

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

FORM 10-K

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

For the fiscal year ended January 31, 2018

OR

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

Commission File Number: 0-22823

**QAD Inc.**

(Exact name of Registrant as specified in its charter)

**Delaware**  
(State or Other Jurisdiction of Incorporation or Organization)

**77-0105228**  
(I.R.S. Employer Identification No.)

**100 Innovation Place**  
**Santa Barbara, California 93108**  
(Address of principal executive offices and zip code)

Registrant's telephone number, including area code **(805) 566-6000**

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

<u>Title of Each Security</u>	<u>Name of Each Exchange on Which Registered</u>
Class A Common Stock, \$.001 par value	The NASDAQ Stock Market LLC
Class B Common Stock, \$.001 par value	(NASDAQ Global Select Market)

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

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

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

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

Indicate by checkmark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 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 ☐ NO

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

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

☐ Large accelerated filer      ☒ Accelerated filer      ☐ Non-accelerated filer      ☐ Smaller reporting company  
☐ Emerging growth company      (Do not check if a smaller reporting company)

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

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

As of July 31, 2017, the last business day of the Registrant's most recently completed second fiscal quarter, there were 15,997,908 shares of the Registrant's Class A common stock outstanding and 3,212,663 shares of the Registrant's Class B common stock outstanding, and the aggregate market value of such shares held by non-affiliates of the Registrant (based on the closing sale price of such shares on the NASDAQ Global Market on July 31, 2017) was approximately \$300 million. Shares of the Registrant's common stock held by each executive officer and director and by each entity that owns 5% or more of the Registrant's outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 31, 2018, there were 16,042,279 shares of the Registrant's Class A common stock outstanding and 3,218,246 shares of the Registrant's Class B common stock outstanding.

#### **DOCUMENTS INCORPORATED BY REFERENCE**

Items 10 through 14 of Part III incorporate information by reference from the Definitive Proxy Statement for the Registrant's Annual Meeting of Stockholders to be held on June 11, 2018.

**QAD INC.**  
**FISCAL YEAR 2018 FORM 10-K ANNUAL REPORT**  
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## NOTE REGARDING FORWARD-LOOKING STATEMENTS

In addition to historical information, this Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995. Any statements contained herein that are not statements of historical fact should be construed as forward-looking statements, including statements that are preceded or accompanied by such words as “may,” “believe,” “could,” “anticipate,” “projects,” “estimates,” “will likely result,” “should,” “would,” “might,” “plan,” “expect,” “intend” and words of similar meaning or the negative of these terms or other comparable terminology. Forward-looking statements are based on the Company’s current expectations and assumptions regarding its business, the economy and future conditions. A number of risks and uncertainties could cause actual results to differ materially from those expressed or implied in the forward-looking statements. Factors that might cause such a difference include, but are not limited to, those discussed in Item 1A entitled “Risk Factors” which are incorporated herein by reference, and as may be updated in filings we make from time to time with the Securities and Exchange Commission. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect management’s opinions, expectations and projections only as of the date of this Annual Report on Form 10-K and are subject to risks, uncertainties and assumptions about our business. We undertake no obligation to revise or update or publicly release the results of any revision or update to these forward-looking statements except as required by applicable securities laws. Readers should carefully review the risk factors and other information described in this Annual Report on Form 10-K and the other documents we file from time to time with the Securities and Exchange Commission, including the Quarterly Reports on Form 10-Q to be filed by QAD in fiscal year 2019.

## PART I

### ITEM 1. BUSINESS

QAD is a leader in cloud-based enterprise software solutions for global manufacturing companies across the automotive, life sciences, consumer products, food and beverage, high technology and industrial products industries. We offer full-featured, secure and flexible enterprise and supply chain solutions built for global manufacturing companies which can be delivered in the cloud, on- premise or via a blended combination of cloud and on-premise. Our mission is to provide best-in-class software that enables our customers to operate as an effective enterprise where their business processes are running at peak efficiency and are perfectly aligned to their strategic goals. Our solutions, called QAD Enterprise Applications, enable measurement and control of key business processes that support operational requirements, including financials, manufacturing, demand and supply chain planning, customer management, business intelligence and business process management. Our architecture, called QAD Enterprise Platform, provides manufactures with the flexibility they need to achieve a greater fit between their optimal business processes and systems, and adjust to change in the markets they serve.

