limited to, demand for our Solutions and Services, the financial condition of our current and potential clients, our long sales cycle, potentially long installation and implementation cycles for larger, more complex and higher-priced systems, key management changes, accounting policy changes and other factors described herein. As a matter of policy, we do not generally comment on our stock price or rumors.

Furthermore, the stock market in general, and the markets for software, health care devices, other health care solutions and services and information technology companies in particular, have experienced extreme volatility that often has been unrelated to the operating performance of particular companies. These broad market and industry fluctuations may adversely affect the trading price of our common stock, regardless of actual operating performance.

Our Directors have authority to issue preferred stock and our corporate governance documents contain anti-takeover provisions. Our Board of Directors has the authority to issue up to 1,000,000 shares of preferred stock and to determine the preferences, rights and privileges of those shares without any further vote or action by the shareholders. The rights of the holders of common stock may be harmed by rights granted to the holders of any preferred stock that may be issued in the future and issuances of preferred stock could be used to delay or hinder a change of control of the Company.

In addition, some provisions of our Certificate of Incorporation and Bylaws could make it more difficult for a potential acquirer to acquire a majority of our outstanding voting stock or otherwise effect a change of control of the Company. These include provisions that provide for a classified board of directors, require advance notice of stockholder proposals at stockholder meetings, prohibit shareholders from taking action by written consent and restrict the ability of shareholders to call special meetings. We are also subject to provisions of Delaware law that prohibit us from engaging in any business combination with any interested shareholder for a period of three years from the date the person became an interested shareholder, unless certain conditions are met, which could have the effect of delaying or preventing a change of control.

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Risks Relating to Forward-looking Statements

Statements made in this report, the Annual Report to Shareholders of which this report is made a part, other reports and proxy statements filed with the SEC, communications to shareholders, press releases and oral statements made by representatives of the Company that are not historical in nature, or that state the Company's or management’s intentions, hopes, beliefs, expectations, plans, goals or predictions of future events or performance, may constitute "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Forward-looking statements can often be identified by the use of forward-looking terminology, such as "could," "should," "will," "intended," "continue," "believe," "may," "expect," "hope," "anticipate," "goal," "forecast," "plan," "guidance," "opportunity," "prospects" or "estimate" or the negative of these words, variations thereof or similar expressions. Forward-looking statements are not guarantees of future performance or results. They involve risks, uncertainties and assumptions. It is important to note that any such performance and actual results, financial condition or business, could differ materially from those expressed in such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in this Item 1A. Risk Factors and elsewhere herein or in other reports filed with the SEC. Other unforeseen factors not identified herein could also have such an effect. Any forward-looking statements made in this report speak only as of the date of this report. Except as required by law, we undertake no obligation to update or revise forward-looking statements to reflect changed assumptions, the occurrence of unanticipated events or changes in our business, results of operations, financial condition or business over time.

Market and Industry Data

This Annual Report on Form 10-K contains market, industry and government data and forecasts that have been obtained from publicly available information, various industry publications and other published industry sources. We have not independently verified the information and cannot make any representation as to the accuracy or completeness of such information. None of the reports and other materials of third party sources referred to in this Annual Report on Form 10-K were prepared for use in, or in connection with, this Annual Report.

Item 1B. Unresolved Staff Comments

None

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Item 2. Properties

As of the end of 2017, we owned approximately six million gross square feet of real estate located in the greater Kansas City metro area and Malvern, Pennsylvania. Such property primarily consists of office space, data center, and warehouse facilities used primarily by our Domestic Segment.

As of the end of 2017, we leased additional space used primarily by our Domestic Segment in the following locations:

Arlington, Virginia	Downingtown, Pennsylvania	New Concord, Ohio
Brooklyn, New York	Durham, North Carolina	New York, New York
Burlington, Vermont	Franklin, Tennessee	North Kansas City, Missouri
Carlsbad, California	Kansas City, Missouri	Rochester, Minnesota
Columbia, Missouri	Mason, Ohio	Salt Lake City, Utah
Costa Mesa, California	Minneapolis, Minnesota	Tempe, Arizona
Denver, Colorado	Nevada, Missouri	Waltham, Massachusetts

We also leased space primarily used by our Global Segment in the following locations:

Abu Dhabi, United Arab Emirates	Gmund, Austria	Paris, France
Augsburg, Germany	Gothenburg, Sweden	Riyadh, Saudi Arabia
Bangalore, India	Hamburg, Germany	Sao Paulo, Brazil
Berlin, Germany	Idstein, Germany	Singapore
Brasov, Romania	Kolkata, India	St. Wolfgang, Germany
Brisbane, Australia	Kosice, Slovakia	Stockholm, Sweden
Cairo, Egypt	Lisbon, Portugal	Sydney, Australia
Doha, Qatar	London, England	The Hague, Netherlands
Dubai, United Arab Emirates	Madrid, Spain	Toronto, Ontario, Canada
Dublin, Ireland	Melbourne, Australia	Vienna, Austria
Erlangen, Germany	Oslo, Norway	
Essen, Germany	Palma De Mallorca, Spain	

In general, we believe our facilities are suitable to meet our current and reasonably anticipated future needs.

Item 3. Legal Proceedings

From time to time, we are involved in litigation which is incidental to our business. In our opinion, no litigation to which we are currently a party is likely to have a material adverse effect on our consolidated financial condition, results of operations, or cash flows.

Item 4. Mine Safety Disclosures

Not applicable

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Part II

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

Our common stock trades on the NASDAQ Global Select Market[SM] under the symbol CERN. The following table sets forth the high, low and last sales prices for the fiscal quarters of 2017 and 2016 as reported by the NASDAQ Global Select Market.

	2017			2016		
	High	Low	Last	High	Low	Last
First Quarter	$59.83	$47.09	$58.85	$59.92	$49.59	$54.08
Second Quarter	69.28	58.09	66.47	59.14	52.84	58.91
Third Quarter	72.27	61.53	71.32	67.50	57.59	61.75
Fourth Quarter	73.86	62.86	67.39	62.53	47.01	47.37

At February 1, 2018, there were approximately 960 owners of record. To date, we have paid no cash dividends and we do not intend to pay cash dividends in the foreseeable future. We believe it is in the shareholders' best interest for us to reinvest funds in the operation of the business.

The following table provides information with respect to Common Stock repurchases by the Company during the fourth fiscal quarter of 2017:

Period	Total Number of Shares Purchased (a)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (b)	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs (b)
October 1, 2017 - October 28, 2017	—	$—	—	$576,618,633
October 29, 2017 - November 25, 2017	2,290,877	65.48	2,290,754	426,618,689
November 26, 2017 - December 30, 2017	5,874	70.69	—	426,618,689
Total	2,296,751	$ 65.49	2,290,754	

(a) Of the 2,296,751 shares of common stock, par value $0.01 per share, presented in the table above, 5,997 shares were originally granted to employees as restricted stock pursuant to our 2011 Omnibus Equity Incentive Plan (the "Omnibus Plan"). The Omnibus Plan allows for the withholding of shares to satisfy the minimum tax obligations due upon the vesting of restricted stock. Pursuant to the Omnibus Plan, the 5,997 shares reflected above were relinquished by employees in exchange for our agreement to pay U.S. federal and state withholding obligations resulting from the vesting of the Company’s restricted stock.

(b) As announced on November 14, 2016, our Board of Directors authorized a share repurchase program that allowed the Company to repurchase up to $500 million of shares of our common stock, excluding transaction costs. That program was completed in November 2017. As announced on May 25, 2017, our Board of Directors authorized a new share repurchase program that allows the Company to repurchase up to $500 million of shares of our common stock, excluding transaction costs. The repurchases are to be effectuated in the open market, by block purchase, in

privately negotiated transactions, or through other transactions managed by broker-dealers. No time limit was set for the completion of the current program. During 2017, we repurchased 2.7 million shares for total consideration of $173 million under these programs pursuant to Rule 10b5-1 plans. At December 30, 2017, $427 million remains available for repurchase under the outstanding program. Refer to Note (14) of the notes to consolidated financial statements for further information regarding our share repurchase programs.

See Part III, Item 12 for information relating to securities authorized for issuance under our equity compensation plans.

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Item 6. Selected Financial Data

(In thousands, except per share data)	2017[1]	2016	2015[2]	2014	2013[3]
Statement of Operations Data:					
Revenues	$5,142,272	$4,796,473	$4,425,267	$3,402,703	$2,910,748
Operating earnings	960,471	911,013	781,136	763,084	576,012
Earnings before income taxes	967,129	918,434	781,380	774,174	588,054
Net earnings	866,978	636,484	539,362	525,433	398,354
Earnings per share:					
Basic	2.62	1.88	1.57	1.54	1.16
Diluted	2.57	1.85	1.54	1.50	1.13
Weighted average shares outstanding:					
Basic	331,373	337,740	343,178	342,150	343,636
Diluted	337,999	343,653	350,908	350,386	352,281
Balance Sheet Data:					
Working capital	$1,590,632	$773,960	$1,049,967	$1,714,471	$1,121,276
Total assets	6,469,311	5,629,963	5,561,984	4,530,565	4,098,364
Long-term debt and capital lease obligations, excl. current installments	515,130	537,552	563,353	62,868	111,717
Shareholders' equity	4,785,348	3,927,947	3,870,384	3,565,968	3,167,664

(1) Includes the impact of certain U.S. income tax reform, as further described in Note (12) of the notes to consolidated financial statements.

(2) In 2015 we acquired Siemens Health Services, as further described in Note (2) of the notes to consolidated financial statements.

(3) Includes a pre-tax settlement charge of $106 million.

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

The following Management Discussion and Analysis ("MD&A") is intended to help the reader understand our results of operations and financial condition. This MD&A is provided as a supplement to, and should be read in conjunction with, our financial statements and the accompanying notes to the financial statements ("Notes").

Our fiscal year ends on the Saturday closest to December 31. Fiscal years 2017, 2016 and 2015 each consisted of 52 weeks and ended on December 30, 2017, December 31, 2016, and January 2, 2016, respectively. All references to years in this MD&A represent fiscal years unless otherwise noted.

Management Overview

Our revenues are primarily derived by selling, implementing and supporting software solutions, clinical content, hardware, devices and services that give health care providers and other stakeholders secure access to clinical, administrative and financial data in real or near-real time, helping them to improve quality, safety and efficiency in the delivery of health care.

Our fundamental strategic focus is the creation of organic growth by investing in research and development ("R&D") to create solutions and services for the health care industry. This strategy has driven strong growth over the long-term, as reflected in five- and ten-year compound annual revenue growth rates of 14% and 13%, respectively. This growth has also created an important strategic footprint in health care, with Cerner solutions in more than 27,000 facilities worldwide, including hospitals, physician practices, laboratories, ambulatory centers, behavioral health centers, cardiac facilities, radiology clinics, surgery centers, extended care facilities, retail pharmacies, and employer sites. Selling additional solutions and services back into this client base is an important element of our future revenue growth. We are also focused on driving growth through market share expansion by strategically aligning with health care providers that have not yet selected a supplier and by displacing competitors in health care settings that are looking to replace their current supplier. We may also supplement organic growth with acquisitions or strategic investments.

We expect to drive growth through solutions and services that reflect our ongoing ability to innovate and expand our reach into health care. Examples of these include our CareAware health care device architecture and devices, Cerner ITWorks services, revenue cycle solutions and services, and HealtheIntent population health solutions and services. Finally, we believe there is significant opportunity for growth outside of the United States, with many non-U.S. markets focused on health care information technology as part of their strategy to improve the quality and lower the cost of health care.

Beyond our strategy for driving revenue growth, we are also focused on earnings growth. Similar to our history of growing revenue, our net earnings have increased at compound annual rates of 17% and 21%, respectively, over the most recent five- and ten-year periods. We expect to drive earnings growth as we continue to grow our revenue. We also have opportunities to expand our operating margins over time. In the near term, we expect growth in non-cash expenses, such as amortization and depreciation, and a mix of lower margin revenue associated with some of our rapidly growing services businesses will limit our margin expansion. Longer-term, we expect to generate margin expansion as the growth rate of non-cash expenses slows, we achieve scale and efficiencies in our services businesses, control general and administrative expenses, and get more contributions to our growth from solutions on our HealtheIntent platform, which we expect to be accretive to our overall margins.

We are also focused on continuing to deliver strong levels of cash flow, which we expect to accomplish by continuing to grow earnings and prudently managing capital expenditures.

Siemens Health Services

On February 2, 2015, we acquired the Cerner Health Services business, as further described in Note (2) of the notes to consolidated financial statements. The addition of this business impacts the comparability of our 2015 consolidated financial statements in relation to the comparative periods presented herein.

Results Overview

The Company delivered strong levels of bookings, revenues, earnings and operating cash flows in 2017.

Bookings, which reflects the value of executed contracts for software, hardware, professional services and managed services, was $6.3 billion in 2017, which is an increase of 16% compared to $5.4 billion in 2016.

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Revenues for 2017 increased 7% to $5.1 billion, compared to $4.8 billion in 2016. The increase in revenue reflects ongoing demand from new and existing clients for Cerner's solutions and services driven by their needs to keep up with regulatory requirements, adapt to changing reimbursement models, and deliver safer and more efficient care.

Net earnings for 2017 increased 36% to $867 million, compared to $636 million in 2016. Diluted earnings per share increased 39% to $2.57 in 2017, compared to $1.85 in 2016. The overall increase in net earnings and diluted earnings per share was primarily a result of increased revenues and a lower effective tax rate, which was favorably impacted by certain U.S. income tax reform enacted in December 2017.

We had cash collections of receivables of $5.4 billion in 2017 compared to $5.2 billion in 2016. Days sales outstanding was 72 days for the 2017 fourth quarter compared to 73 days for the 2017 third quarter and 69 days for the 2016 fourth quarter. Operating cash flows for 2017 were $1.3 billion compared to $1.2 billion in 2016.

Health Care Information Technology Market Outlook

We have provided an assessment of the health care information technology market under "Health Care and Health Care IT Industry" in Part I, Item 1 "Business," which is incorporated herein by reference.

Results of Operations
Fiscal Year 2017 Compared to Fiscal Year 2016

(In thousands)	2017	% of Revenue	2016	% of Revenue	% Change
Revenues					
System sales	$1,355,172	26 %	$1,265,962	26 %	7 %
Support and maintenance	1,046,656	21 %	1,015,811	21 %	3 %
Services	2,638,981	51 %	2,426,155	51 %	9 %
Reimbursed travel	101,463	2 %	88,545	2 %	15 %
Total revenues	5,142,272	100 %	4,796,473	100 %	7 %
Costs of revenue					
Costs of revenue	854,091	17 %	779,116	16 %	10 %
Total margin	4,288,181	83 %	4,017,357	84 %	7 %
Operating expenses					
Sales and client service	2,276,821	44 %	2,071,926	43 %	10 %
Software development	605,046	12 %	551,418	11 %	10 %
General and administrative	355,267	7 %	392,454	8 %	(9)%
Amortization of acquisition-related intangibles	90,576	2 %	90,546	2 %	— %
Total operating expenses	3,327,710	65 %	3,106,344	65 %	7 %
Total costs and expenses	4,181,801	81 %	3,885,460	81 %	8 %
Operating earnings	960,471	19 %	911,013	19 %	5 %
Other income, net	6,658		7,421		

Income taxes	(100,151)	(281,950)	
Net earnings	$866,978	$636,484	36 %

Revenues & Backlog

Revenues increased 7% to $5.1 billion in 2017, as compared to $4.8 billion in 2016.

- System sales, which include revenues from the sale of licensed software (including perpetual license sales and software as a service), technology resale (hardware, devices, and sublicensed software), deployment period

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licensed software upgrade rights, installation fees, transaction processing and subscriptions, increased 7% to $1.4 billion in 2017, from $1.3 billion in 2016. The increase in system sales was primarily driven by increases in licensed software and subscriptions of $63 million and $27 million, respectively.

- Support and maintenance revenues increased 3% from 2016 to 2017. This increase was primarily attributable to continued success selling Cerner Millennium applications and implementing them at client sites.
- Services revenue, which includes professional services (excluding installation) and managed services, increased 9% to $2.6 billion in 2017, from $2.4 billion in 2016. This increase was driven by a $148 million increase in professional services due to growth in implementation and consulting activities and growth in managed services of $65 million as a result of continued demand for our hosting services.
- Revenue backlog, which reflects contracted revenue that has not yet been recognized as revenue, increased 10% to $17.5 billion in 2017, compared to $15.9 billion in 2016. This increase was driven by solid levels of new business bookings during the past four quarters, including strong levels of managed services bookings that typically have longer contract terms.

Costs of Revenue

Costs of revenue as a percent of total revenues were 17% in 2017, compared to 16% in 2016. The marginally higher costs of revenue as a percent of total revenues was primarily due to higher third-party costs associated with technology resale.

Costs of revenue include the cost of reimbursed travel expense, sales commissions, third party consulting services and subscription content and computer hardware, devices and sublicensed software purchased from manufacturers for delivery to clients. It also includes the cost of hardware maintenance and sublicensed software support subcontracted to the manufacturers. Such costs, as a percent of total revenues, typically have varied as the mix of revenue (software, hardware, devices, maintenance, support, services and reimbursed travel) carrying different margin rates changes from period to period. Costs of revenue does not include the costs of our client service personnel who are responsible for delivering our service offerings. Such costs are included in sales and client service expense.

Operating Expenses

Total operating expenses increased 7% to $3.3 billion in 2017, compared with $3.1 billion in 2016.