Over 2,000 manufacturing companies have deployed QAD solutions to run their businesses across approximately 4,000 sites globally. Today, our solutions are used by over 300,000 active users, of which our cloud and subscription users have grown to 33,000 from 22,000 in the prior year. We were founded in 1979 and our principal executive offices are located in Santa Barbara, California. Our principal website address is [www.qad.com](http://www.qad.com). Our office address is 100 Innovation Place, Santa Barbara, CA 93108. We employ 1,870 full-time employees throughout our direct operations in 23 countries across the North America, Europe, Middle East and Africa (“EMEA”), Asia Pacific and Latin America regions.

### OUR TARGET VERTICAL MARKETS

We focus our efforts on delivering mission-critical software solutions to enterprise customers in six core vertical markets within global manufacturing – automotive, life sciences, consumer products, food and beverage, high technology and industrial products. Within these vertical markets, we focus on 26 segments where our customers can receive the greatest benefit from our solutions. Segment examples include automotive tier suppliers, orthopedic medical device manufacturers, pharmaceutical contract manufacturers, flexible packaging producers as well as manufacturers of consumer electronics. We offer solutions designed to overcome the business challenges within each segment, based on our in-depth knowledge of the segment and best practices. In addition, we participate in industry groups serving our target segments to ensure that we address regulatory compliance issues, evaluate new manufacturing practices and leverage advanced technologies to give our customers maximum competitive advantage.

*Automotive:* Automotive suppliers are a key focus for QAD. Automotive suppliers must meet critical industry standards such as the Materials Management Operations Guideline/Logistics Evaluation (“MMOG/LE”) and International Automotive Task Force (“IATF”) 16949:2016 (previously ISO/TS 16949). Disruptions to the supply chain can cause significant financial impact. QAD’s automotive-specific processes and built-in industry best practices help automotive suppliers reduce costs, mitigate supply chain risk and improve supply chain planning and visibility. Our customer base includes companies serving the global automotive marketplace, especially the tier-1 suppliers in the supply chains of automotive original equipment manufacturers. We deliver unique capabilities to support the collaboration requirements of the automotive suppliers, including the strict quality requirements of Advanced Product Quality Process (“APQP”) and Production Part Approval Process (“PPAP”). Many of our customers use QAD Cloud EDI because it provides a scalable solution which standardizes Electronic Data Interchange (“EDI”) across their global enterprise. QAD Supplier Portal, which allows for electronic communication with other suppliers, is another product commonly used by our automotive customers. QAD solutions are in use at many of the market-leading automotive parts companies throughout the world that manufacture a broad range of components used in interiors, electrical components, safety systems, bodies and drivetrains.

*Life Sciences:* Life sciences manufacturers are dedicated to innovation, product quality and patient safety; however, a tightening regulatory environment, increasing cost pressures and greater supply chain complexities present challenges to the industry. Emerging markets, quality initiatives, and mergers and acquisitions activity also add to the complexity of life sciences manufacturing and distribution. QAD focuses on the following five segments in the life sciences industry: contract manufacturing; surgical devices; orthopedic devices; diagnostic devices; and pharmaceutical/biotechnology manufacturers. QAD solutions help global life sciences companies manufacture products in accordance with current Good Manufacturing Practices (“cGMP”) regulations and standards like ISO13485:2016 that are embraced by regulators around the world. In addition to cGMP, QAD solutions support many business and regulatory processes specific to the life sciences industry, such as automated quality management, supply chain planning and serialization in support of requirements for Unique Device Identification (“UDI”), the Drug Quality and Security Act (“DQSA”) and the Falsified Medicines Directive (“FMD”). Our customers’ products include such items as defibrillators, ventricular assist systems, artificial joints, prescription medications, surgical instruments and packaging for the life sciences industry. QAD’s enterprise applications for life sciences provides our customers with a qualified IT infrastructure as a key building block to help them ensure that they have a solid foundation upon which to base their software validation requirements.