- Sales and client service expenses as a percent of total revenues were 44% in 2017, compared to 43% in 2016. These expenses increased 10% to $2.3 billion in 2017, from $2.1 billion in 2016. Sales and client service expenses include salaries and benefits of sales, marketing, support, and services personnel, depreciation and other expenses associated with our managed services business, communications expenses, unreimbursed travel expenses, expense for share-based payments, and trade show and advertising costs. The growth in sales and client service expenses reflects hiring of services personnel to support the growth in services revenue.
- Software development expenses as a percent of total revenues were 12% in 2017, compared to 11% in 2016. Expenditures for software development include ongoing development and enhancement of the Cerner Millennium and HealtheIntent platforms, with a focus on supporting key initiatives to enhance physician experience, revenue cycle and population health solutions. A summary of our total software development expense in 2017 and 2016 is as follows:

	For the Years Ended	
(In thousands)	2017	2016
Software development costs	$705,944	$704,882
Capitalized software costs	(271,411)	(290,911)
Capitalized costs related to share-based payments	(2,737)	(2,785)
Amortization of capitalized software costs	173,250	140,232
Total software development expense	$605,046	$551,418

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General and administrative expenses as a percent of total revenues were 7% in 2017, compared to 8% in 2016. These expenses decreased 9% to $355 million in 2017, from $392 million in 2016. General and administrative expenses include salaries and benefits for corporate, financial and administrative staffs, utilities, communications expenses, professional fees, depreciation and amortization, transaction gains or losses on foreign currency,

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expense for share-based payments, acquisition costs and related adjustments. The decrease in general and administrative expenses was primarily due to 2016 containing $36 million of expenses associated with a voluntary separation plan. Refer to Note (1) of the notes to consolidated financial statements for further detail regarding our 2016 voluntary separation plan.

- Amortization of acquisition-related intangibles as a percent of total revenues was 2% in both 2017 and 2016. These expenses remained flat at $91 million in both 2017 and 2016. Amortization of acquisition-related intangibles includes the amortization of customer relationships, acquired technology, trade names, and non-compete agreements recorded in connection with our business acquisitions.

Non-Operating Items

- Other income, net remained flat at $7 million in both 2017 and 2016.

- Our effective tax rate was 10% in 2017, compared to 31% in 2016. The decrease in the effective tax rate in 2017 is primarily a result of impacts from certain U.S. income tax reform enacted in December 2017, and the inclusion of net excess tax benefits as discrete items within the tax provision, upon our adoption of ASU 2016-09 in the first quarter of 2017. Refer to Note (1) of the notes to consolidated financial statements for further discussion regarding our adoption of ASU 2016-09 and its impact on our consolidated financial statements. Refer to Note (12) of the notes to consolidated financial statements for further information regarding our effective tax rate. Our effective tax rate is expected to increase in 2018, from our 2017 rate of 10%. However, we expect such effective tax rate in 2018 to be lower than historical rates (2016 and prior) primarily due to provisions in the aforementioned U.S. income tax reform, which reduced the statutory corporate income tax rate from 35% to 21%.

Operations by Segment

We have two operating segments: Domestic and Global. The Domestic segment includes revenue contributions and expenditures associated with business activity in the United States. The Global segment includes revenue contributions and expenditures linked to business activity in Aruba, Australia, Austria, the Bahamas, Belgium, Bermuda, Brazil, Canada, Cayman Islands, Chile, Denmark, Egypt, England, Finland, France, Germany, Guam, India, Ireland, Kuwait, Luxembourg, Malaysia, Mexico, Netherlands, Norway, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Slovakia, Spain, Sweden, Switzerland and the United Arab Emirates. Refer to Note (17) of the notes to consolidated financial statements for further information regarding our reportable segments.

The following table presents a summary of our operating segment information for the years ended 2017 and 2016:

(In thousands)	2017	% of Revenue	2016	% of Revenue	% Change
Domestic Segment					
Revenues	$4,575,171	100%	$4,245,097	100%	8%
Costs of revenue	755,729	17%	676,437	16%	12%
Operating expenses	1,998,544	44%	1,774,146	42%	13%
Total costs and expenses	2,754,273	60%	2,450,583	58%	12%
Domestic operating earnings	1,820,898	40%	1,794,514	42%	1%
Global Segment					
Revenues	567,101	100%	551,376	100%	3%
Costs of revenue	98,362	17%	102,679	19%	(4)%
Operating expenses	264,196	47%	246,243	45%	7%
Total costs and expenses	362,558	64%	348,922	63%	4%

Global operating earnings	204,543	36%	202,454	37%	1%
Other, net	(1,064,970)		(1,085,955)		(2)%
Consolidated operating earnings	$960,471		$911,013		5%

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Domestic Segment

- Revenues increased 8% to $4.6 billion in 2017, from $4.2 billion in 2016. This increase was primarily driven by growth in services revenue.
- Costs of revenue as a percent of revenues were 17% in 2017, compared to 16% in 2016. The marginally higher costs of revenue as a percent of total revenues was primarily due to higher third-party costs associated with technology resale.
- Operating expenses as a percent of revenues were 44% in 2017, compared to 42% in 2016. The increase as a percent of revenues reflects hiring of services personnel to support the growth in services revenue.

Global Segment

- Revenues increased 3% to $567 million in 2017, from $551 million in 2016. This increase was primarily driven by growth in services revenue.
- Costs of revenue as a percent of revenues were 17% in 2017, compared to 19% in 2016. The lower costs of revenue as a percent of revenues was primarily driven by a lower mix of technology resale, which carries a higher cost of revenue.
- Operating expenses as a percent of revenues were 47% in 2017, compared to 45% in 2016. The increase as a percent of revenues is primarily due to an increase in non-personnel expenses.

Other, net

Operating results not attributed to an operating segment include expenses such as software development, general and administrative expenses, acquisition costs and related adjustments, share-based compensation expense, and certain amortization and depreciation. These expenses decreased 2% from 2016 to 2017. The decrease was primarily due to 2016 containing $36 million of expenses associated with a voluntary separation plan. Refer to Note (1) of the notes to consolidated financial statements for further detail regarding our 2016 voluntary separation plan.

Fiscal Year 2016 Compared to Fiscal Year 2015

(In thousands)	2016	% of Revenue	2015	% of Revenue	% Change
Revenues					
System sales	$1,265,962	26 %	$1,281,890	29 %	(1)%
Support and maintenance	1,015,811	21 %	975,701	22 %	4 %
Services	2,426,155	51 %	2,094,874	47 %	16 %
Reimbursed travel	88,545	2 %	72,802	2 %	22 %
Total revenues	4,796,473	100 %	4,425,267	100 %	8 %
Costs of revenue					
Costs of revenue	779,116	16 %	750,781	17 %	4 %
Total margin	4,017,357	84 %	3,674,486	83 %	9 %
Operating expenses					
Sales and client service	2,071,926	43 %	1,838,600	42 %	13 %
Software development	551,418	11 %	539,799	12 %	2 %
General and administrative	392,454	8 %	423,424	10 %	(7)%
Amortization of acquisition-related intangibles	90,546	2 %	91,527	2 %	(1)%
Total operating expenses	3,106,344	65 %	2,893,350	65 %	7 %

Total costs and expenses	3,885,460	81	%	3,644,131	82	%	7	%
Operating earnings	911,013	19	%	781,136	18	%	17	%
Other income, net	7,421			244				
Income taxes	(281,950)			(242,018)				
Net earnings	$636,484			$539,362			18	%

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Revenues & Backlog

Revenues increased 8% to $4.8 billion in 2016, as compared to $4.4 billion in 2015.

- System sales decreased 1% from 2015 to 2016. The decrease in system sales was primarily driven by a decline in technology resale.
- Support and maintenance revenues increased 4% to $1.0 billion in 2016, compared to $976 million in 2015. This increase was primarily attributable to continued success selling Cerner Millennium applications and implementing them at client sites.
- Services revenue increased 16% to $2.4 billion in 2016, from $2.1 billion in 2015. This increase was driven by a $207 million increase in professional services due to growth in implementation and consulting activities and growth in managed services of $124 million as a result of continued demand for our hosting services.

Revenue backlog increased 12% to $15.9 billion in 2016 compared to $14.2 billion in 2015. This increase was driven by solid levels of new business bookings revenue during the past four quarters, including strong levels of managed services bookings that typically have longer contract terms.

Costs of Revenue

Costs of revenue as a percent of total revenues were 16% in 2016, compared to 17% in 2015. The lower costs of revenue as a percent of total revenues was primarily driven by a lower mix of technology resale, which carries a higher cost of revenue.

Operating Expenses

Total operating expenses increased 7% to $3.1 billion in 2016, compared with $2.9 billion in 2015.

- Sales and client service expenses as a percent of total revenues were 43% in 2016, compared to 42% in 2015. These expenses increased 13% to $2.1 billion in 2016, from $1.8 billion in 2015. The growth in services expense and increase as a percent of total revenues reflects hiring of services personnel to support the strong growth in services revenue.

- Software development expenses as a percent of total revenues were 11% in 2016, compared to 12% in 2015. Expenditures for software development include ongoing development and enhancement of the Cerner Millennium and HealtheIntent platforms, with a focus on supporting key initiatives to enhance physician experience, revenue cycle and population health solutions. A summary of our total software development expense in 2016 and 2015 is as follows:

	For the Years Ended	
(In thousands)	2016	2015
Software development costs	$704,882	$685,260
Capitalized software costs	(290,911)	(262,177)
Capitalized costs related to share-based payments	(2,785)	(2,479)
Amortization of capitalized software costs	140,232	119,195
Total software development expense	$551,418	$539,799

- General and administrative expenses as a percent of total revenues were 8% in 2016, compared to 10% in 2015. These expenses decreased 7% to $392 million in 2016, from $423 million in 2015. The decrease as a percent of total revenues was primarily the result of decreased expenses in 2016 related to acquisition costs and related adjustments associated with our acquisition of the Cerner Health Services business and our voluntary separation plans. General and administrative expenses in 2016 and 2015 include acquisition costs and related adjustments associated with our Cerner Health Services business of $4 million and $46 million, respectively. General and administrative expenses in 2016 and 2015 include costs associated with our voluntary separation plans of $36 million and $46 million,

respectively. At the end of 2016, our voluntary separation plans were complete. Refer to Note (1) of the notes to consolidated financial statements for further detail regarding the voluntary separation plans.

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- Amortization of acquisition-related intangibles as a percent of total revenues was 2% in both 2016 and 2015. These expenses decreased 1% to $91 million in 2016, from $92 million in 2015. The decrease in amortization of acquisition-related intangibles includes the impact of certain intangible assets becoming fully amortized.

Non-Operating Items

- Other income, net was $7 million in 2016, compared to less than $1 million in 2015. This increase is primarily due to increased capitalization of interest on construction in process, primarily related to our Innovations Campus (office space development located in Kansas City, Missouri).

- Our effective tax rate was 31% in both 2016 and 2015. Refer to Note (12) of the notes to consolidated financial statements for further information regarding our effective tax rate.

Operations by Segment

The following table presents a summary of our operating segment information for the years ended 2016 and 2015:

(In thousands)	2016	% of Revenue	2015	% of Revenue	% Change
Domestic Segment					
Revenues	$4,245,097	100%	$3,904,454	100%	9%
Costs of revenue	676,437	16%	651,826	17%	4%
Operating expenses	1,774,146	42%	1,577,594	40%	12%
Total costs and expenses	2,450,583	58%	2,229,420	57%	10%
Domestic operating earnings	1,794,514	42%	1,675,034	43%	7%
Global Segment					
Revenues	551,376	100%	520,813	100%	6%
Costs of revenue	102,679	19%	98,955	19%	4%
Operating expenses	246,243	45%	233,047	45%	6%
Total costs and expenses	348,922	63%	332,002	64%	5%
Global operating earnings	202,454	37%	188,811	36%	7%
Other, net	(1,085,955)		(1,082,709)		—%
Consolidated operating earnings	$911,013		$781,136		17%

Domestic Segment

- Revenues increased 9% to $4.2 billion in 2016, from $3.9 billion in 2015. This increase was primarily driven by growth in services revenue.
- Costs of revenue as a percent of revenues were 16% in 2016, compared to 17% in 2015. The lower costs of revenue as a percent of revenues was primarily driven by a lower mix of technology resale, which carries a higher cost of revenue.
- Operating expenses as a percent of revenues were 42% in 2016, compared to 40% in 2015. The increase as a percent of revenues reflects a higher mix of services during 2016 that was driven by services revenue growth.

Global Segment

- Revenues increased 6% to $551 million in 2016, from $521 million in 2015. This increase was driven by growth across most of our business.
- Costs of revenue as a percent of revenues were 19% in both 2016 and 2015.

- Operating expenses as a percent of revenues were 45% in both 2016 and 2015.

Other, net

These expenses were flat at $1.1 billion in both 2016 and 2015.

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Liquidity and Capital Resources

Our liquidity is influenced by many factors, including the amount and timing of our revenues, our cash collections from our clients and the amount we invest in software development, acquisitions, capital expenditures, and in recent years, our share repurchase programs.

Our principal sources of liquidity are our cash, cash equivalents, which primarily consist of money market funds and time deposits with original maturities of less than 90 days, and short-term investments. At the end of 2017, we had cash and cash equivalents of $371 million and short-term investments of $435 million, as compared to cash and cash equivalents of $171 million and short-term investments of $186 million at the end of 2016.

We maintain a $100 million multi-year revolving credit facility, which expires in October 2020. The facility provides an unsecured revolving line of credit for working capital purposes, along with a letter of credit facility. We have the ability to increase the maximum capacity to $200 million at any time during the facility's term, subject to lender participation. As of the end of 2017, we had no outstanding borrowings under this facility; however, we had $52 million of outstanding letters of credit, which reduced our available borrowing capacity to $48 million. Refer to Note (9) of the notes to consolidated financial statements for additional information regarding our credit facility.

We believe that our present cash position, together with cash generated from operations, short-term investments and, if necessary, our available line of credit, will be sufficient to meet anticipated cash requirements during 2018.

The following table summarizes our cash flows in 2017, 2016 and 2015:

	For the Years Ended		
(In thousands)	2017	2016	2015
Cash flows from operating activities	$1,307,675	$1,245,637	$1,039,928
Cash flows from investing activities	(1,005,851)	(789,774)	(1,405,943)
Cash flows from financing activities	(110,984)	(676,677)	143,847
Effect of exchange rate changes on cash	9,222	(10,447)	(10,913)
Total change in cash and cash equivalents	200,062	(231,261)	(233,081)
Cash and cash equivalents at beginning of period	170,861	402,122	635,203
Cash and cash equivalents at end of period	$370,923	$170,861	$402,122
Free cash flow (non-GAAP)	$671,444	$492,514	$413,140

Cash from Operating Activities

	For the Years Ended		
(In thousands)	2017	2016	2015
Cash collections from clients	$5,444,531	$5,184,252	$4,419,650
Cash paid to employees and suppliers and other	(3,932,398)	(3,665,592)	(3,248,149)
Cash paid for interest	(17,914)	(18,484)	(13,164)
Cash paid for taxes, net of refunds	(186,544)	(254,539)	(118,409)
Total cash from operations	$1,307,675	$1,245,637	$1,039,928

Cash flow from operations increased $62 million in 2017 compared to 2016, due primarily to an increase in cash impacting earnings, partially offset by an increase in cash used to fund working capital requirements. Cash flow from operations increased $206 million in 2016 compared to 2015, due primarily to a reduction in cash used to fund working capital requirements, along with an increase in cash impacting earnings. During 2017, 2016 and 2015, we received total client cash collections of $5.4 billion, $5.2 billion and $4.4 billion, respectively. Days sales outstanding was 72 days in the fourth quarter of 2017, compared to 73 days for the 2017 third quarter and 69 days for the 2016

fourth quarter. Revenues provided under support and maintenance agreements represent recurring cash flows. We expect these revenues to continue to grow as the base of installed systems grows.

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Cash from Investing Activities

(In thousands)	For the Years Ended 2017	2016	2015
Capital purchases	$(362,083)	$(459,427)	$(362,132)
Capitalized software development costs	(274,148)	(293,696)	(264,656)
Purchases of investments, net of sales and maturities	(339,974)	(18,179)	720,406
Acquisition of businesses	—	—	(1,478,129)
Purchases of other intangibles	(29,646)	(18,472)	(21,432)
Total cash flows from investing activities	$(1,005,851)	$(789,774)	$(1,405,943)

Cash flows from investing activities consist primarily of capital spending, short-term investment, and acquisition activities.

Our capital spending in 2017 was driven by capitalized equipment purchases primarily to support growth in our managed services business, investments in a cloud infrastructure to support cloud-based solutions, building and improvement purchases to support our facilities requirements and capitalized spending to support our ongoing software development initiatives. Capital purchases in 2017 were lower than 2016 levels, as we completed the first two phases of construction on our Innovations Campus (office space development located in Kansas City, Missouri) in January 2017. Total capital spending is expected to increase in 2018 in excess of $100 million, primarily driven by an increase in spending to support our facilities requirements, including commencement of construction on the next two phases of our Innovations Campus; along with increased capital purchases to support the growth in our managed services business.

Short-term investment activity historically consists of the investment of cash generated by our business in excess of what is necessary to fund operations. Net cash from investments in 2015 is due to the use of proceeds from additional investment sales and maturities to partially fund our acquisition of the Cerner Health Services business. In 2016 and 2017, we returned to net purchases of investments, which we expect to continue in 2018, as we expect strong levels of cash flow.

During 2015, we paid cash to acquire the Cerner Health Services business and the Lee's Summit Tech Center of $1.39 billion and $85 million, respectively. We expect to continue seeking and completing strategic business acquisitions or investments that are complementary to our business. Refer to Note (2) of the notes to consolidated financial statements for additional information regarding our business acquisitions.

Cash from Financing Activities

(In thousands)	For the Years Ended 2017	2016	2015
Long-term debt issuance	$—	$—	$500,000
Repayment of long-term debt	—	—	(14,325)
Cash from option exercises (net of taxes paid in connection with shares surrendered by associates)	65,121	25,672	15,032
Treasury stock purchases	(173,434)	(700,275)	(345,057)
Contingent consideration payments for acquisition of businesses	(2,671)	(2,074)	(11,012)
Other, net	—	—	(791)
Total cash flows from financing activities	$(110,984)	$(676,677)	$143,847

In January 2015, we issued $500 million in aggregate principal amount of Senior Notes. Proceeds from the Senior Notes were available for general corporate purposes. Refer to Note (9) of the notes to consolidated financial statements for additional information regarding the Senior Notes.