*Consumer Products:* Manufacturers of consumer products have the objective of delivering the right product, in the right quantities, to the right location at the right time to satisfy demand. To meet this goal, effective supply chain management is needed to synchronize critical activities and functions across the organization. To gain market share and improve profitability, consumer products companies must anticipate and meet customer demand while managing their margins and complying with evolving safety and environmental regulations. QAD focuses on the following four segments in the consumer products industry: household and personal packaged products; consumer electronics; assembled and discrete products; and jewelry manufacturing. The manufacturing processes for these items vary and depend on the nature of the item; however, the fulfillment and distribution requirements have significant commonality. Major retailers manage complex supply chains and are typically very demanding of their suppliers as they strive to service growing demand from consumers for speed of delivery and variety of products. QAD solutions address the complex replenishment requirements of companies supplying the retail supply chain, including promotional pricing, demand planning, quality compliance and product configuration.

*Food and Beverage:* Food and beverage manufacturing is complex and requires regular updates to product, packaging and pricing. There is a lack of uniformity in the supply chain, which challenges food and beverage manufacturers to excel at supply chain management, as seasonal demand changes cause inefficiencies and increase manufacturing costs. At the same time, manufacturers must comply with requirements like field to fork traceability and record keeping. QAD focuses on the following six segments in the food and beverage industry: shelf-stable bottling, canning and packaging; distilleries, wineries and brewing; frozen foods; creameries and fresh foods; candy and confections; and meat and fish processing. Our solutions support regulatory and quality initiatives, such as the U.S. Food Safety Modernization Act (“FSMA”) and Hazard Analysis and Critical Control Point (“HACCP”) analysis, which address the management of biological, chemical and physical hazards. Our solutions support the product cycle of the food and beverage industry from raw material production, procurement and handling to manufacturing, distribution and consumption of the finished product. QAD’s software is standards-focused to help companies ensure food safety and meet the regulatory requirements in the global markets where our customers operate. QAD provides solutions for food and beverage companies that manufacture a broad range of products and manage many of the world’s well-known brands.

*High Technology:* The success of manufacturers in the high tech industry relies on innovation and the ability to manage change. These manufacturers are subject to constant pressure on margins, challenges with cross border shipments, strains on material availability and cost control initiatives. They require agile and effective global supply chains. All of these challenges need to be met while complying with standards and industry regulations. QAD solutions are used by many high-technology companies that manufacture a diverse range of products. QAD focuses on the following four segments in the high technology industry: standalone devices and test equipment; batteries, power supplies and lighting; cable, wiring and connectors; and tech contract manufacturing. High-tech companies often face the challenges of very complex product structures with a need for traceability of parts and processes throughout their entire supply chain, as well as tight control of engineering changes. Many high-tech companies providing complex systems also face the challenge of managing installation and support of equipment after sale, in addition to managing field engineering resources. A high-technology manufacturer can use QAD’s solutions to configure product based on customers’ preference; manufacture and assemble product according to a customized specification; and schedule, install and support equipment throughout its lifecycle.

*Industrial Products:* Today's global customers are demanding more configure-to-order, make-to-order, and assemble-to-order products. As a result, the modern, agile industrial manufacturer must be responsive to demands while managing tight margins, operational challenges and rapid changes to product features. QAD customers manufacture products as diverse as machine tools; specialist ceramic materials used in aerospace and defense; and equipment used in the oil and gas industries. Fluctuating demand leads to significant challenges in managing the internal supply chain, coordinating the extended vendor ecosystem, controlling costs, ensuring quality, tracking production, and optimizing inventory levels. Companies in this broad vertical market have requirements to maintain many manufacturing methodologies, often within the same enterprise. QAD focuses on the following six segments in the industrial products industry: flexible packaging; engineered materials; contract manufacturing; standalone equipment; remanufacturing; and roll stock and wire cable. Our solutions support multiple manufacturing methodologies in parallel, including lean manufacturing. The need for traceability of materials from source through to the finished product is often important to our customers, and QAD's capabilities in traceability and serialization support this feature. QAD's solutions are also used to support our customers' environmental compliance needs.

Our focus on these six vertical markets gives us a competitive advantage by providing a solution developed specifically for our target customers, without the complexity and distraction of functionality they don't want and don't need. While some vendors provide broader solutions built for many industries, our narrow vertical focus allows our customers to implement our solutions with fewer configurations and customizations than our competitors require, enabling less complex and faster implementations. We leverage our vertical market expertise in research and development to meet specific industry needs: in sales, to understand our customer's unique requirements; in presales, to demonstrate how these requirements are handled in the software; and in services, to apply best practices in optimization of business processes and implementation of the software. Our options to sell our product in the cloud or as on-premise licenses enable customers operating in multiple locations to choose a deployment option that best meets their unique needs.

## **QAD SOLUTIONS**

QAD products and services support the business processes of global manufacturing companies in our target industries. We continually monitor emerging business requirements and practices as well as regulatory changes and incorporate them into our product and solutions strategies. Our development focus emphasizes user experience. We strive to deliver solutions that offer comprehensive capabilities while being easier to learn and use. Our goal is to make all capabilities that a particular user needs available with only a few clicks, giving our end users significant gains in efficiency as well as making the user experience more enjoyable.

The Channel Islands program was designed to transform the architecture and user experience of QAD solutions. Channel Islands has two key components: Channel Islands Experience and the QAD Enterprise Platform.

The Channel Islands Experience provides access to QAD Enterprise Applications on any device with a modern web browser. It includes a new user interface ("UI") written in HTML5 and is accessible to the user with any standard browser. The new UI provides seamless access across desktops and mobile devices and has the ability to co-exist with our current .NET UI.

The QAD Enterprise Platform is the architecture behind Channel Islands. The benefits it provides to customers make it the most significant part of the solution. Manufacturers need an Enterprise Resource Planning ("ERP") system that will allow them to easily change their business processes to meet the demands of their changing market. The QAD Enterprise Platform provides five rapid response capabilities: Personalization; Embedded Analytics; Modularization; Extensibility; and New Apps. Most critically, these capabilities include the ability to extend current applications, to connect with external systems through micro services, and to develop entirely new applications on the platform without the need to write or modify code in QAD Enterprise Applications. Extensions and new apps are non-intrusive to the enterprise applications and do not hinder future upgrades. Modularity provides the ability to upgrade the solution by components, rather than upgrading the entire solution at one time. This makes upgrades smaller, faster and easier; helping customers stay on the most current version of our software which reduces the gap between their business needs and what our enterprise applications provide. Modularity allows us to improve the efficiency of our cloud operations using a simplified upgrade process. The architecture eases the adoption of new advanced technologies into the solution.

Mobile devices continue to play an ever-increasing role in our day-to-day lives, and our customers are using mobile computing to support their businesses. Channel Islands leverages a responsive HTML5 user interface that displays appropriately across screen sizes. As such, Channel Islands is available on any device with a modern web browser, including tablets and smartphones. In addition, QAD provides some mobile specific applications purpose-built for the actions users are likely to take on their mobile devices. These include a requisition approval solution, a mobile business intelligence solution, mobile browse capability and mobile application monitoring tools to support system administrators.

In support of our focus on business process efficiency, we have integrated the ability to generate business process maps for common business processes into our software using the QAD Process Editor tool. This tool simplifies implementations, maps common business processes and facilitates navigation throughout the entire product suite. Within our suite, we have embedded business process management ("QAD BPM"). QAD BPM allows customers to visualize their business processes; monitor transactional throughput by user, role or stage; and modify those processes to make them more efficient. Using QAD BPM, companies can create business process models, assign task responsibilities, and monitor and re-direct workflow; all of which reduce process execution time, improve visibility of active processes, identify bottlenecks and support process improvement.