Cash inflows from stock option exercises are dependent on a number of factors, including the price of our common stock, grant activity under our stock option and equity plans, and overall market volatility. We expect cash inflows

from stock option exercises to continue in 2018 based on the number of exercisable options at the end of 2017 and our current stock price. Refer to Note (14) of the notes to consolidated financial statements for additional information regarding our stock option and equity plans.

During 2017, 2016 and 2015, we repurchased 2.7 million shares of our common stock for total consideration of $173 million, 13.7 million shares of our common stock for total consideration of $700 million, and 5.7 million shares of our common stock

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for total consideration of $345 million, respectively. At the end of 2017, $427 million remains available for repurchase under our current repurchase program. We may continue to repurchase shares under this program in 2018, which will be dependent on a number of factors, including the price of our common stock. Although we may continue to repurchase shares, there is no assurance that we will repurchase up to the full amount remaining under the program. Refer to Note (14) of the notes to consolidated financial statements for further information regarding our share repurchase programs.

Free Cash Flow (Non-GAAP)

	For the Years Ended		
(In thousands)	2017	2016	2015
Cash flows from operating activities (GAAP)	$1,307,675	$1,245,637	$1,039,928
Capital purchases	(362,083)	(459,427)	(362,132)
Capitalized software development costs	(274,148)	(293,696)	(264,656)
Free cash flow (non-GAAP)	$671,444	$492,514	$413,140

Free cash flow increased $179 million in 2017, compared to 2016. This increase was primarily due to increased operating cash flow, along with reduced capital purchases as discussed above. Free cash flow increased $79 million in 2016, compared to 2015. This increase was due to an increase in cash flows from operations, partially offset by higher levels of both capital spending to support our growth initiatives and facilities requirements, and capitalized spending to support our ongoing software development initiatives.

Free cash flow is a non-GAAP financial measure used by management along with GAAP results to analyze our earnings quality and overall cash generation of the business. We define free cash flow as cash flows from operating activities reduced by capital purchases and capitalized software development costs. The table above sets forth a reconciliation of free cash flow to cash flows from operating activities, which we believe to be the GAAP financial measure most directly comparable to free cash flow. The presentation of free cash flow is not meant to be considered in isolation, nor as a substitute for, or superior to, GAAP results, and investors should be aware that non-GAAP measures have inherent limitations and should be read only in conjunction with our consolidated financial statements prepared in accordance with GAAP. Free cash flow may also be different from similar non-GAAP financial measures used by other companies and may not be comparable to similarly titled captions of other companies due to potential inconsistencies in the method of calculation. We believe free cash flow is important to enable investors to better understand and evaluate our ongoing operating results and allows for greater transparency in the review and understanding of our overall financial, operational and economic performance, because free cash flow takes into account certain capital expenditures necessary to operate our business.

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Contractual Obligations, Commitments and Off Balance Sheet Arrangements

The following table represents a summary of our contractual obligations and commercial commitments at the end of 2017, except short-term purchase order commitments arising in the ordinary course of business.

	Payments Due by Period						
(In thousands)	2018	2019	2020	2021	2022	2023 and thereafter	Total
Balance sheet obligations[a]:							
Long-term debt obligations	$—	$2,500	$—	$1,100	$301,700	$208,862	$514,162
Interest on long-term debt obligations	16,473	16,780	16,870	16,906	11,399	17,900	96,328
Capital lease obligations	11,585	1,483	—	—	—	—	13,068
Interest on capital lease obligations	336	43	—	—	—	—	379
Income tax payable on deemed repatriation of foreign subsidiary earnings[b]	2,009	2,009	2,009	2,009	2,009	15,069	25,114
Other obligations:							
Operating lease obligations	32,371	28,605	24,012	19,452	12,914	6,463	123,817
Purchase obligations	76,861	47,587	17,250	5,490	4,410	22,504	174,102
Total	$139,635	$99,007	$60,141	$44,957	$332,432	$270,798	$946,970

(a) At the end of 2017, liabilities for unrecognized tax benefits were $15 million.
(b) At the end of 2017, such amounts were provisionally recorded. Refer to Note (12) of the notes to consolidated financial statements.

We have no off balance sheet arrangements as defined in Regulation S-K. The effects of inflation on our business during 2017, 2016 and 2015 were not significant.

Recent Accounting Pronouncements

Refer to Note (1) of the notes to consolidated financial statements for information regarding recently issued accounting pronouncements.

Critical Accounting Policies

We believe that there are several accounting policies that are critical to understanding our historical and future performance, as these policies affect the reported amount of revenue and other significant areas involving our judgments and estimates. These significant accounting policies relate to revenue recognition, software development, and income taxes. These accounting policies and our procedures related to these accounting policies are described in detail below and under specific areas within this MD&A. In addition, Note (1) of the notes to consolidated financial statements expands upon discussion of our accounting policies.

Revenue Recognition - through 2017
We recognized revenue within our multiple element arrangements, including software and software-related services, using the residual method. Key factors in our revenue recognition model were our assessments that implementation services are not essential to the functionality of our software, we can establish vendor specific objective evidence (VSOE) of fair value for any undelivered elements, and the length of time it takes for us to achieve the delivery and implementation milestones for our licensed software. If such implementation services were deemed to be essential to the functionality of our software, the period of time over which our licensed software revenue would be recognized

would have lengthened. If VSOE of fair value could not be established for both the implementation services and the support services, the entire arrangement fee would have been recognized ratably over the period during which the implementation services were expected to be performed or the support period, whichever was longer, beginning with delivery of the software, provided that all other revenue recognition criteria were met.

Revenue Recognition - 2018 forward

In the first quarter of 2018, we will adopt Accounting Standards Update ("ASU") 2014-09, Revenue from Contracts with Customers (Topic 606). ASU 2014-09, as amended, will replace most existing revenue recognition guidance in U.S. GAAP.

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This new guidance will require a significant amount of judgments and estimates in implementing its five-step process to be followed in determining the amount and timing of revenue recognition and related disclosures. Refer to Note (1) of the notes to consolidated financial statements for further discussion regarding our status of adoption/implementation.

Software Development Costs

Costs incurred internally in creating computer software solutions and enhancements to those solutions are expensed until completion of a detailed program design, which is when we determine that technological feasibility has been established. Thereafter, all software development costs are capitalized until such time as the software solutions and enhancements are available for general release, and the capitalized costs subsequently are reported at the lower of amortized cost or net realizable value.

Net realizable value is computed as the estimated gross future revenues from each software solution less the amount of estimated future costs of completing and disposing of that product. Because the development of projected net future revenues related to our software solutions used in our net realizable value computation is based on estimates, a significant reduction in our future revenues could impact the recovery of our capitalized software development costs. If we missed our estimates of net future revenues by 10%, the amount of our capitalized software development costs would not be impaired.

Capitalized costs are amortized based on current and expected net future revenue for each software solution with minimum annual amortization equal to the straight-line amortization over the estimated economic life of the software solution. We are amortizing capitalized costs over five years. The five-year period over which capitalized software development costs are amortized is an estimate based upon our forecast of a reasonable useful life for the capitalized costs. Historically, use of our software programs by our clients has exceeded five years and is capable of being used a decade or more.

We expect that major software information systems companies, large information technology consulting service providers and systems integrators and others specializing in the health care industry may offer competitive products or services. The pace of change in the HCIT market is rapid and there are frequent new product introductions, product enhancements and evolving industry standards and requirements. As a result, the capitalized software solutions may become less valuable or obsolete and could be subject to impairment.

Income Taxes

We make a number of assumptions and estimates in determining the appropriate amount of expense to record for income taxes. These assumptions and estimates consider the taxing jurisdictions in which we operate as well as current tax regulations. Accruals are established for estimates of tax effects for certain transactions, business structures and future projected profitability of our businesses based on our interpretation of existing facts and circumstances. If these assumptions and estimates were to change as a result of new evidence or changes in circumstances, the change in estimate could result in a material adjustment to the consolidated financial statements.

As further discussed in Note (12) of the notes to consolidated financial statements, we have provisionally recorded the impact of certain U.S. tax reform enacted in December 2017. We made a number of assumptions and estimates in determining such impact including revaluation of our net deferred tax liability to the lower enacted tax rate, the impact of deemed repatriation, and certain other changes. It is reasonably possible that our estimates regarding the impact of this tax reform may materially change in the near term.

We have discussed the development and selection of these critical accounting estimates with the Audit Committee of our Board of Directors and the Audit Committee has reviewed our disclosure contained herein.

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Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to interest rate risk, primarily changes in LIBOR, related to our Series 2015-C Notes issued in January 2015. As of December 30, 2017, the interest rate for the current interest period on our Series 2015-C Notes was 2.42%, based on the three-month floating LIBOR rate. Based on our balance of $75 million of Series 2015-C Notes as of December 30, 2017, an increase in interest rates of 1.0% would cause a corresponding increase in our annual interest expense of less than $1 million.

We have global operations, and as a result, we are exposed to market risk related to foreign currency exchange rate fluctuations. Foreign currency fluctuations through December 30, 2017 have not had a material impact on our financial position or operating results. We currently do not use currency hedging instruments, though we actively monitor our exposure to foreign currency fluctuations and may use hedging transactions in the future if management deems it appropriate. We believe most of our global operations are naturally hedged for foreign currency risk as our foreign subsidiaries invoice their clients and satisfy their obligations primarily in their local currencies. There can be no guarantee that the impact of foreign currency fluctuations in the future will not have a material impact on our financial position or operating results.

Item 8. Financial Statements and Supplementary Data

The Financial Statements and Notes required by this Item are submitted as a separate part of this report. See Note (18) to the Consolidated Financial Statements for supplementary financial information.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

N/A

Item 9A. Controls and Procedures

a) Evaluation of Disclosure Controls and Procedures.

The Company's Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO") have evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in the Exchange Act Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this Annual Report (the "Evaluation Date"). They have concluded that, as of the Evaluation Date and based on the evaluation of these controls and procedures required by paragraph (b) of Exchange Act Rule 13a-15 or 15d-15, these disclosure controls and procedures were effective to ensure that material information relating to the Company and its consolidated subsidiaries would be made known to them by others within those entities and would be disclosed on a timely basis. The CEO and CFO have concluded that the Company's disclosure controls and procedures are designed, and are effective, to give reasonable assurance that the information required to be disclosed by the Company in reports that it files under the Exchange Act is recorded, processed, summarized and reported within the time period specified in the rules and forms of the SEC. They have also concluded that the Company’s disclosure controls and procedures are effective to ensure that information required to be disclosed in the reports that are filed or submitted under the Exchange Act are accumulated and communicated to the Company’s management to allow timely decisions regarding required disclosure.

b) Management's Report on Internal Control over Financial Reporting.

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). The Company's management assessed the

effectiveness of the Company's internal control over financial reporting as of December 30, 2017. In making this assessment, the Company's management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in its Internal Control-Integrated Framework (2013). The Company’s management has concluded that, as of December 30, 2017, the Company's internal control over financial reporting is effective based on these criteria. The Company’s independent registered public accounting firm that audited the consolidated financial statements included in this annual report has issued an audit report on the effectiveness of the Company’s internal control over financial reporting, which is included herein under "Report of Independent Registered Public Accounting Firm".

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c) Changes in Internal Control over Financial Reporting.

During 2017, we initiated a plan that calls for modifications and enhancements to the Company's internal controls over financial reporting in relation to our upcoming adoption of the new revenue recognition standard effective in the first quarter of 2018. Such plan resulted in changes to certain process and procedures. Specifically, we implemented/modified internal controls to address:

- Monitoring of the adoption process; and
- The gathering of information and evaluation of analysis used in the development of disclosures required prior to the new standard's effective date.

As we continue the implementation process, we expect that there will be additional changes in internal controls over financial reporting.

During 2017, we implemented a new human resources administration and payroll system. Certain internal controls were modified in connection with the implementation of this new system.

Except as disclosed above, there were no other changes in the Company's internal controls over financial reporting during 2017, that have materially affected, or are reasonably likely to materially affect, the Company's internal controls over financial reporting.

d) Limitations on Controls.

The Company's management, including its CEO and CFO, have concluded that our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives and are effective at that reasonable assurance level. However, the Company's management can provide no assurance that our disclosure controls and procedures or our internal control over financial reporting can prevent all errors and all fraud under all circumstances. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been or will be detected. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Item 9B. Other Information

N/A

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PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information under "Information Concerning Directors," "Meetings of the Board and Committees," "Section 16(a) Beneficial Ownership Reporting Compliance," "Corporate Governance: Code of Business Conduct and Ethics," "Consideration of Director Nominees" and "Committees of the Board: Audit Committee" set forth in the Company's definitive proxy statement related to its 2018 annual meeting of stockholders (the "Proxy Statement"), which will be filed with the SEC not later than 120 days after the end of the Company's fiscal year pursuant to Regulation 14A, is incorporated herein by reference.

There have been no material changes to the procedures by which security holders may recommend nominees to our Board of Directors since our last disclosure thereof in our 2017 proxy statement.

The information required by this Item 10 regarding our Executive Officers is set forth under the caption "Executive Officers of the Registrant" in Part I above.

Item 11. Executive Compensation

The information under "Committees of the Board: Compensation Committee," "Director Compensation," "2017 Director Compensation Table," "Compensation Committee Report," "Compensation Discussion and Analysis," "Summary Compensation Table," "2017 Grants of Plan-Based Awards," "Outstanding Equity Awards at 2017 Fiscal Year-End," "2017 Option Exercises and Stock Vested," "Potential Payments Under Termination or Change in Control," "Pay Ratio" and "Compensation Committee Interlocks and Insider Participation" set forth in the Proxy Statement, which will be filed with the SEC not later than 120 days after the end of the Company's fiscal year pursuant to Regulation 14A, is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The following table provides information about our common stock that may be issued under our equity compensation plans as of December 30, 2017:

(In thousands, except per share data) Plan category	Securities to be issued upon exercise of outstanding options and rights [1]	Weighted average exercise price per share [2]	Securities available for future issuance[3]
Equity compensation plans approved by security holders [4]	22,131	$ 49.40	11,800
Equity compensation plans not approved by security holders	—	—	—
Total	22,131		11,800

(1) Includes grants of stock options, time-based and performance-based restricted stock and restricted stock units.

(2) Includes weighted-average exercise price of outstanding stock options only.

(3) Excludes securities to be issued upon exercise of outstanding options and rights.

(4) Includes the Stock Option Plan D, Stock Option Plan E, 2001 Long-Term Incentive Plan F, 2004 Long-Term Incentive Plan G and 2011 Omnibus Equity Incentive Plan. All new grants are made under the 2011 Omnibus Equity Incentive Plan, as the previous plans are no longer active.

The information under "Security Ownership of Certain Beneficial Owners and Management" set forth in the Proxy Statement, which will be filed with the SEC not later than 120 days after the end of the Company's fiscal year pursuant to Regulation 14A, is incorporated herein by reference.

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Item 13. Certain Relationships and Related Transactions, and Director Independence

The information under "Certain Transactions" and "Meetings of the Board and Committees" set forth in the Proxy Statement, which will be filed with the SEC not later than 120 days after the end of the Company's fiscal year pursuant to Regulation 14A, is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

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The information under "Relationship with Independent Registered Public Accounting Firm" set forth in the Proxy Statement, which will be filed with the SEC not later than 120 days after the end of the Company's fiscal year pursuant to Regulation 14A, is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

a) Financial Statements and Exhibits

(1) Consolidated Financial Statements:

Reports of Independent Registered Public Accounting Firm

Consolidated Balance Sheets - As of December 30, 2017 and December 31, 2016

Consolidated Statements of Operations -Years Ended December 30, 2017, December 31, 2016 and January 2, 2016

Consolidated Statements of Comprehensive Income - Years Ended December 30, 2017, December 31, 2016 and January 2, 2016

Consolidated Statements of Cash Flows - Years Ended December 30, 2017, December 31, 2016 and January 2, 2016

Consolidated Statements of Changes in Shareholders' Equity - Years Ended December 30, 2017, December 31, 2016 and January 2, 2016

Notes to Consolidated Financial Statements

(2) Financial Statement Schedules

All schedules are omitted because they are not required or the required information is shown in the financial statements or notes thereto.

b) Exhibits

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INDEX TO EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Exhibit(s)	Filing Date SEC File No./Film No.	
3.1	Third Restated Certificate of Incorporation of Cerner Corporation	10-K	3(a)	2/11/2015	
3.2	Bylaws, Amended & Restated as of February 25, 2016 (as amended through March 3, 2017)	8-K	3.2	3/6/2017	
4	Specimen stock certificate	10-K	4(a)	2/28/2007 000-15386/07658265	
10.1*	2006 Form of Indemnification Agreement for use between the Registrant and its Directors	10-K	10(a)	2/28/2007 000-15386/07658265	
10.2*	2010 Form of Indemnification Agreement for use between the Registrant and its Directors and Section 16 Officers	8-K	99.1	6/3/2010 000-15386/10875957	
10.3*	Executive Employment Agreement between Cerner Corporation and D. Brent Shafer				X
10.4*	Amended & Restated Executive Employment Agreement between Cerner Corporation and Clifford W. Illig	8-K/A	10.1	8/17/2017	
10.5*	Amended & Restated Executive Employment Agreement between Cerner Corporation and Neal L. Patterson	10-K	10(c)	2/27/2008 000-15386/08646565	
10.6*	Amended Employment Agreement between Cerner Corporation and Zane M. Burke	8-K	10.1	9/11/2017	
10.7*	Amended Employment Agreement between Cerner Corporation and Michael R. Nill	8-K	10.2	9/11/2017	
10.8*	Amended Employment Agreement between Cerner Corporation and Jeffrey A. Townsend	8-K	10.3	9/11/2017	
10.9*	Relocation Agreement between Cerner Corporation and Jeffrey A. Townsend	10-Q	10.10	10/27/2017	
10.10*	Amended Employment Agreement between Cerner Corporation and Marc G. Naughton	8-K	10.4	9/11/2017	
10.11*	Amended Stock Option Plan D of Registrant dated December 8, 2000	10-K	10(f)	3/30/2001 000-15386/1586224	