QAD developed its solutions to allow simple integration with other systems our customers use within their organizations. For example, we enable seamless integration between QAD Enterprise Applications and common browser applications and spreadsheets. QAD solutions also integrate easily with other web applications and web services. Using our Q-Xtend toolset, customers can connect to different software, even when remote, and they can use industry-standard middleware products such as the IBM MQ™ series or the standard connectors built on the Dell Boomi AtomSphere integration platform. Robust Application Program Interfaces (“APIs”) along with QAD Automation Solutions provide additional capabilities for integration.

### ***QAD Enterprise Applications***

QAD Enterprise Applications is an integrated suite of software applications, which supports the core business processes of global manufacturing companies, and provides specific functionality to support the requirements of our targeted industries and the geographies in which our customers conduct business. QAD Enterprise Applications allows customers to monitor, control and support their operations, whether operating a single plant or multiple sites, wherever they are located around the world.

QAD Enterprise Applications has strong capabilities for addressing global complexities in customers’ business models, such as compliance with local accounting practices and legislation, as well as internal reporting on global performance. QAD Enterprise Applications includes full support for multiple currencies, multiple languages and complex corporate structures such as multiple companies or divisions.

QAD Enterprise Applications is available in the cloud, on-premise and in a blended model combining both of these deployment alternatives. Blended deployment enables users to transact more easily across business entities with a consistent interface and consistent functionality since our cloud and on-premise technology is compatible. Companies that have chosen the cloud as a strategic direction but who cannot, or do not want to, move all locations at one time, find the blended deployment model allows them to transition to the cloud with less risk. The finance function can view individual business unit results and run consolidations that cross both cloud and on-premise sites seamlessly, while other users can transact and view inventory in multiple locations irrespective of whether any specific business entity is operating in the cloud or on-premise.

QAD Enterprise Applications is comprised of the following software solutions:

#### **QAD Financials**

QAD Financials provides comprehensive capabilities to manage and control finance and accounting processes at a local, regional and global level. The suite supports multi-company, multi-currency, multi-language and multi-tax jurisdictions, as well as consolidated reporting and budgeting controls. These capabilities give cross-functional stakeholders access to financial results; enabling faster, more informed decision making while providing robust internal controls. Enterprise Financials includes multi-GAAP support, such as International Financial Reporting Standards (“IFRS”), as well as extensive local tax capture, reporting capabilities and segregation of duties enforcement.

#### **QAD Customer Management**

QAD Customer Management enables global manufacturing companies to acquire new customers efficiently, grow revenue through multiple channels and retain customers through superior service and support. QAD Customer Management helps our customers measure marketing campaign effectiveness, manage the sales opportunity lifecycle and optimize order and fulfillment processes. QAD Configurator has the ability to create unique products specified to customer requirements, enabling simple and cost effective controls for mass customization of products. The suite includes the ability to centralize sales order entry, including orders for configured items, and to ship the items from any facility or business entity. QAD Customer Self Service provides a web storefront for our customers to transact sales, which is fully and securely integrated with the rest of QAD Enterprise Applications.

#### **QAD Manufacturing**

QAD Manufacturing delivers comprehensive capabilities to support manufacturing business processes, from planning through execution, and provides visibility and control of materials and labor. The suite has capabilities in the areas of planning and scheduling, cost management, material control, shop floor control, quality management and reporting in various mixed-mode manufacturing environments. The manufacturing models supported include Discrete, Repetitive, Kanban (particularly relevant in lean manufacturing practices), Flow, Batch/Formula, Process, Co-products/By-products and Configured Products. The system also includes flexible item attributes that customers can use to track lot characteristics or test results. The Lot Trace Workbench provides insight into any products component genealogy and greatly simplifies product recalls. QAD Manufacturing supports companies’ deployment of business processes consistent with their industry’s best practices. The integration between scheduling, planning, execution, quality and materials allows tight control and simple management of processes.