10.12*	Amended Stock Option Plan E of Registrant dated December 8, 2000	10-K	10(g)	3/30/2001 000-15386/1586224
10.13*	Cerner Corporation 2001 Long-Term Incentive Plan F	DEF 14A	Annex I	4/16/2001 000-15386/1603080
10.14*	Cerner Corporation 2001 Long-Term Incentive Plan F Nonqualified Stock Option Agreement	10-K	10(v)	3/17/2005 000-15386/05688830
10.15*	Cerner Corporation 2001 Long-Term Incentive Plan F Nonqualified Stock Option Grant Certificate	10-Q	10(a)	11/10/2005 000-15386/051193974
10.16*	Cerner Corporation 2001 Long-Term Incentive Plan F Director Restricted Stock Agreement	10-K	10(x)	3/17/2005 000-15386/05688830
10.17*	Cerner Corporation 2001 Long-Term Incentive Plan F Nonqualified Stock Option Director Agreement	10-K	10(w)	3/17/2005 000-15386/05688830

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10.18*	Cerner Corporation 2001 Long-Term Incentive Plan F Performance-Based Restricted Stock Agreement for Section 16 Officers	8-K	99.1	6/4/2010 000-15386/10879084
10.19*	Cerner Corporation 2004 Long-Term Incentive Plan G (as amended on December 3, 2007)	10-K	10(g)	2/27/2008 000-15386/08646565
10.20*	Cerner Corporation 2004 Long-Term Incentive Plan G Nonqualified Stock Option Grant Certificate	10-K	10(q)	2/27/2008 000-15386/08646565
10.21*	Cerner Corporation 2011 Omnibus Equity Incentive Plan (As Amended and Restated May 22, 2015)	8-K	10.2	5/27/2015
10.22*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Director Restricted Stock Agreement	10-Q	10.1	7/27/2012 000-15386/1586224
10.23*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Director Restricted Stock Agreement	10-Q	10.2	5/6/2016
10.24*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Performance Based Restricted Stock Agreement	10-K	10(u)	2/8/2013 000-15386/1386825
10.25*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Performance Based Restricted Stock Agreement	10-Q	10.3	5/6/2016
10.26*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Performance Based Restricted Stock Agreement	10-Q	10.4	10/27/2017
10.27*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Time Based Restricted Stock Agreement	10-Q	10.4	5/6/2016
10.28*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Time Based Restricted Stock Agreement	10-Q	10.3	10/27/2017
10.29*	Cerner Corporation 2011 Omnibus Equity Incentive Plan-Non-Qualified Stock Option Grant Certificate	10-K	10(v)	2/8/2013 000-15386/13586825
10.30*	Cerner Corporation 2011 Omnibus Equity Incentive Plan-Non-qualified Stock Option Grant Certificate	10-Q	10.5	5/6/2016
10.31*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Non-Qualified Stock Option Grant Certificate	10-Q	10.2	8/3/2016
10.32*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Non-Qualified Stock Option Grant Certificate	10-Q	10.2	10/27/2017
10.33*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Time-Based Restricted Stock Unit Agreement	10-Q	10.2	4/28/2017

10.34*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Time-Based Restricted Stock Unit Agreement	10-Q	10.5	10/27/2017
10.35*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Performance-Based Restricted Stock Unit Agreement	10-Q	10.3	4/28/2017
10.36*	Cerner Corporation 2011 Omnibus Equity Incentive Plan - Performance-Based Restricted Stock Unit Agreement	10-Q	10.6	10/27/2017
10.37*	Cerner Corporation 2001 Associate Stock Purchase Plan as Amended and Restated March 1, 2010 and May 27, 2011	S-8	4.6	5/27/2011 333-174568/11877216
10.38*	Cerner Corporation Performance-Based Compensation Plan (as Amended and Restated May 27, 2016)	8-K/A	10.1	6/1/2016
10.39*	Form of 2017 Executive Performance Agreement - Covered Executives pursuant to the Cerner Corporation Performance-Based Compensation Plan	10-Q	10.1	4/28/2017
10.40*	Enhanced Severance Pay Plan (as amended and restated effective October 1, 2017)	10-Q	10.1	10/27/2017

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10.41*	Second Amended and Restated Aircraft Time Sharing Agreement between Cerner Corporation and Neal L. Patterson dated July 24, 2013	10-Q	10.1	7/26/2013	
10.42*	Amendment No. 1 to Second Amended and Restated Aircraft Time Sharing Agreement between Cerner Corporation and Neal Patterson dated October 28, 2015	10-K	10.25	2/17/2016	
10.43	Interparty Agreement, dated January 19, 2010, among Kansas Unified Development, LLC, OnGoal, LLC and Cerner Corporation	8-K	99.1	1/25/2010 000-153866/10543089	
10.44	Real Estate Purchase Agreement between Cerner Property Development, Inc. and Trails Property II, Inc. dated July 30, 2013	8-K	10.1	8/1/2013	
10.45	First Amendment to Real Estate Purchase Agreement between Cerner Property Development, Inc. and Trails Property II, Inc. dated December 23, 2013	10-K	10.28	2/11/2015	
10.46	Second Amendment to Real Estate Purchase Agreement between Cerner Property Development, Inc. and Trails Property II, Inc. dated October 16, 2014	10-K	10.29	2/11/2015	
10.47	Master Sale and Purchase Agreement between Siemens AG and Cerner Corporation dated August 5, 2014	10-Q	2.1	10/24/2014	
10.48	Amendment Agreement to the Master Sale and Purchase Agreement between Siemens AG and Cerner Corporation dated February 2, 2015	8-K	10.1	2/2/2015	
10.49	Master Note Purchase Agreement between Cerner Corporation and the Purchasers listed in Schedule A thereto dated December 4, 2014	8-K	10.1	12/5/2014	
10.50	Third Amended and Restated Credit Agreement, dated October 30, 2015, among Cerner Corporation and U.S. Bank National Association, Bank of America, N.A. and Commerce Bank, N.A.	8-K	10.1	11/3/2015	
21	Subsidiaries of Registrant				X
23	Consent of Independent Registered Public Accounting Firm				X
31.1	Certification of D. Brent Shafer pursuant to Section 302 of Sarbanes-Oxley Act of 2002				X
31.2	Certification of Marc G. Naughton pursuant to Section 302 of Sarbanes-Oxley Act of 2002				X
32.1	Certification of D. Brent Shafer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of Sarbanes-Oxley Act of 2002				X

32.2	Certification of Marc G. Naughton pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of Sarbanes-Oxley Act of 2002	X
101.INS	XBRL Instance Document	X

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101.SCH	XBRL Taxonomy Extension Schema Document	X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	X
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document	X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	X

* Indicates a management contract or compensatory plan or arrangement required to be identified by Part IV, Item 15(a)(3).

PLEASE NOTE: Pursuant to the rules and regulations of the Securities and Exchange Commission, we have filed or incorporated by reference the agreements referenced above as exhibits to this annual report on Form 10-K. The agreements have been filed to provide investors with information regarding their respective terms. The agreements are not intended to provide any other factual information about the Company or its business or operations. In particular, the assertions embodied in any representations, warranties and covenants contained in the agreements may be subject to qualifications with respect to knowledge and materiality different from those applicable to investors and may be qualified by information in confidential disclosure schedules not included with the exhibits. These disclosure schedules may contain information that modifies, qualifies and creates exceptions to the representations, warranties and covenants set forth in the agreements. Moreover, certain representations, warranties and covenants in the agreements may have been used for the purpose of allocating risk between the parties, rather than establishing matters as facts. In addition, information concerning the subject matter of the representations, warranties and covenants may have changed after the date of the respective agreement, which subsequent information may or may not be fully reflected in the Company's public disclosures. Accordingly, investors should not rely on the representations, warranties and covenants in the agreements as characterizations of the actual state of facts about the Company or its business or operations on the date hereof.

Item 16. Form 10-K Summary.

None.

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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.

CERNER CORPORATION

Date: February 12, 2018 By: /s/ D. Brent Shafer
D. Brent Shafer
Chairman of the Board and
Chief Executive Officer

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

Signature and Title	Date
/s/ D. Brent Shafer D. Brent Shafer, Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	February 12, 2018
/s/ Clifford W. Illig Clifford W. Illig, Vice Chairman and Director	February 12, 2018
/s/ Marc G. Naughton Marc G. Naughton, Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 12, 2018
/s/ Michael R. Battaglioli Michael R. Battaglioli, Vice President and Chief Accounting Officer (Principal Accounting Officer)	February 12, 2018
/s/ Gerald E. Bisbee, Jr. Gerald E. Bisbee, Jr., Ph.D., Director	February 12, 2018
/s/ Denis A. Cortese Denis A. Cortese, M.D., Director	February 12, 2018
/s/ Mitchell E. Daniels Mitchell E. Daniels, Director	February 12, 2018
/s/ Linda M. Dillman Linda M. Dillman, Director	February 12, 2018
/s/ Julie L. Gerberding Julie L. Gerberding, M.D., Director	February 12, 2018
/s/ William B. Neaves William B. Neaves, Ph.D., Director	February 12, 2018

/s/ William D. Zollars
William D. Zollars, Director

February 12, 2018

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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Cerner Corporation:

Opinion on Internal Control Over Financial Reporting

We have audited Cerner Corporation and subsidiaries' (the "Company") internal control over financial reporting as of December 30, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 30, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 30, 2017 and December 31, 2016, the related consolidated statements of operations, comprehensive income, cash flows, and changes in shareholders' equity for each of the years in the three-year period ended December 30, 2017, and the related notes (collectively, the consolidated financial statements), and our report dated February 12, 2018 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/KPMG LLP
Kansas City, Missouri
February 12, 2018

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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Cerner Corporation:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Cerner Corporation and subsidiaries (the "Company") as of December 30, 2017 and December 31, 2016, the related consolidated statements of operations, comprehensive income, cash flows, and changes in shareholders' equity for each of the years in the three year period ended December 30, 2017, and the related notes (collectively, the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 30, 2017 and December 31, 2016, and the results of their operations and their cash flows for each of the years in the three year period ended December 30, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 30, 2017, 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 12, 2018 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed its method of accounting for certain share-based payment award transactions in 2017 due to the adoption of Accounting Standards Update 2016-09 "Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting", effective January 1, 2017.

Basis for Opinion

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

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

/s/KPMG LLP

We have served as the Company's auditor since 1983.

Kansas City, Missouri
February 12, 2018

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CERNER CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
As of December 30, 2017 and December 31, 2016

(In thousands, except share data)	2017	2016
Assets		
Current assets:		
Cash and cash equivalents	$370,923	$170,861
Short-term investments	434,844	185,588
Receivables, net	1,042,781	944,943
Inventory	15,749	14,740
Prepaid expenses and other	515,930	303,229
Total current assets	2,380,227	1,619,361
Property and equipment, net	1,603,319	1,552,524
Software development costs, net	822,159	719,209
Goodwill	853,005	844,200
Intangible assets, net	479,753	566,047
Long-term investments	196,837	109,374
Other assets	134,011	219,248
Total assets	$6,469,311	$5,629,963
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	$218,996	$238,134
Current installments of long-term debt and capital lease obligations	11,585	26,197
Deferred revenue	311,337	311,839
Accrued payroll and tax withholdings	183,770	211,554
Other accrued expenses	63,907	57,677
Total current liabilities	789,595	845,401
Long-term debt and capital lease obligations	515,130	537,552
Deferred income taxes and other liabilities	365,674	306,263
Deferred revenue	13,564	12,800
Total liabilities	1,683,963	1,702,016
Shareholders' Equity:		
Common stock, $.01 par value, 500,000,000 shares authorized, 359,204,864 shares issued at December 30, 2017 and 353,731,237 shares issued at December 31, 2016	3,592	3,537
Additional paid-in capital	1,380,371	1,230,913
Retained earnings	4,938,866	4,094,327
Treasury stock, 26,743,517 shares at December 30, 2017 and 24,089,737 shares at December 31, 2016	(1,464,099)	(1,290,665)
Accumulated other comprehensive loss, net	(73,382)	(110,165)
Total shareholders' equity	4,785,348	3,927,947
Total liabilities and shareholders' equity	$6,469,311	$5,629,963

See notes to consolidated financial statements.

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CERNER CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
For the years ended December 30, 2017, December 31, 2016 and January 2, 2016

(In thousands, except per share data)	For the Years Ended 2017	2016	2015
Revenues:			
System sales	$1,355,172	$1,265,962	$1,281,890
Support, maintenance and services	3,685,637	3,441,966	3,070,575
Reimbursed travel	101,463	88,545	72,802
Total revenues	5,142,272	4,796,473	4,425,267
Costs and expenses:			
Cost of system sales	448,321	412,066	430,335
Cost of support, maintenance and services	304,307	278,505	247,644
Cost of reimbursed travel	101,463	88,545	72,802
Sales and client service	2,276,821	2,071,926	1,838,600
Software development (Includes amortization of $173,250, $140,232 and $119,195, respectively)	605,046	551,418	539,799
General and administrative	355,267	392,454	423,424
Amortization of acquisition-related intangibles	90,576	90,546	91,527
Total costs and expenses	4,181,801	3,885,460	3,644,131
Operating earnings	960,471	911,013	781,136
Other income, net	6,658	7,421	244
Earnings before income taxes	967,129	918,434	781,380
Income taxes	(100,151)	(281,950)	(242,018)
Net earnings	$866,978	$636,484	$539,362
Basic earnings per share	$2.62	$1.88	$1.57
Diluted earnings per share	$2.57	$1.85	$1.54
Basic weighted average shares outstanding	331,373	337,740	343,178
Diluted weighted average shares outstanding	337,999	343,653	350,908

See notes to consolidated financial statements.

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CERNER CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
For the years ended December 30, 2017, December 31, 2016 and January 2, 2016

(In thousands)	For the Years Ended 2017	2016	2015
Net earnings	$866,978	$636,484	$539,362
Foreign currency translation adjustment and other (net of taxes (benefit) of $4,909, $2,092 and $(3,201), respectively)	37,463	(33,871)	(32,171)
Unrealized holding gain (loss) on available-for-sale investments (net of taxes (benefit) of $(416), $37 and $(46), respectively)	(680)	60	(87)
Comprehensive income	$903,761	$602,673	$507,104

See notes to consolidated financial statements.

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CERNER CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
For the years ended December 30, 2017, December 31, 2016 and January 2, 2016

	For the Years Ended		
(In thousands)	2017	2016	2015
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net earnings	$866,978	$636,484	$539,362
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation and amortization	580,723	504,236	452,225
Share-based compensation expense	83,019	74,536	70,121
Provision for deferred income taxes	47,409	(11,517)	65,245
Changes in assets and liabilities (net of businesses acquired):			
Receivables, net	(32,836)	78,258	(160,124)
Inventory	(972)	(666)	12,951
Prepaid expenses and other	(191,369)	(66,658)	(55,363)
Accounts payable	6,960	(13,197)	7
Accrued income taxes	18,358	64,073	55,269
Deferred revenue	(3,114)	1,555	9,450
Other accrued liabilities	(67,481)	(21,467)	50,785
Net cash provided by operating activities	1,307,675	1,245,637	1,039,928
CASH FLOWS FROM INVESTING ACTIVITIES:			
Capital purchases	(362,083)	(459,427)	(362,132)
Capitalized software development costs	(274,148)	(293,696)	(264,656)
Purchases of investments	(632,048)	(482,078)	(487,981)
Sales and maturities of investments	292,074	463,899	1,208,387
Purchase of other intangibles	(29,646)	(18,472)	(21,432)
Acquisition of businesses	—	—	(1,478,129)
Net cash used in investing activities	(1,005,851)	(789,774)	(1,405,943)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Long-term debt issuance	—	—	500,000
Repayment of long-term debt	—	—	(14,325)
Proceeds from exercise of stock options	76,705	63,794	51,475
Payments to taxing authorities in connection with shares directly withheld from associates	(11,584)	(38,122)	(36,443)
Treasury stock purchases	(173,434)	(700,275)	(345,057)
Contingent consideration payments for acquisition of businesses	(2,671)	(2,074)	(11,012)
Other	—	—	(791)
Net cash provided by (used in) financing activities	(110,984)	(676,677)	143,847
Effect of exchange rate changes on cash and cash equivalents	9,222	(10,447)	(10,913)
Net increase (decrease) in cash and cash equivalents	200,062	(231,261)	(233,081)
Cash and cash equivalents at beginning of period	170,861	402,122	635,203

Cash and cash equivalents at end of period	$370,923	$170,861	$402,122
Summary of acquisition transactions:			
Fair value of tangible assets acquired	$—	$(10,200)	$532,625
Fair value of intangible assets acquired	—	(25,000)	637,980
Fair value of goodwill	—	46,940	485,387
Less: Fair value of liabilities assumed	—	(11,740)	(176,863)
Less: Fair value of contingent liability payable	—	—	(1,000)
Net cash used	$—	$—	$1,478,129

See notes to consolidated financial statements.

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CERNER CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
For the years ended December 30, 2017, December 31, 2016 and January 2, 2016

(In thousands)	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income (Loss)
Balance at January 3, 2015	346,986	$ 3,470	$ 933,446	$ 2,918,481	$ (245,333)	$ (44,096)
Exercise of stock options (including net-settled option exercises)	3,337	33	15,647	—	—	—
Employee share-based compensation expense	—	—	70,121	—	—	—
Employee share-based compensation net excess tax benefit	—	—	56,568	—	—	—
Other comprehensive income (loss)	—	—	—	—	—	(32,258)
Treasury stock purchases	—	—	—	—	(345,057)	—
Net earnings	—	—	—	539,362	—	—
Balance at January 2, 2016	350,323	3,503	1,075,782	3,457,843	(590,390)	(76,354)
Exercise of stock options (including net-settled option exercises)	3,408	34	27,747	—	—	—
Employee share-based compensation expense	—	—	74,536	—	—	—
Employee share-based compensation net excess tax benefit	—	—	52,848	—	—	—
Other comprehensive income (loss)	—	—	—	—	—	(33,811)
Treasury stock purchases	—	—	—	—	(700,275)	—
Net earnings	—	—	—	636,484	—	—
Balance at December 31, 2016	353,731	3,537	1,230,913	4,094,327	(1,290,665)	(110,165)
Exercise of stock options (including net-settled option exercises)	5,474	55	66,439	—	—	—
Employee share-based compensation expense	—	—	83,019	—	—	—

Cumulative effect of accounting change (Note 1)	—	—	—	(22,439)	—	—
Other comprehensive income (loss)	—	—	—	—	—	36,783
Treasury stock purchases	—	—	—	—	(173,434)	—
Net earnings	—	—	—	866,978	—	—
Balance at December 30, 2017	359,205	$ 3,592	$ 1,380,371	$ 4,938,866	$ (1,464,099)	$ (73,382)

See notes to consolidated financial statements.

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CERNER CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) Basis of Presentation, Nature of Operations and Summary of Significant Accounting Policies

Basis of Presentation

The consolidated financial statements include all the accounts of Cerner Corporation ("Cerner," the "Company," "we," "us" or "our") and its subsidiaries. All significant intercompany transactions have been eliminated in consolidation.

The consolidated financial statements were prepared using accounting principles generally accepted in the United States of America ("GAAP"). These principles require us to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities and the reported amounts of revenues and expenses. Actual results could differ from those estimates.

Our fiscal year ends on the Saturday closest to December 31. Fiscal years 2017, 2016 and 2015 each consisted of 52 weeks and ended on December 30, 2017, December 31, 2016 and January 2, 2016, respectively. All references to years in these notes to consolidated financial statements represent fiscal years unless otherwise noted.

Nature of Operations

We design, develop, market, install, host and support health care information technology, health care devices, hardware and content solutions for health care organizations and consumers. We also provide a wide range of value-added services, including implementation and training, remote hosting, operational management services, revenue cycle services, support and maintenance, health care data analysis, clinical process optimization, transaction processing, employer health centers, employee wellness programs and third party administrator services for employer-based health plans.

Siemens Health Services

On February 2, 2015, we acquired Siemens Health Services, as further described in Note (2). The addition of the Siemens Health Services business impacts the comparability of our consolidated financial statements as of and for the year ended January 2, 2016, in relation to the comparative periods presented herein.

Voluntary Separation Plans

In the first quarter of 2015, the Company adopted a voluntary separation plan ("2015 VSP") for eligible associates. Generally, the 2015 VSP was available to U.S. associates who met a minimum level of combined age and tenure, excluding, among others, our executive officers. Associates who elected to participate in the 2015 VSP received financial benefits commensurate with their tenure and position, along with vacation payout and medical benefits. The irrevocable acceptance period for most associates electing to participate in the 2015 VSP ended in May 2015. During 2015, we recorded pre-tax charges for the 2015 VSP of $46 million, which are included in general and administrative expense in our consolidated statements of operations. At the end of 2015, this program was complete.

In the fourth quarter of 2016, the Company adopted a new voluntary separation plan ("2016 VSP") for eligible associates. This 2016 VSP was available to U.S. associates who met a minimum level of combined age and tenure. Associates who elected to participate in the 2016 VSP received financial benefits commensurate with their tenure and position, along with vacation payout and medical benefits. The irrevocable acceptance period for associates electing to participate in the 2016 VSP ended in December 2016. During 2016, we recorded pre-tax charges for the 2016 VSP of

$36 million, which are included in general and administrative expense in our consolidated statements of operations. At the end of 2016, this program was complete.

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Supplemental Disclosures of Cash Flow Information

	For the Years Ended		
(In thousands)	2017	2016	2015
Cash paid during the year for:			
Interest (including amounts capitalized of $10,387, $14,852, and $7,106, respectively)	$17,914	$18,484	$13,164
Income taxes, net of refunds	186,544	254,539	118,409

Summary of Significant Accounting Policies

(a) Revenue Recognition - The following is a discussion of revenue recognition policies followed by the Company through 2017. Refer to (q) below for discussion regarding new revenue guidance effective for 2018.

We recognize software related revenue in accordance with the provisions of Accounting Standards Codification Topic ("ASC") 985-605, Software – Revenue Recognition and non-software related revenue in accordance with ASC 605, Revenue Recognition. In general, revenue is recognized when all of the following criteria have been met:

- Persuasive evidence of an arrangement exists;
- Delivery has occurred or services have been rendered;
- Our fee is fixed or determinable; and
- Collection of the revenue is reasonably assured.

The following are our major components of revenue:

- System sales – includes the licensing of computer software, software as a service, deployment period upgrades, installation, content subscriptions, transaction processing and the sale of computer hardware and sublicensed software;
- Support, maintenance and services – includes software support and hardware maintenance, remote hosting and managed services, training, consulting and implementation services; and
- Reimbursed travel – includes reimbursable out-of-pocket expenses (primarily travel) incurred in connection with our client service activities.

We provide for several models of procurement of our information systems and related services. The predominant model involves multiple deliverables and includes a perpetual software license agreement, project-related implementation and consulting services, software support and either hosting services or computer hardware and sublicensed software, which requires that we allocate revenue to each of these elements.

Allocation of Revenue to Multiple Element Arrangements

For multiple element arrangements that contain software and non-software elements, we allocate revenue to software and software-related elements as a group and any non-software element separately. After the arrangement consideration has been allocated to the non-software elements, revenue is recognized when the basic revenue recognition criteria are met for each element. For the group of software and software-related elements, revenue is recognized under the guidance applicable to software transactions.

Since we do not have vendor specific objective evidence ("VSOE") of fair value on software licenses within our multiple element arrangements, we recognize revenue on our software and software-related elements using the residual method. Under the residual method, license revenue is recognized in a multiple-element arrangement when vendor-specific objective evidence of fair value exists for all of the undelivered elements in the arrangement, when software is delivered, installed and all other conditions to revenue recognition are met. We allocate revenue to each

undelivered element in a multiple-element arrangement based on the element's respective fair value, with the fair value determined by the price charged when that element is sold separately. Specifically, we determine the fair value of the software support, hardware maintenance, sublicensed software support, remote hosting, subscriptions and software as a service portions of the arrangement based on the substantive renewal price for these services charged to clients; professional services (including training and consulting) portion of the arrangement, based on hourly rates which we charge for these services when sold apart from a software license; and sublicensed software based on its price when sold separately from the software. The residual amount of the fee

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after allocating revenue to the fair value of the undelivered elements is attributed to the licenses for software solutions. If evidence of the fair value cannot be established for the undelivered elements of a license agreement using VSOE, the entire amount of revenue under the arrangement is deferred until these elements have been delivered or VSOE of fair value can be established.

We also enter into arrangements that include multiple non-software deliverables. For each element in a multiple element arrangement that does not contain software-related elements to be accounted for as a separate unit of accounting, the following must be met: the delivered products or services have value to the client on a stand-alone basis; and for an arrangement that includes a general right of return relative to the delivered products or services, delivery or performance of the undelivered product or service is considered probable and is substantially controlled by the Company. We allocate the arrangement consideration to each element based on the selling price hierarchy of VSOE of fair value, if it exists, or third-party evidence ("TPE") of selling price. If neither VSOE nor TPE are available, we use estimated selling price. After the arrangement consideration has been allocated to the elements, we account for each respective element in the arrangement as described below.

For certain arrangements, revenue for software, implementation services and, in certain cases, support services for which VSOE of fair value cannot be established are accounted for as a single unit of accounting. If VSOE of fair value cannot be established for both the implementation services and the support services, the entire arrangement fee is recognized ratably over the period during which the implementation services are expected to be performed or the support period, whichever is longer, beginning with delivery of the software, provided that all other revenue recognition criteria are met. The revenue recognized from single units of accounting are typically allocated and classified as system sales and support, maintenance and services. In cases where VSOE cannot be established, revenue is classified based on contract value. In instances where VSOE for undelivered elements is established subsequent to the outset of an arrangement, a cumulative adjustment to revenue is recognized in the period VSOE for the undelivered elements is established.

Revenue Recognition Policies for Each Element

We provide implementation and consulting services. These services vary depending on the scope and complexity of the engagement. Examples of such services may include database consulting, system configuration, project management, testing assistance, network consulting, post conversion review and application management services. Except for limited arrangements where our software requires significant modifications or customization, implementation and consulting services generally are not deemed to be essential to the functionality of the software and, thus, do not impact the timing of the software license recognition. However, if software license fees are tied to implementation milestones, then the portion of the software license fee tied to implementation milestones is deferred until the related milestone is accomplished and related fees become due and payable and non-forfeitable. Implementation fees, for which VSOE of fair value can be determined, are recognized over the service period, which may extend from nine months to several years for multi-phased projects.

Remote hosting and managed services are marketed under long-term arrangements generally over periods of five to 10 years. These services are typically provided to clients that have acquired a perpetual license for licensed software and have contracted with us to host the software in one of our data centers. Under these arrangements, the client generally has the contractual right to take possession of the licensed software at any time during the hosting period without significant penalty and it is feasible for the client to either run the software on its own equipment or contract with another party unrelated to us to host the software. Additionally, these services are not deemed to be essential to the functionality of the licensed software or other elements of the arrangement. As such, in situations for which we have VSOE of fair value for the undelivered items, we allocate the residual portion of the arrangement fee to the software and recognize it once the client has the ability to take possession of the software. The remaining fees in these arrangements, as well as the fees for arrangements where the client does not have the contractual right or the ability to

take possession of the software at any time or for situations in which VSOE of fair value does not exist for undelivered elements, are generally recognized ratably over the hosting service period.

We also offer our solutions on a software as a service model, providing time-based licenses for our software solutions available within an environment that we manage from our data centers. The data centers provide system and administrative support as well as processing services. Revenue on these services is generally combined and recognized on a monthly basis over the term of the contract. We capitalize related pre-contract direct set-up costs consisting of third party costs and direct software installation and implementation costs associated with the initial set up of a software as a service client. These costs are amortized over the term of the arrangement.

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Software support fees are marketed under annual and multi-year arrangements and are recognized as revenue ratably over the contractual support term. Hardware and sublicensed software maintenance revenues are recognized ratably over the contractual maintenance term.

Subscription and content fees are generally marketed under annual and multi-year agreements and are recognized ratably over the contractual terms.

Hardware and sublicensed software sales are generally recognized when title and risk of loss have transferred to the client.

The sale of equipment under sales-type leases is recorded as system sales revenue at the inception of the lease. Sales-type leases also produce financing income, which is included in system sales revenue and is recognized at consistent rates of return over the lease term.

Where we have contractually agreed to develop new or customized software code for a client, we utilize percentage-of-completion accounting, labor-hours method.

Revenue generally is recognized net of any taxes collected from clients and subsequently remitted to governmental authorities.

Payment Arrangements

Our payment arrangements with clients typically include an initial payment due upon contract signing and date-based licensed software payment terms and payments based upon delivery for services, hardware and sublicensed software. Revenue recognition on support payments received in advance of the services being performed are deferred and classified as either current or long term deferred revenue depending on whether the revenue will be earned within one year.

We have periodically provided long-term financing options to creditworthy clients through third party financing institutions and have directly provided extended payment terms to clients from contract date. These extended payment term arrangements typically provide for date-based payments over periods ranging from 12 months up to seven years. As a significant portion of the fee is due beyond one year, we have analyzed our history with these types of arrangements and have concluded that we have a standard business practice of using extended payment term arrangements and a long history of successfully collecting under the original payment terms for arrangements with similar clients, product offerings, and economics without granting concessions. Accordingly, in these situations, we consider the fee to be fixed and determinable in these extended payment term arrangements and, thus, the timing of revenue is not impacted by the existence of extended payments.

Some of these payment streams have been assigned on a non-recourse basis to third party financing institutions. We account for the assignment of these receivables as sales of financial assets. Provided all revenue recognition criteria have been met, we recognize revenue for these arrangements under our normal revenue recognition criteria, and if appropriate, net of any payment discounts from financing transactions.

(b) Cash Equivalents - Cash equivalents consist of short-term marketable securities with original maturities less than 90 days.

(c) Investments – Our short-term investments are primarily invested in time deposits, commercial paper, government and corporate bonds, with maturities of less than one year. Our long-term investments are primarily invested in government and corporate bonds with maturities of less than two years. All of our investments, other than a small

portion accounted for under the cost and equity methods, are classified as available-for-sale.

Available-for-sale securities are recorded at fair value with the unrealized gains and losses reflected in accumulated other comprehensive loss until realized. Realized gains and losses from the sale of available-for-sale securities, if any, are determined on a specific identification basis.

We regularly review investment securities for impairment based on both quantitative and qualitative criteria that include the extent to which cost exceeds fair value, the duration of any market decline, and the financial health of and specific prospects for the issuer. Unrealized losses that are other than temporary are recognized in earnings.

Premiums are amortized and discounts are accreted over the life of the security as adjustments to interest income for our investments. Interest income is recognized when earned.

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Refer to Note (3) and Note (4) for further description of these assets and their fair value.

(d) Concentrations - The majority of our cash and cash equivalents are held at three major financial institutions. The majority of our cash equivalents consist of money market funds. Deposits held with banks may exceed the amount of insurance provided on such deposits. Generally these deposits may be redeemed upon demand.

As of the end of 2017, we had a significant concentration of receivables owed to us by Fujitsu Services Limited, which are currently in dispute. These receivables have been classified as long-term and are included in other assets in our consolidated balance sheets. Refer to Note (5) for additional information.

(e) Inventory - Inventory consists primarily of computer hardware and sublicensed software, held for resale. Inventory is recorded at the lower of cost (first-in, first-out) or net realizable value.

(f) Property and Equipment - We account for property and equipment in accordance with ASC 360, Property, Plant, and Equipment. Property, equipment and leasehold improvements are stated at cost. Depreciation of property and equipment is computed using the straight-line method over periods of one to 50 years. Amortization of leasehold improvements is computed using a straight-line method over the shorter of the lease terms or the useful lives, which range from periods of one to 15 years.

(g) Software Development Costs - Software development costs are accounted for in accordance with ASC 985-20, Costs of Software to be Sold, Leased or Marketed. Software development costs incurred internally in creating computer software products are expensed until technological feasibility has been established upon completion of a detailed program design. Thereafter, all software development costs incurred through the software’s general release date are capitalized and subsequently reported at the lower of amortized cost or net realizable value. Capitalized costs are amortized based on current and expected future revenue for each software solution with minimum annual amortization equal to the straight-line amortization over the estimated economic life of the solution. We amortize capitalized software development costs over five years.

(h) Goodwill - We account for goodwill under the provisions of ASC 350, Intangibles – Goodwill and Other. Goodwill is not amortized but is evaluated for impairment annually or whenever there is an impairment indicator. All goodwill is assigned to a reporting unit, where it is subject to an annual impairment assessment. Based on these evaluations, there was no impairment of goodwill in 2017, 2016 or 2015. Refer to Note (7) for more information on goodwill and other intangible assets.

(i) Intangible Assets - We account for intangible assets in accordance with ASC 350, Intangibles – Goodwill and Other. Amortization of finite-lived intangible assets is computed using the straight-line method over periods of three to 30 years.

(j) Income Taxes - Income taxes are accounted for in accordance with ASC 740, Income Taxes. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Refer to Note (12) for additional information regarding income taxes.

(k) Earnings per Common Share - Basic earnings per share ("EPS") excludes dilution and is computed, in accordance with ASC 260, Earnings Per Share, by dividing income available to common shareholders by the weighted-average number of common shares outstanding for the period. Diluted EPS reflects the potential dilution that could occur if securities or other contracts to issue stock were exercised or converted into common stock or resulted in the issuance

of common stock that then shared in our earnings. Refer to Note (13) for additional details of our earnings per share computations.

(l) Accounting for Share-based Payments - We recognize all share-based payments to associates, directors and consultants, including grants of stock options, restricted stock and performance shares, in the financial statements as compensation cost based on their fair value on the date of grant, in accordance with ASC 718, Compensation-Stock Compensation. This compensation cost is recognized over the vesting period on a straight-line basis for the fair value of awards that actually vest. Refer to Note (14) for a detailed discussion of share-based payments.

(m) Voluntary Separation Benefits - We account for voluntary separation benefits in accordance with the provisions of ASC 712, Compensation-Nonretirement Postemployment Benefits. Voluntary separation benefits are recorded to expense when the associates irrevocably accept the offer and the amount of the termination liability is reasonably estimable.

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(n) Foreign Currency - In accordance with ASC 830, Foreign Currency Matters, assets and liabilities of non-U.S. subsidiaries whose functional currency is the local currency are translated into U.S. dollars at exchange rates prevailing at the balance sheet date. Revenues and expenses are translated at average exchange rates during the year. The net exchange differences resulting from these translations are reported in accumulated other comprehensive loss. Gains and losses resulting from foreign currency transactions are included in the consolidated statements of operations.

(o) Collaborative Arrangements - In accordance with ASC 808, Collaborative Arrangements, third party costs incurred and revenues generated by arrangements involving joint operating activities of two or more parties that are each actively involved and exposed to risks and rewards of the activities are classified in the consolidated statements of operations on a gross basis only if we are determined to be the principal participant in the arrangement. Otherwise, third party revenues and costs generated by collaborative arrangements are presented on a net basis. Payments between participants are recorded and classified based on the nature of the payments.

(p) Accounting Pronouncements Adopted in 2017

Share-Based Compensation. In March 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-09, Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting. ASU 2016-09 impacts several aspects of the accounting for share-based payment award transactions, including: (1) accounting and cash flow classification for excess tax benefits and deficiencies, (2) forfeitures, and (3) tax withholding requirements and cash flow classification. ASU 2016-09 was effective for the Company in the first quarter of 2017. This new guidance impacts our consolidated financial statements as follows:

- Prior to the adoption of ASU 2016-09, when associates exercised stock options, or upon the vesting of restricted stock awards, we recognized any related excess tax benefits or deficiencies (the difference between the deduction for tax purposes and the cumulative compensation cost recognized in the consolidated financial statements) in additional paid-in capital ("APIC"). During 2016 and 2015, we recognized net excess tax benefits in APIC of $53 million and $57 million, respectively.