## QAD Automation Solutions

QAD Automation Solutions improves manufacturers' material transaction processing accuracy and efficiency by aligning QAD Enterprise Applications with material and production processes. There are two primary components to QAD Automation Solutions:

- Data Collection captures material and production data through simplified transactions using a mobile device such as a radio frequency (RF) scanner, tablet or a stationary shop floor personal computer or terminal.
- Label Printing Services routs and prints labels associated with material and production transactions based on manufacturer, supplier, customer and industry specified formats and rules.

These capabilities help manufacturers better align their material logistics processes in a timely fashion while ensuring inventory accuracy through process compliance.

## QAD Demand and Supply Chain Planning

QAD Demand and Supply Chain Planning ("QAD DSCP") is a comprehensive group of applications built on a single unified model to fulfill the materials planning and logistics requirements of global companies. QAD DSCP is supported and developed by our DynaSys operating division. This solution set delivers functionality and capabilities that help enterprises optimize their supply chains to enhance customer satisfaction through timely deliveries. Enterprises can align supply and demand to support the delivery of the right product, to the right place, at the right time and at the most efficient cost. The suite utilizes the DynaSys Single Click Collaborative platform, with the entire planning model running in a memory-resident database supporting real-time planning. The suite supports planning for demand, production, procurement, distribution and global sales and operations. Customers have used this solution with data sets that exceed a million SKUs. QAD Demand and Supply Chain Planning addresses both simple and complex networks; and customers have the ability to add more advanced functionality as the enterprise grows. Collaborative portals are available for both demand and supply sides to help ensure rapid communication of demand or supply fluctuations and to enable collaborative planning.

## QAD Supply Chain Execution

QAD's Supply Chain Execution suite includes tools to support inventory and warehouse management in either simple or complex warehousing environments. For example, the QAD Warehousing tool supports complex warehouse-management techniques such as bulk, batch and wave picking, as well as multiple put away methods including calculations based on required space. It manages reusable packaging and containers to help eliminate waste and reduce costs. Additionally, QAD Enterprise Applications manages consignment inventory for both consignors and consignees, and supports strategic sourcing and purchasing. The system manages distribution requirements planning to optimize and balance inventories at multiple distribution centers which enables quick and cost effective demand fulfillment. QAD offers QAD Supplier Portal and QAD EDI for facilitation of communication and collaboration with members of a supply chain. These two solutions are offered on a subscription basis only.

## QAD Transportation Management

QAD markets transportation solutions directly to our existing customers as part of QAD Enterprise Applications, and to the general market through our Precision division. QAD Transportation Management facilitates correct documentation and control for moving shipments across borders. Transportation Management allows companies to manage and optimize outside carriers for shipments including parcel, less than truckload, full truckload and container shipments whether using land, sea or air carriers. Compliance and risk management enables companies to comply with regulations concerning denied parties and control of dangerous substances.

## QAD Service and Support

QAD Service and Support enables exceptional after-sale customer service and support for companies who commission and support complex systems. The integration from customer demand through manufacturing to installation and support provides companies with great efficiencies when managing their business processes. QAD Service and Support handles service calls, manages service queues and organizes mobile field resources. It also provides extensive project management support, helping organizations track materials and labor against warranty and service work; compares actual costs to budget; and generates appropriate invoicing.



## QAD Enterprise Asset Management

QAD Enterprise Asset Management (“EAM”) helps companies manage maintenance and installation of capital equipment. The solution supports both planned and unplanned equipment maintenance based on elapsed time or completed quantities. It includes the ability to track calibrations, labor and required parts used for maintenance. In addition, it has project accounting capabilities to plan, track and control detailed project budget and spending data for capital expense projects such as refits or building and commissioning new plants. EAM includes functionality to manage rotatable (renewable) inventory. EAM helps manufacturers achieve a balance between having the right equipment available and minimizing their equipment investment. It ensures critical spare parts are on hand as needed and monitors company expense and approval policies with regard to capital plant and equipment.

## Action Centers with Embedded Analytics

Action Centers are designed to provide the data and information users need in order to work efficiently in a straightforward visual format. Users can drill down into more detail or take quick action based on the insight the solution provides. Action Centers provide built-in analytics and operational metrics as well as more than 400 browses and nearly 450 reports. All information can be accessed from a tablet to support users who are not at their desk or in the office.