Under the new guidance, all excess tax benefits and tax deficiencies are recognized as a component of income tax expense. They are not estimated when determining the annual estimated effective tax rate; instead, they are recorded as discrete items in the reporting period they occur. During 2017, we recognized $66 million of net excess tax benefits as discrete items, which are included in income taxes in our consolidated statements of operations. These net excess tax benefits recognized during 2017 resulted in a favorable impact to diluted earnings per share of $0.19.

This provision of the new guidance may have a significant impact on our future income tax expense, including increased variability in our quarterly effective tax rates. The impact will be dependent on a number of factors, including the price of our common stock, grant activity under our stock and equity plans, and the timing of option exercises by our associates. This provision of the new guidance was required to be applied prospectively. Prior periods have not been retrospectively adjusted.

- We utilize the treasury stock method for calculating diluted earnings per share. Prior to the adoption of ASU 2016-09, this method assumed that any net excess tax benefits generated from the hypothetical exercise of dilutive options were used to repurchase outstanding shares. Assumed share repurchases for net excess tax benefits included in our calculation of diluted earnings per share for 2016 and 2015 were 2.0 million shares and 3.2 million shares, respectively.

Under the new guidance, net excess tax benefits generated from the hypothetical exercise of dilutive options are excluded from the calculation of diluted earnings per share. Therefore, the denominator in our diluted earnings per

share calculation has increased (comparatively). We estimate that this provision of the new guidance reduced our calculation of diluted earnings per share by $0.01 to $0.02 for 2017. This provision of the new guidance was required to be applied prospectively. Prior periods have not been retrospectively adjusted.

- Prior to the adoption of ASU 2016-09, we presented net excess tax benefits in our consolidated statements of cash flows as a cash inflow from financing activities. Under the new guidance, net excess tax benefits are to be presented within operating activities. We have elected to apply this provision of the new guidance retrospectively. Prior periods have been retrospectively adjusted.

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- Prior to the adoption of ASU 2016-09, we presented cash payments to taxing authorities in connection with shares directly withheld from associates upon the exercise of stock options, or upon the vesting of restricted stock awards, to meet statutory tax withholding requirements (employee withholdings) as a cash outflow from operating activities. Under the new guidance, such payments are presented within financing activities. This provision of the new guidance was required to be applied retrospectively. Prior periods have been retrospectively adjusted.

- Under the new guidance, an entity is permitted to make an entity-wide accounting policy election (at adoption) either to estimate the number of forfeitures expected to occur or to account for forfeitures as a reduction to compensation cost when they occur. Upon adoption of ASU 2016-09, we did not change our policy of estimating participant forfeitures as a part of our calculations of share-based compensation cost.

Income Taxes. In October 2016, the FASB issued ASU 2016-16, Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other than Inventory, which provides new guidance regarding when an entity should recognize the income tax consequences of certain intra-entity asset transfers. Prior to the adoption of ASU 2016-16, U.S. GAAP prohibited entities from recognizing the income tax consequences of intercompany asset transfers, including transfers of intellectual property. The seller deferred any net tax effect, and the buyer was prohibited from recognizing a deferred tax asset on the difference between the newly created tax basis of the asset in its tax jurisdiction and its financial statement carrying amount as reported in the consolidated financial statements. ASU 2016-16 requires entities to recognize these tax consequences in the period in which the transfer takes place, with the exception of inventory transfers.

ASU 2016-16 is effective for the Company in the first quarter of 2018, with early adoption permitted in the first quarter of 2017. The standard requires the use of the modified retrospective (cumulative effect) transition approach. The Company adopted the standard early, in the first quarter of 2017. In connection with such adoption, we recorded a cumulative effect adjustment reducing prepaid expenses and other, other assets, and retained earnings within our consolidated balance sheets by $8 million, $14 million, and $22 million, respectively. This cumulative effect adjustment includes recognition of the income tax consequences of intra-entity transfers of assets other than inventory that occurred prior to the adoption date. Prior periods were not retrospectively adjusted.

(q) Recently Issued Accounting Pronouncements

Revenue Recognition. In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers (Topic 606), which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. ASU 2014-09 will replace most existing revenue recognition guidance in U.S. GAAP. The new standard introduces a five-step process to be followed in determining the amount and timing of revenue recognition. It also provides guidance on accounting for costs incurred to obtain or fulfill contracts with customers, and establishes disclosure requirements which are more extensive than those required under existing U.S. GAAP.

The FASB has issued numerous amendments to ASU 2014-09 from August 2015 through January 2018, which provide supplemental and clarifying guidance, as well as amend the effective date of the new standard.

ASU 2014-09, as amended, is effective for the Company in the first quarter of 2018. Early adoption was permitted in the first quarter of 2017. The standard permits the use of either the retrospective or modified retrospective (cumulative effect) transition method.

We will adopt this new guidance effective with our first quarter of 2018, utilizing the modified retrospective (cumulative effect) transition method. Such method provides that the cumulative effect from prior periods upon applying the new guidance is recognized in our consolidated balance sheets as of the date of adoption, including an adjustment to retained earnings. Prior periods will not be retrospectively adjusted.

We expect this new guidance to impact the amount and timing of our revenue recognition as follows:

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Generally, our subscription and content fees revenue is recognized ratably over the respective contract terms ("over time"). Upon adoption of the new guidance, we expect to recognize a license component of certain subscription and content fees revenue upon delivery to the customer ("point in time") and a non-license component (i.e. support) of such revenues over the respective contract terms ("over time").

For certain of our arrangements, revenue for software, implementation services and, in certain cases, support services for which vendor specific objective evidence (VSOE) of fair value cannot be established are accounted for as a single unit of accounting. If VSOE of fair value cannot be established for both the implementation services and the support services, the entire arrangement fee is recognized ratably ("over time") over the period during which the

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implementation services are expected to be performed or the support period, whichever is longer, beginning with delivery of the software, provided that all other revenue recognition criteria are met. Upon adoption of the new guidance, the concept of VSOE of fair value is eliminated. Consideration for an arrangement is allocated to performance obligations based on stand-alone selling price or an estimate of stand-alone selling price. With this change, we expect to be able to allocate consideration to the various elements within arrangements currently accounted for as a single unit of accounting. Such revenue will then be recognized as each performance obligation is delivered (i.e. "point in time" for software) or as provided to the customer (i.e. "over time" for implementation services and support services).

- Certain of our arrangements contain fees, that upon adoption of the new guidance, will be considered a "material right". This "material right" will be a separate performance obligation under the new guidance, and we expect to recognize such amount over the term that will likely affect the client’s decision about whether to renew the related service ("over time").

At the date of adoption of this new guidance, we expect to record a cumulative adjustment to our consolidated balance sheet, including an adjustment to retained earnings, to adjust for the aggregate impact of these revenue items, as calculated under the new guidance. We currently estimate the amount of such adjustment to retained earnings to be approximately one percent of our annual 2017 revenues. Such estimate is preliminary and subject to change as we finalize our implementation process.

Although we have not fully completed our analysis of this new revenue recognition guidance, we do not believe that such guidance will materially impact the aggregate amount and timing of our revenue recognition subsequent to adoption.

We have determined the only significant incremental costs incurred to obtain contracts with customers within the scope of ASU 2014-09, as amended, are sales commissions paid to associates. Under current U.S. GAAP, we recognize sales commissions as earned, and record such amounts as a component of total costs and expenses in our consolidated statements of operations. We recognized sales commission expense of $47 million, $44 million and $45 million in the 2017, 2016, and 2015 annual periods, respectively. Under the new guidance, we expect to record sales commissions as an asset, and amortize to expense over the related contract performance period. At the date of adoption of this new guidance, we expect to record an asset in our consolidated balance sheets for the amount of unamortized sales commissions for prior periods, as calculated under the new guidance. Such amount will subsequently be amortized to expense over the remaining performance periods of the related contracts with remaining performance obligations. We currently estimate that upon adoption we will record a cumulative effect adjustment related to the commissions expense increasing other assets, deferred income taxes and other liabilities, and retained earnings within our consolidated balance sheets by approximately $82 million, $20 million, and $62 million, respectively. Such estimate is preliminary and subject to change as we finalize our implementation process.

Our analysis and evaluation of the new standard will continue through the filing of our first quarter 2018 consolidated financial statements. A significant amount of work remains as we finalize calculations and evaluate the new disclosure requirements. We must also implement any necessary changes/modifications to processes, accounting systems, and internal controls.

Financial Instruments. In January 2016, the FASB issued ASU 2016-01, Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities, which addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. Such guidance will impact how we account for our investments reported under the cost method of accounting as follows:

- Equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) will be required to be measured at fair value with changes in fair value recognized in net earnings. However, an entity may choose to measure equity investments that do not have readily determinable fair values at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer.

- The impairment assessment of equity investments without readily determinable fair values will require a qualitative assessment to identify impairment. When a qualitative assessment indicates that impairment exists, an entity is required to measure the investment at fair value.

We will adopt this new guidance effective with our first quarter of 2018, and we do not expect such guidance to have a material impact on our consolidated financial statements and related disclosures.

Leases. In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842), which introduces a new model that requires most leases to be reported on the balance sheet and aligns many of the underlying principles of the new lessor model with those in the new revenue recognition standard. The standard requires the use of the modified retrospective (cumulative

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effect) transition approach. ASU 2016-02 is effective for the Company in the first quarter of 2019, with early adoption permitted. We are currently evaluating the effect that ASU 2016-02 will have on our consolidated financial statements and related disclosures, and we do not expect to early adopt.

Credit Losses on Financial Instruments. In June 2016, the FASB issued ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, which provides new guidance regarding the measurement and recognition of credit impairment for certain financial assets. Such guidance will impact how we determine our allowance for estimated uncollectible receivables and evaluate our available-for-sale investments for impairment. ASU 2016-13 is effective for the Company in the first quarter of 2020, with early adoption permitted in the first quarter of 2019. We are currently evaluating the effect that ASU 2016-13 will have on our consolidated financial statements and related disclosures, and we have not determined if we will early adopt.

Callable Debt Securities. In March 2017, the FASB issued ASU 2017-08, Receivables - Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities, which shortens the amortization period for certain investments in callable debt securities purchased at a premium by requiring the premium be amortized to the earliest call date. Such guidance will impact how premiums are amortized on our available-for-sale investments. ASU 2017-08 is effective for the Company in the first quarter of 2019, with early adoption permitted. The standard requires the use of the modified retrospective (cumulative effect) transition approach. We are currently evaluating the effect that ASU 2017-08 will have on our consolidated financial statements and related disclosures, and we have not determined if we will early adopt.

(2) Business Acquisitions

Siemens Health Services

On February 2, 2015, we acquired substantially all of the assets, and assumed certain liabilities of Siemens Health Services, the health information technology business unit of Siemens AG, a stock corporation established under the laws of Germany, and its affiliates. Siemens Health Services offered a portfolio of enterprise-level clinical and financial health care information technology solutions, as well as departmental, connectivity, population health, and care coordination solutions globally. Solutions were offered on the Soarian®, INVISION®, and i.s.h.med® platforms, among others. Siemens Health Services also offered a range of complementary services, including support, hosting, managed services, implementation services, and strategic consulting.

We believe the acquisition enhances our organic growth opportunities as it provides us a larger base into which we can sell our combined portfolio of solutions and services. The acquisition also augments our non-U.S. footprint and growth opportunities, increases our ability and scale for R&D investment, and added over 5,000 highly-skilled associates that enhance our capabilities. These factors, combined with the synergies and economies of scale expected from combining the operations of Cerner and Siemens Health Services, are the basis for acquisition and comprise the resulting goodwill recorded.

Consideration for the acquisition was $1.39 billion of cash, consisting of the $1.3 billion agreed upon purchase price plus working capital and certain other adjustments under the Master Sale and Purchase Agreement ("MSPA") dated August 5, 2014, as amended.
We incurred pre-tax costs of $22 million in 2015 in connection with our acquisition of Siemens Health Services, which are included in general and administrative expense in our consolidated statements of operations.
The acquisition of Siemens Health Services was treated as a purchase in accordance with ASC Topic 805, Business Combinations, which requires allocation of the purchase price to the estimated fair values of the assets acquired and liabilities assumed in the transaction.

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The final allocation of purchase price was as follows:

(in thousands)	Allocation Amount	Estimated Weighted Average Useful Life
Receivables, net of allowances of $34,191	$226,207	
Other current assets	46,682	
Property and equipment	158,324	20 years
Goodwill	532,327	
Intangible assets:		
Customer relationships	371,000	10 years
Existing technologies	201,990	5 years
Trade names	39,990	8 years
Total intangible assets	612,980	
Other non-current assets	5,212	
Accounts payable	(42,306)	
Deferred revenue (current)	(85,314)	
Other current liabilities	(12,853)	
Deferred revenue (non-current)	(48,130)	
Total purchase price	$1,393,129	

The intangible assets in the table above are being amortized on a straight-line basis over their estimated useful lives, with such amortization included in amortization of acquisition-related intangibles in our consolidated statements of operations.

The fair value measurements of tangible and intangible assets and liabilities were based on significant inputs not observable in the market and thus represent Level 3 measurements within the fair value measurement hierarchy. Level 3 inputs included, among others, discount rates that we estimated would be used by a market participant in valuing these assets and liabilities, projections of revenues and cash flows, client attrition rates, royalty rates, and market comparables.

Property and equipment was valued primarily using the sales comparison method, a form of the market approach, in which the value is derived by evaluating the market prices of assets with comparable features such as size, location, condition and age. Our analysis included multiple property categories, including land, buildings, and personal property and included assumptions for market prices of comparable assets, and physical and economic obsolescence, among others.

Customer relationship intangible assets were valued using the excess earnings method, a form of the income approach, in which the value is derived by estimation of the after-tax cash flows specifically attributable to the customer relationships. Our analysis consisted of two customer categories, order backlog and existing customer relationships and included assumptions for projections of revenues and expenses, contributory asset charges, discount rates, and a tax amortization benefit, among others.

Existing technology and trade name intangible assets were valued using the relief from royalty method, a form of the income approach, in which the value is derived by estimation of the after-tax royalty savings attributable to owning the assets. Assumptions in these analyses included projections of revenues, royalty rates representing costs avoided due to ownership of the assets, discount rates, and a tax amortization benefit.

Deferred revenue was valued using an income approach, in which the value was derived by estimation of the fulfillment cost, plus a normal profit margin (which excludes any selling margin), for performance obligations assumed in the acquisition. Assumptions included estimations of costs incurred to fulfill the obligations, profit margins a market participant would expect to receive, and a discount rate.

The goodwill of $532 million was allocated among our Domestic and Global operating segments, and is expected to be deductible for tax purposes. Refer to Note (7) for additional information on goodwill.

Our consolidated statements of operations include revenues of approximately $930 million attributable to the acquired business (now referred to as "Cerner Health Services") in 2015. Disclosure of the earnings contribution from the Cerner Health Services business in 2015 is not practicable, as we had already integrated operations in many areas.

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The following table provides unaudited pro forma results of operations for the year ended January 2, 2016, as if the acquisition had been completed prior to our 2015 fiscal year.

(In thousands, except per share data)

Pro forma revenues	$4,518,947
Pro forma net earnings	546,027
Pro forma diluted earnings per share	1.56

These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had we been a combined company during the periods presented, nor are they indicative of our consolidated results of operations in future periods. The pro forma results for the 2015 year include pre-tax adjustments for amortization of intangible assets, fair value adjustments for deferred revenue, and the elimination of acquisition costs of $7 million, $6 million and $22 million, respectively.

Lee's Summit Tech Center

On December 17, 2015, we purchased real estate interests, in-place tenant leases, and certain other assets associated with the property commonly referred to as the Summit Technology Campus, located in Lee's Summit, Missouri. The acquired property (now referred to as the "Lee's Summit Tech Center") consists of a 550,000 square foot multi-tenant office building. We expect to utilize this space to support our data center and office space needs. Consideration for the Lee's Summit Tech Center was $86 million, consisting of $85 million of up-front cash plus contingent consideration of $1 million paid in 2017.

The acquisition of the Lee's Summit Tech Center was treated as a purchase in accordance with ASC Topic 805, Business Combinations. The final allocation of purchase price resulted in the allocation of $86 million to property and equipment, net in our consolidated balance sheets. The in-place tenant leases had a de minimis impact on the allocation of purchase price. No goodwill resulted from the transaction.

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(3) Investments

Available-for-sale investments at the end of 2017 were as follows:

(In thousands)	Adjusted Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash equivalents:				
Money market funds	$99,472	$ —	$ —	$99,472
Time deposits	60,226	—	—	60,226
Government and corporate bonds	850	—	—	850
Total cash equivalents	160,548	—	—	160,548
Short-term investments:				
Time deposits	40,186	—	—	40,186
Commercial paper	147,646	2	(139)	147,509
Government and corporate bonds	247,626	—	(477)	247,149
Total short-term investments	435,458	2	(616)	434,844
Long-term investments:				
Government and corporate bonds	185,478	—	(1,026)	184,452
Total available-for-sale investments	$781,484	$ 2	$ (1,642)	$779,844

Available-for-sale investments at the end of 2016 were as follows:

(In thousands)	Adjusted Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash equivalents:				
Money market funds	$23,110	$ —	$ —	$23,110
Time deposits	11,477	—	—	11,477
Total cash equivalents	34,587	—	—	34,587
Short-term investments:				
Time deposits	40,639	—	—	40,639
Commercial paper	22,325	—	(24)	22,301
Government and corporate bonds	122,729	3	(84)	122,648
Total short-term investments	185,693	3	(108)	185,588
Long-term investments:				
Government and corporate bonds	95,806	—	(438)	95,368
Total available-for-sale investments	$316,086	$ 3	$ (546)	$315,543

Investments reported under the cost method of accounting as of December 30, 2017 and December 31, 2016 were $11 million and $12 million, respectively. Investments reported under the equity method of accounting were $2 million at both December 30, 2017 and December 31, 2016, respectively.

We sold available-for-sale investments for proceeds of $29 million and $245 million in 2017 and 2016, respectively, resulting in insignificant gains/losses in each period.

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(4) Fair Value Measurements

We determine fair value measurements used in our consolidated financial statements based upon the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy distinguishes between (1) market participant assumptions developed based on market data obtained from independent sources (observable inputs) and (2) an entity's own assumptions about market participant assumptions developed based on the best information available in the circumstances (unobservable inputs). The fair value hierarchy consists of three broad levels, which gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are described below:

- Level 1 – Valuations based on quoted prices in active markets for identical assets or liabilities that the entity has the ability to access.
- Level 2 – Valuations based on quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable data for substantially the full term of the assets or liabilities.
- Level 3 – Valuations based on inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The following table details our financial assets measured and recorded at fair value on a recurring basis at the end of 2017:

(In thousands)

		Fair Value Measurements Using		
Description	Balance Sheet Classification	Level 1	Level 2	Level 3
Money market funds	Cash equivalents	$ 99,472	$ —	$ —
Time deposits	Cash equivalents	—	60,226	—
Government and corporate bonds	Cash equivalents	—	850	—
Time deposits	Short-term investments	—	40,186	—
Commercial paper	Short-term investments	—	147,509	—
Government and corporate bonds	Short-term investments	—	247,149	—
Government and corporate bonds	Long-term investments	—	184,452	—

The following table details our financial assets measured and recorded at fair value on a recurring basis at the end of 2016:

(In thousands)

		Fair Value Measurements Using		
Description	Balance Sheet Classification	Level 1	Level 2	Level 3
Money market funds	Cash equivalents	$ 23,110	$ —	$ —
Time deposits	Cash equivalents	—	11,477	—
Time deposits	Short-term investments	—	40,639	—
Commercial paper	Short-term investments	—	22,301	—
Government and corporate bonds	Short-term investments	—	122,648	—
Government and corporate bonds	Long-term investments	—	95,368	—

We estimate the fair value of our long-term, fixed rate debt using a Level 3 discounted cash flow analysis based on current borrowing rates for debt with similar maturities. We estimate the fair value of our long-term, variable rate debt using a Level 3 discounted cash flow analysis based on LIBOR rate forward curves. The fair value of our long-term debt, including current maturities, at the end of 2017 and 2016 was approximately $519 million and $515 million, respectively. The carrying amount of such debt at the end of both 2017 and 2016 was $500 million.

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(5) Receivables

Receivables consist of accounts receivable and the current portion of amounts due under sales-type leases. Accounts receivable primarily represent recorded revenues that have been billed. Billings and other consideration received on contracts in excess of related revenues recognized are recorded as deferred revenue. Substantially all receivables are derived from sales and related support and maintenance and professional services of our clinical, administrative and financial information systems and solutions to health care providers.

We perform ongoing credit evaluations of our clients and generally do not require collateral from our clients. We provide an allowance for estimated uncollectible accounts based on specific identification, historical experience and our judgment.

A summary of net receivables is as follows:

(In thousands)	2017	2016
Gross accounts receivable	$1,082,886	$958,843
Less: Allowance for doubtful accounts	52,786	43,028
Accounts receivable, net of allowance	1,030,100	915,815
Current portion of lease receivables	12,681	29,128
Total receivables, net	$1,042,781	$944,943

A reconciliation of the beginning and ending amount of our allowance for doubtful accounts is as follows:

(in thousands)	2017	2016	2015
Allowance for doubtful accounts - beginning balance	$43,028	$48,119	$25,531
Additions charged to costs and expenses	29,248	5,060	2,317
Additions through acquisitions	—	—	34,159
Deductions[(a)]	(19,490)	(10,151)	(13,888)
Allowance for doubtful accounts - ending balance	$52,786	$43,028	$48,119

[(a)] Deductions in 2017 include a $13 million reclassification to other non-current assets.

Lease receivables represent our net investment in sales-type leases resulting from the sale of certain health care devices to our clients. The components of our net investment in sales-type leases are as follows:

(In thousands)	2017	2016
Minimum lease payments receivable	$20,425	$59,171
Less: Unearned income	1,447	2,253
Total lease receivables	18,978	56,918
Less: Long-term receivables included in other assets	6,297	27,790
Current portion of lease receivables	$12,681	$29,128

During the second quarter of 2008, Fujitsu Services Limited's ("Fujitsu") contract as the prime contractor in the National Health Service ("NHS") initiative to automate clinical processes and digitize medical records in the Southern region of England was terminated by the NHS. This had the effect of automatically terminating our subcontract for the project. We continue to be in dispute with Fujitsu regarding Fujitsu’s obligation to pay the amounts comprised of accounts receivable and contracts receivable related to that subcontract, and we are working with Fujitsu to resolve these issues based on processes provided for in the contract. Part of that process requires final resolution of disputes between Fujitsu and the NHS regarding the contract termination. As of December 30, 2017, it remains unlikely that our matter with Fujitsu will be resolved in the next 12 months. Therefore, these receivables have been classified as long-term and represent less than the majority of other long-term assets at the end of 2017 and 2016. While the ultimate collectability of the receivables pursuant to this process is

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uncertain, we believe that we have valid and equitable grounds for recovery of such amounts and that collection of recorded amounts is probable. Nevertheless, it is reasonably possible that our estimates regarding collectability of such amounts might materially change in the near term, considering that we do not have complete knowledge of the status of the proceedings between Fujitsu and NHS and their effect on our claims.

During 2017 and 2016, we received total client cash collections of $5.4 billion and $5.2 billion, respectively.

(6) Property and Equipment

A summary of property, equipment and leasehold improvements stated at cost, less accumulated depreciation and amortization, is as follows:

(In thousands)	Depreciable Lives (Yrs)	2017	2016
Computer and communications equipment	1—5	$1,511,445	$1,363,799
Land, buildings and improvements	12—50	1,051,658	961,550
Leasehold improvements	1—15	216,586	226,471
Furniture and fixtures	5—12	123,945	102,151
Capital lease equipment	3—5	3,197	3,197
Other equipment	3—20	1,161	1,398
		2,907,992	2,658,566
Less accumulated depreciation and leasehold amortization		1,304,673	1,106,042
Total property and equipment, net		$1,603,319	$1,552,524

Depreciation and leasehold amortization expense for 2017, 2016 and 2015 was $290 million, $246 million and $217 million, respectively.

(7) Goodwill and Other Intangible Assets

The changes in the carrying amounts of goodwill were as follows:

(In thousands)	Domestic	Global	Total
Balance at the end of 2015	$730,837	$68,345	$799,182
Purchase price allocation adjustments for Cerner Health Services	51,827	(4,887)	46,940
Foreign currency translation adjustment and other	—	(1,922)	(1,922)
Balance at the end of 2016	782,664	61,536	844,200
Foreign currency translation adjustment and other	—	8,805	8,805
Balance at the end of 2017	$782,664	$70,341	$853,005

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A summary of net intangible assets is as follows:

(In thousands)	2017 Gross Carrying Amount	Accumulated Amortization	2016 Gross Carrying Amount	Accumulated Amortization
Customer lists	$472,697	$ 195,190	$469,353	$ 153,750
Purchased software	369,728	282,141	368,174	225,754
Internal use software	114,574	60,924	87,966	47,325
Trade names	41,224	16,961	40,583	11,156
Other	46,581	9,835	44,844	6,888
Total	$1,044,804	$ 565,051	$1,010,920	$ 444,873
Intangible assets, net		$ 479,753		$ 566,047

Amortization expense for 2017, 2016 and 2015 was $118 million, $118 million and $116 million, respectively.

Estimated aggregate amortization expense for each of the next five years is as follows:

(In thousands)	
2018	$106,507
2019	102,416
2020	59,355
2021	52,929
2022	47,703

(8) Software Development

Information regarding our software development costs is included in the following table:

	For the Years Ended		
(In thousands)	2017	2016	2015
Software development costs	$705,944	$704,882	$685,260
Capitalized software development costs	(274,148)	(293,696)	(264,656)
Amortization of capitalized software development costs	173,250	140,232	119,195
Total software development expense	$605,046	$551,418	$539,799

Accumulated amortization as of the end of 2017 and 2016 was $1.3 billion and $1.1 billion, respectively.

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(9) Long-term Debt and Capital Lease Obligations

The following is a summary of indebtedness outstanding:

(In thousands)	2017	2016
Senior Notes	$500,000	$500,000
Capital lease obligations	13,068	50,444
Other	14,162	13,921
Debt and capital lease obligations	527,230	564,365
Less: debt issuance costs	(515)	(616)
Debt and capital lease obligations, net	526,715	563,749
Less: current portion	(11,585)	(26,197)
Long-term debt and capital lease obligations	$515,130	$537,552

Senior Notes

In January 2015, we issued $500 million aggregate principal amount of unsecured Senior Notes ("Senior Notes"), pursuant to a Master Note Purchase Agreement dated December 4, 2014. The issuance consisted of $225 million of 3.18% Series 2015-A Notes due February 15, 2022, $200 million of 3.58% Series 2015-B Notes due February 14, 2025, and $75 million in floating rate Series 2015-C Notes due February 15, 2022. Interest is payable semiannually on February 15th and August 15th in each year, commencing on August 15, 2015 for the Series 2015-A Notes and Series 2015-B Notes. The Series 2015-C Notes will accrue interest at a floating rate equal to the Adjusted LIBOR Rate (as defined in the Master Note Purchase Agreement), payable quarterly on February 15th, May 15th, August 15th and November 15th in each year, commencing on May 15, 2015. As of December 30, 2017, the interest rate for the current interest period was 2.42% based on the three-month floating LIBOR rate. The debt issuance costs in the table above relate to the issuance of these Senior Notes. The Master Note Purchase Agreement contains certain leverage and interest coverage ratio covenants and provides certain restrictions on our ability to borrow, incur liens, sell assets, and other customary terms. Proceeds from the Senior Notes are available for general corporate purposes.

Capital Leases

Our capital lease obligations are primarily related to the procurement of hardware and health care devices.

Other

Other indebtedness includes estimated amounts payable through September 2025, under an agreement entered into in September 2015.

Credit Facility

In October 2015, we amended and restated our revolving credit facility. The amended facility provides a $100 million unsecured revolving line of credit for working capital purposes, which includes a letter of credit facility, expiring in October 2020. We have the ability to increase the maximum capacity to $200 million at any time during the facility’s term, subject to lender participation. Interest is payable at a rate based on prime, LIBOR, or the U.S. federal funds rate, plus a spread that varies depending on the leverage ratios maintained. The agreement provides certain restrictions on our ability to borrow, incur liens, sell assets and pay dividends and contains certain cash flow and liquidity

covenants. As of the end of 2017, we had no outstanding borrowings under this facility; however, we had $52 million of outstanding letters of credit, which reduced our available borrowing capacity to $48 million.

Covenant Compliance

As of December 30, 2017, we were in compliance with all debt covenants.

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Minimum annual payments under existing capital lease obligations and maturities of indebtedness outstanding at the end of 2017 are as follows:

	Capital Lease Obligations					
(In thousands)	Minimum Lease Payments	Less: Interest	Principal	Senior Notes	Other	Total
2018	$11,921	$ 336	$ 11,585	$—	$—	$11,585
2019	1,526	43	1,483	—	2,500	3,983
2020	—	—	—	—	—	—
2021	—	—	—	—	1,100	1,100
2022	—	—	—	300,000	1,700	301,700
2023 and thereafter	—	—	—	200,000	8,862	208,862
Total	$13,447	$ 379	$ 13,068	$500,000	$14,162	$527,230

(10) Contingencies

We accrue estimates for resolution of any legal and other contingencies when losses are probable and estimable, in accordance with ASC 450, Contingencies.

The terms of our software license agreements with our clients generally provide for a limited indemnification of such clients against losses, expenses and liabilities arising from third party claims based on alleged infringement by our solutions of an intellectual property right of such third party. The terms of such indemnification often limit the scope of and remedies for such indemnification obligations and generally include a right to replace or modify an infringing solution. To date, we have not had to reimburse any of our clients for any judgments or settlements to third parties related to these indemnification provisions pertaining to intellectual property infringement claims. For several reasons, including the lack of a sufficient number of prior indemnification claims and the lack of a monetary liability limit for certain infringement cases under the terms of the corresponding agreements with our clients, we cannot determine the maximum amount of potential future payments, if any, related to such indemnification provisions.

In addition to commitments and obligations in the ordinary course of business, we are subject to various legal proceedings and claims that arise in the ordinary course of business, including for example, employment and client disputes and litigation alleging solution and implementation defects, personal injury, intellectual property infringement, violations of law and breaches of contract and warranties. In addition, we are a defendant in lawsuits filed in federal and state courts brought as putative class or collective actions on behalf of various groups of current and former associates in the U.S. alleging that we misclassified associates as exempt from overtime pay under the Fair Labor Standards Act and state wage and hour laws. These proceedings are at various procedural stages and seek unspecified monetary damages, injunctive relief, costs and attorneys' fees. Given the substantial uncertainties, such as the impact of discovery and the extent to which significant factual issues are resolved, the disposition of pre-trial motions, the extent of potential damages that are often unspecified or indeterminate, and the status of settlement discussions, we cannot predict with any reasonable certainty the timing or outcome of such contingencies. At this time, we do not believe any material losses under these claims to be probable or estimable.

No less than quarterly, we review the status of each significant matter and assess our potential financial exposure. We accrue a liability for an estimated loss if the potential loss from any legal proceeding or claim is considered probable and the amount can be reasonably estimated. Significant judgment is required in both the determination of probability and the determination as to whether the amount of an exposure is reasonably estimable, and accruals are based only on the information available to our management at the time the judgment is made. Furthermore, the outcome of legal

proceedings is inherently uncertain, and we may incur substantial defense costs and expenses defending any of these matters. Should any one or a combination of more than one of these proceedings be successful, or should we determine to settle any one or a combination of these matters, we may be required to pay substantial sums, become subject to the entry of an injunction or be forced to change the manner in which we operate our business, which could have a material adverse impact on our business, results of operations, cash flows or financial condition.

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(11) Other Income

A summary of non-operating income and expense is as follows:

	For the Years Ended		
(In thousands)	2017	2016	2015
Interest income	$18,933	$15,252	$11,990
Interest expense	(8,012)	(4,479)	(11,820)
Other	(4,263)	(3,352)	74
Other income, net	$6,658	$7,421	$244

(12) Income Taxes

Income tax expense (benefit) for 2017, 2016 and 2015 consists of the following:

	For the Years Ended		
(In thousands)	2017	2016	2015
Current:			
Federal	$37,708	$252,795	$140,921
State	4,878	31,642	18,647
Foreign	10,156	9,030	17,205
Total current expense	52,742	293,467	176,773
Deferred:			
Federal	13,676	(18,014)	60,015
State	23,278	(2,103)	5,680
Foreign	10,455	8,600	(450)
Total deferred expense (benefit)	47,409	(11,517)	65,245
Total income tax expense	$100,151	$281,950	$242,018

Our current federal and state tax expense decreased in 2017 relative to 2016 and 2015 due to favorable book vs. tax timing differences recognized in 2017, and the inclusion of net excess tax benefits as discrete items within the tax provision, upon our adoption of ASU 2016-09 in the first quarter of 2017. As a result of these timing differences, we are in a prepaid income tax position in the U.S. The increase in our prepaid tax position contributed significantly to the year-over-year increase in prepaid expenses and other in our consolidated balance sheets. Refer to Note (1) for further discussion regarding our adoption of ASU 2016-09 and its impact on our consolidated financial statements.

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Temporary differences between the financial statement carrying amounts and tax basis of assets and liabilities that give rise to significant portions of deferred income taxes at the end of 2017 and 2016 relate to the following:

(In thousands)	2017	2016
Deferred tax assets:		
Accrued expenses	$23,295	$25,454
Tax credits and separate return net operating losses	26,304	27,762
Share based compensation	56,263	81,133
Contract and service revenues and costs	—	59,217
Other	17,754	9,723
Total deferred tax assets	123,616	203,289
Deferred tax liabilities:		
Software development costs	(208,494)	(275,888)
Depreciation and amortization	(96,492)	(133,424)
Prepaid expenses	(21,214)	(30,255)
Contract and service revenues and costs	(65,043)	—
Other	(10,400)	(3,050)
Total deferred tax liabilities	(401,643)	(442,617)
Net deferred tax liability	$(278,027)	$(239,328)

At the end of 2017, we had net operating loss carry-forwards from foreign jurisdictions of $29 million that are available to offset future taxable income with no expiration. In addition, we had a state income tax credit carry-forward of $14 million available to offset income tax liabilities through 2030. We expect to fully utilize the net operating loss and tax credit carry-forwards in future periods. As a result of certain federal tax accounting method changes, our deferred tax amount for contract and services revenues and costs is a deferred tax liability at 2017 compared with a deferred tax asset in 2016.

H.R. 1, An Act to provide for reconciliation pursuant to titles II and V of the concurrent resolution on the budget for fiscal year 2018 ("U.S. Tax Reform"), was enacted on December 22, 2017. U.S. Tax reform provides for, among other things, the reduction of the U.S. corporate tax rate from 35% to 21%, effective January 1, 2018. As a result of adjusting our net deferred tax liabilities to the new enacted rate, we recorded a decrease to the deferred tax liabilities of $171 million. As a result of the aforementioned federal tax accounting method changes, and other favorable book vs. tax timing differences recognized in 2017, the decrease in deferred tax liability rate was offset by additional future taxable amounts generated during 2017.

At the end of 2017, we had not provided tax on the cumulative undistributed earnings of certain foreign subsidiaries of approximately $62 million, because it is our intention to reinvest these earnings indefinitely. The unrecognized deferred tax liability relating to these earnings is approximately $13 million. As a result of U.S. Tax Reform, we recorded a deferred tax liability in 2017 for $4 million relating to earnings for which we previously maintained an indefinite reinvestment assertion. This revision to our assertion was caused by the changes to the consequences of future repatriation enacted with U.S. Tax Reform. As of December 30, 2017, we are making an indefinite reinvestment assertion with respect to only certain of our foreign subsidiaries, whereas we previously maintained the assertion for all foreign subsidiaries.

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The effective income tax rates for 2017, 2016, and 2015 were 10%, 31%, and 31%, respectively. These effective rates differ from the U.S. federal statutory rate of 35% as follows:

	For the Years Ended		
(In thousands)	2017	2016	2015
Tax expense at statutory rates	$338,495	$321,452	$273,483
State income tax, net of federal benefit	22,214	22,644	16,129
Tax credits	(17,727)	(23,881)	(20,681)
Foreign rate differential	(26,379)	(16,468)	(14,821)
Share-based compensation	(62,501)	—	—
Change in U.S. tax rate	(170,999)	—	—
Deemed mandatory repatriation	25,114	—	—
Permanent differences	(10,700)	(20,330)	(14,314)
Other, net	2,634	(1,467)	2,222
Total income tax expense	$100,151	$281,950	$242,018

Upon our adoption of ASU 2016-09 in the first quarter of 2017, we include net excess tax benefits in our income tax provision. These net excess tax benefits are included within share-based compensation in the table above. Refer to Note (1) for further discussion regarding our adoption of ASU 2016-09 and its impact on our consolidated financial statements.

As reflected in the table above, our tax rate was impacted by the enactment of U.S. Tax Reform into law on December 22, 2017. The impact of U.S. Tax Reform on our 2017 tax rate includes the impact of the revaluation of our net deferred tax liability to the lower enacted tax rate, and the impact of mandatory deemed repatriation.

Relevant accounting guidance provides that the impact of U.S. Tax Reform may be provisionally recorded, and adjusted during a measurement period of up to one year. The impacts of U.S. Tax Reform on our income tax balances are complex and wide-reaching, and the enactment date of such U.S. Tax Reform fell in close proximity to our 2017 fiscal year-end. Accordingly, the adjustments we have made to our deferred and current tax balances are provisional, and it is reasonably possible that our estimates regarding the impact of U.S. Tax Reform on our current and deferred tax balances might materially change in the near term. Our provisional adjustments include the reduction to our net deferred tax liability of $171 million as a result of the federal rate reduction and the $25 million liability recorded as a result of the mandatory deemed repatriation provisions.

Additional analysis and computations will be performed with respect to these provisional amounts. The ultimate impact may differ from these provisional amounts, possibly materially, due to among other things, additional regulatory guidance that may be issued, changes to assumptions and interpretations that we have made, and actions we may take as a result of U.S. Tax Reform. We will complete our accounting for these items during 2018, after completion of our 2017 U.S. income tax return.

U.S. Tax Reform creates new global intangible low-taxed income ("GILTI") tax provisions. The GILTI provisions require us to include in our future U.S. taxable income, the earnings of foreign subsidiaries in excess of an allowable return on the foreign subsidiaries' tangible assets. This inclusion may be offset by a portion of the foreign taxes incurred on these earnings. We have elected to account for GILTI tax in the period in which it is incurred, and therefore have not provided any deferred tax impacts of GILTI in our consolidated financial statements for the year ended December 30, 2017.

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A reconciliation of the beginning and ending amount of unrecognized tax benefit is presented below:

(In thousands)	2017	2016	2015
Unrecognized tax benefit - beginning balance	$9,769	$4,878	$7,202
Gross decreases - tax positions in prior periods	(1,734)	—	(4,323)
Gross increases - tax positions in prior periods	7,252	—	690
Gross increases - tax positions in current year	—	6,945	2,824
Settlements	—	(1,859)	(1,299)
Currency translation	—	(195)	(216)
Unrecognized tax benefit - ending balance	$15,287	$9,769	$4,878

If recognized, $8 million of the unrecognized tax benefit will favorably impact our effective tax rate. It is reasonably possible that our unrecognized tax benefits may decrease by up to $12 million within the next twelve months. Our federal returns have been examined by the Internal Revenue Service through 2013. We have various state and foreign returns under examination.

The ending amounts of accrued interest and penalties related to unrecognized tax benefits were $2 million in 2017 and less than $1 million in 2016. We classify interest and penalties as income tax expense in our consolidated statement of operations, and our income tax expense for 2017 includes $1 million of interest and penalties.

The foreign portion of our earnings before income taxes was $126 million, $86 million, and $83 million in 2017, 2016, and 2015 respectively, and the remaining portion was domestic.

(13) Earnings Per Share

A reconciliation of the numerators and the denominators of the basic and diluted per share computations are as follows:

	2017			2016			2015		
(In thousands, except per share data)	Earnings (Numerator)	Shares (Denominator)	Per-Share Amount	Earnings (Numerator)	Shares (Denominator)	Per-Share Amount	Earnings (Numerator)	Shares (Denominator)	Per-Share Amount
Basic earnings per share:									
Income available to common shareholders	$866,978	331,373	$2.62	$636,484	337,740	$1.88	$539,362	343,178	$1.57
Effect of dilutive securities:									
Stock options and non-vested shares	—	6,626		—	5,913		—	7,730	
Diluted earnings per share:									
Income available to common shareholders including assumed conversions	$866,978	337,999	$2.57	$636,484	343,653	$1.85	$539,362	350,908	$1.54

Options to purchase 10.6 million, 9.4 million and 2.9 million shares of common stock at per share prices ranging from $50.04 to $73.40, $47.38 to $73.40 and $50.04 to $73.40, were outstanding at the end of 2017, 2016 and 2015, respectively, but were not included in the computation of diluted earnings per share because they were anti-dilutive.

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(14) Share-Based Compensation and Equity
Stock Option and Equity Plans

As of the end of 2017, we had five fixed stock option and equity plans in effect for associates and directors. This includes one plan from which we could issue grants, the Cerner Corporation 2011 Omnibus Equity Incentive Plan (the "Omnibus Plan"); and four plans from which no new grants are permitted, but some awards remain outstanding (Plans D, E, F, and G).

Awards under the Omnibus Plan may consist of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance units, performance grants and bonus shares. At the end of 2017, 11.8 million shares remain available for awards. Stock options granted under the Omnibus Plan are exercisable at a price not less than fair market value on the date of grant. Stock options under the Omnibus Plan typically vest over a period of five years and are exercisable for periods of up to 10 years.

Stock Options

The fair market value of each stock option award granted in 2017 is estimated on the date of grant using the Black-Scholes-Merton ("BSM") pricing model. The pricing model requires the use of the following estimates and assumptions:

- Expected volatilities under the BSM model are based on an equal weighting of implied volatilities from traded options on our common shares and historical volatility.
- The expected term of stock options granted is the period of time for which an option is expected to be outstanding beginning on the grant date. Our calculation of expected term takes into account the contractual term of the option, as well as the effects of employees' historical exercise patterns; groups of associates (executives and non-executives) that have similar historical behavior are considered separately for valuation purposes.
- The risk-free rate is based on the zero-coupon U.S. Treasury bond with a term consistent with the expected term of the awards.

The weighted-average assumptions used to estimate the fair market value of stock options were as follows:

	For the Years Ended		
	2017	2016	2015
Expected volatility (%)	26.7%	29.4%	27.6%
Expected term (yrs)	7	7	7
Risk-free rate (%)	2.1 %	1.5 %	1.8 %

Stock option activity for 2017 was as follows:

(In thousands, except per share data)	Number of Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value	Weighted-Average Remaining Contractual Term (Yrs)
Outstanding at beginning of year	23,601	$ 40.33		
Granted	4,301	63.33		
Exercised	(5,693)	21.08		
Forfeited and expired	(877)	57.40		
Outstanding at end of year	21,332	49.40	$386,339	6.45
Exercisable at end of year	10,242	$ 38.45	$297,546	4.53

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(In thousands, except for grant date fair values)	For the Years Ended 2017	2016	2015
Weighted-average grant date fair values	$20.50	$18.31	$21.51
Total intrinsic value of options exercised	$252,277	$177,375	$196,127
Cash received from exercise of stock options	76,705	63,794	51,475
Tax benefit realized upon exercise of stock options	85,657	64,347	66,868

As of the end of 2017, there was $155 million of total unrecognized compensation cost related to stock options granted under all plans. That cost is expected to be recognized over a weighted-average period of 3.33 years.

Non-vested Shares and Share Units

Non-vested shares and share units are valued at fair market value on the date of grant and will vest provided the recipient has continuously served on the Board of Directors through such vesting date or, in the case of an associate, provided that service and/or performance measures are attained. The expense associated with these grants is recognized over the period from the date of grant to the vesting date.

Non-vested share and share unit activity for 2017 was as follows:

(In thousands, except per share data)	Number of Shares	Weighted-Average Grant Date Fair Value
Outstanding at beginning of year	354	$ 61.12
Granted	626	66.97
Vested	(170)	56.40
Forfeited	(11)	57.35
Outstanding at end of year	799	$ 66.76

(In thousands, except for grant date fair values)	For the Years Ended 2017	2016	2015
Weighted average grant date fair values for shares granted during the year	$66.97	$57.22	$68.57
Total fair value of shares vested during the year	$11,050	$12,221	$13,730

As of the end of 2017, there was $32 million of total unrecognized compensation cost related to non-vested share and share unit awards granted under all plans. That cost is expected to be recognized over a weighted-average period of 1.54 years.

Associate Stock Purchase Plan

We established an Associate Stock Purchase Plan ("ASPP") in 2001, which qualifies under Section 423 of the Internal Revenue Code. Each individual employed by us and associates of our U.S. based subsidiaries, except as provided below, are eligible to participate in the ASPP ("Participants"). The following individuals are excluded from participation: (a) persons who, as of the beginning of a purchase period under the Plan, have been continuously employed by us or our domestic subsidiaries for less than two weeks; (b) persons who, as of the beginning of a purchase period, own directly or indirectly, or hold options or rights to acquire under any agreement or Company plan,

an aggregate of 5% or more of the total combined voting power or value of all outstanding shares of all classes of Company common stock; and, (c) persons who are customarily employed by us for less than 20 hours per week or for less than five months in any calendar year. Participants may elect to make contributions from 1% to 20% of compensation to the ASPP, subject to annual limitations determined by the Internal Revenue Service. Participants may purchase Company common stock at a 15% discount on the last business day of the option period. The purchase of Company common stock is made through the ASPP on the open market and subsequently reissued to Participants. The difference between the open market purchase and the Participant's purchase price is recognized as compensation expense, as such difference is paid by Cerner, in cash.

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Share-Based Compensation Cost

Our stock option and non-vested share and share unit awards qualify for equity classification. The costs of our ASPP, along with participant contributions, are recorded as a liability until open market purchases are completed. The amounts recognized in the consolidated statements of operations with respect to stock options, non-vested shares and share units and ASPP are as follows:

	For the Years Ended		
(In thousands)	2017	2016	2015
Stock option and non-vested share and share unit compensation expense	$83,019	$74,536	$70,121
Associate stock purchase plan expense	6,277	6,537	5,393
Amounts capitalized in software development costs, net of amortization	(327)	(482)	(588)
Amounts charged against earnings, before income tax benefit	$88,969	$80,591	$74,926
Amount of related income tax benefit recognized in earnings	$25,265	$24,749	$23,435

Preferred Stock

As of the end of 2017 and 2016, we had 1.0 million shares of authorized but unissued preferred stock, $0.01 par value.

Treasury Stock

In November 2016, our Board of Directors authorized a share repurchase program that allowed the Company to repurchase up to $500 million of shares of our common stock, excluding transaction costs. That program was completed in November 2017. In May 2017, our Board of Directors authorized a new share repurchase program that allows the Company to repurchase up to $500 million of shares of our common stock, excluding transaction costs. The repurchases are to be effectuated in the open market, by block purchase, in privately negotiated transactions, or through other transactions managed by broker-dealers. No time limit was set for the completion of the current program. During 2017, we repurchased 2.7 million shares for total consideration of $173 million under these programs. The shares were recorded as treasury stock and accounted for under the cost method. No repurchased shares have been retired. At December 30, 2017, $427 million remains available for repurchase under the outstanding program.

During 2016 and 2015, we repurchased 13.7 million and 5.7 million shares of our common stock for total consideration of $700 million and $345 million, respectively, under share repurchase programs that are now complete. These shares were recorded as treasury stock and accounted for under the cost method. No repurchased shares have been retired.

(15) Foundations Retirement Plan

The Cerner Corporation Foundations Retirement Plan (the "Plan") was established under Section 401(k) of the Internal Revenue Code. All associates age 18 and older and who are not a member of an excluded class are eligible to participate. Participants may elect to make pre-tax and Roth (post-tax) contributions from 1% to 80% of eligible compensation to the Plan, subject to annual limitations determined by the Internal Revenue Service. Participants may direct contributions into mutual funds, a stable value fund, a Company stock fund, or a self-directed brokerage account. The Plan has a first tier discretionary match that is made on behalf of participants in an amount equal to 33% of the first 6% of the participant’s salary contribution. The Plan's first tier discretionary match expenses amounted to $29 million, $28 million and $30 million for 2017, 2016 and 2015, respectively.

The Plan also provides for a second tier matching contribution that is purely discretionary, the payment of which will depend on overall Company performance and other conditions. If approved by the Compensation Committee, contributions by the Company will be tied to attainment of established financial metric goals, such as earnings per share for the year. Participants who defer 2% of their paid base salary, are actively employed as of the last day of the Plan year and are employed before October 1st of the Plan year are eligible to receive the second tier discretionary match contribution, if any such second tier matching contribution is approved by the Compensation Committee. For the years ended 2016 and 2015 we expensed $8 million and $7 million for the second tier discretionary distributions, respectively.

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(16) Commitments

Leases

We are committed under operating leases primarily for office and data center space and computer equipment through October 2027. Rent expense for office and warehouse space for our regional and global offices for 2017, 2016 and 2015 was $31 million, $29 million and $32 million, respectively. Aggregate minimum future payments under these non-cancelable operating leases are as follows:

(In thousands)	Operating Lease Obligations
2018	$ 32,371
2019	28,605
2020	24,012
2021	19,452
2022	12,914
2023 and thereafter	6,463
	$ 123,817

Other Obligations

We have purchase commitments with various vendors, and minimum funding commitments under collaboration agreements through 2037. Aggregate future payments under these commitments are as follows:

(In thousands)	Purchase Obligations
2018	$ 76,861
2019	47,587
2020	17,250
2021	5,490
2022	4,410
2023 and thereafter	22,504
	$ 174,102

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(17) Segment Reporting

We have two operating segments, Domestic and Global. Revenues are derived primarily from the sale of clinical, financial and administrative information solutions and services. The cost of revenues includes the cost of third party consulting services, computer hardware, devices and sublicensed software purchased from manufacturers for delivery to clients. It also includes the cost of hardware maintenance and sublicensed software support subcontracted to the manufacturers. Operating expenses incurred by the geographic business segments consist of sales and client service expenses including salaries of sales and client service personnel, expenses associated with our managed services business, marketing expenses, communications expenses and unreimbursed travel expenses. "Other" includes expenses that have not been allocated to the operating segments, such as software development, general and administrative expenses, acquisition costs and related adjustments, share-based compensation expense, and certain amortization and depreciation. Performance of the segments is assessed at the operating earnings level by our chief operating decision maker, who is our Chief Executive Officer. Items such as interest, income taxes, capital expenditures and total assets are managed at the consolidated level and thus are not included in our operating segment disclosures. Accounting policies for each of the reportable segments are the same as those used on a consolidated basis.

The following table presents a summary of our operating segments and other expense for 2017, 2016 and 2015:

(In thousands)	Domestic	Global	Other	Total
2017				
Revenues	$4,575,171	$567,101	$—	$5,142,272
Cost of revenues	755,729	98,362	—	854,091
Operating expenses	1,998,544	264,196	1,064,970	3,327,710
Total costs and expenses	2,754,273	362,558	1,064,970	4,181,801
Operating earnings (loss)	$1,820,898	$204,543	$(1,064,970)	$960,471
(In thousands)	Domestic	Global	Other	Total
2016				
Revenues	$4,245,097	$551,376	$—	$4,796,473
Cost of revenues	676,437	102,679	—	779,116
Operating expenses	1,774,146	246,243	1,085,955	3,106,344
Total costs and expenses	2,450,583	348,922	1,085,955	3,885,460
Operating earnings (loss)	$1,794,514	$202,454	$(1,085,955)	$911,013
(In thousands)	Domestic	Global	Other	Total
2015				
Revenues	$3,904,454	$520,813	$—	$4,425,267
Cost of revenues	651,826	98,955	—	750,781
Operating expenses	1,577,594	233,047	1,082,709	2,893,350
Total costs and expenses	2,229,420	332,002	1,082,709	3,644,131
Operating earnings (loss)	$1,675,034	$188,811	$(1,082,709)	$781,136

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(18) Quarterly Results (unaudited)

Selected quarterly financial data for 2017 and 2016 is set forth below:

(In thousands, except per share data)	Revenues	Earnings Before Income Taxes	Net Earnings	Basic Earnings Per Share	Diluted Earnings Per Share
2017					
First Quarter	$1,260,486	$243,010	$173,213	$ 0.52	$ 0.52
Second Quarter	1,291,994	252,049	179,683	0.54	0.53
Third Quarter	1,276,007	250,415	177,424	0.53	0.52
Fourth Quarter [(a)]	1,313,785	221,655	336,658	1.02	1.00
Total	$5,142,272	$967,129	$866,978		

(a) Fourth quarter results include the impact of certain U.S. income tax reform enacted in December 2017 as further described in Note (12).

(In thousands, except per share data)	Revenues	Earnings Before Income Taxes	Net Earnings	Basic Earnings Per Share	Diluted Earnings Per Share
2016					
First Quarter	$1,138,135	$217,129	$150,360	$ 0.44	$ 0.43
Second Quarter	1,215,962	243,782	166,454	0.49	0.48
Third Quarter	1,184,557	241,808	169,979	0.50	0.49
Fourth Quarter [(b)]	1,257,819	215,715	149,691	0.45	0.44
Total	$4,796,473	$918,434	$636,484		

(b) Fourth quarter results include pre-tax costs related to the 2016 VSP of $36 million as further described in Note (1).