## QAD Analytics

QAD Enterprise Applications provides decision makers and company stakeholders with key data to measure performance against company and strategic goals. QAD Analytics helps customers perform complex analyses, make informed decisions and improve performance management by highlighting areas that need improvement and enabling drill down to source data. The QAD Analytics suite consists of multiple analysis and data extraction tools all working in harmony to provide user-defined analysis such as consolidated reporting or reporting by geography, product line or cost center.

The solution consists of QAD Reporting Framework, which provides powerful, yet simple, reporting and real-time visibility with ad hoc inquiries; Operational Metrics, which enables companies to define and monitor key performance indicators; and QAD Business Intelligence, which allows for dynamic analysis and trend reporting across multiple data sources. Customers can also access QAD Business Intelligence using mobile devices, which allows users to view, filter and sort all data accessible to QAD Browses using mobile devices.

## QAD Enterprise Quality Management System

QAD provides enterprise quality management and regulatory compliance solutions to global companies in many market segments, including QAD’s target markets. The suite supports customers’ compliance with industry-specific quality standards. In the automotive vertical, QAD’s solution delivers automation of Advanced Product Quality Planning (“APQP”) methodologies, including Production Part Approval Process (“PPAP”), process flow and approvals. In the life sciences vertical, customers benefit from critical functionality supporting corrective and preventative action and non conformance reporting. The suite also features manufacturing quality solutions for audit, risk management, document control, gage calibration, inspection and statistical process control. Our CEBOS division supports and develops QAD’s Enterprise Quality Management suite.

## QAD Interoperability

QAD Enterprise Applications uses a services-oriented architecture, allowing customers to easily integrate QAD Enterprise Applications with other non-QAD core business applications. Through our QAD Q-Xtend toolset, we promote open interoperability with comprehensive APIs and published events. These offer QAD customers a choice of solutions in their operating environments. In addition, we resell the Dell Boomi integration platform as QAD Boomi AtomSphere. This provides a comprehensive platform for managing integrations to many cloud and on-premise products, making whole enterprise integration easier for QAD customers. QAD Cloud EDI provides EDI translation and communication services that complement the QAD EDI eCommerce offering to provide a full end-to-end solution simplifying global e-commerce and collaboration with trading partners across the value chain. QAD Cloud EDI provides a scalable solution for companies to rapidly implement and standardize EDI across their global enterprise.

## QAD Internationalization

QAD supports companies that manufacture and distribute their products around the world. When a global company expands its operations, it often needs to accommodate local languages, local accounting standards and local business practices. Operating in different countries also requires access to specific local software, such as that used to interface to banks in their country of operation. QAD supports the requirements of 60 different countries with its internationalization capabilities.

## ***QAD Divisions***

Over time we have acquired certain companies to enhance our product capabilities. We have chosen to keep some of our acquired companies operating as divisions because they may market their software outside of our core QAD customers. Although the products marketed by these divisions have all been incorporated into QAD Enterprise Applications, these divisions also maintain their own websites, operate under their own names and may sell their products under their own names.

The following divisions operate as part of QAD Inc.:

### **Precision Software**

Precision markets our transportation solutions. Precision Transportation Management facilitates documentation and control for moving shipments across borders, including regulatory compliance, and allows companies to optimize outside carriers for shipments.

### **DynaSys**

DynaSys markets our Demand and Supply Chain Planning applications. These applications deliver functionality and capabilities that help enterprises optimize their supply chains to enhance customer satisfaction through timely deliveries. The application suite supports planning for demand, production, procurement, distribution and global sales and operations.

### **CEBOS**

CEBOS provides our enterprise quality management and regulatory compliance solutions. This application suite features manufacturing quality solutions for audit, risk management, document control, gage calibration, inspection and statistical process control.

### ***Customer Support and Product Updates Provided via Our Cloud and Maintenance Offerings***

Customer support services and product enhancements are provided to our cloud customers as part of their monthly subscription fee and to on-premise customers via our maintenance offering. Customer support services include Internet and telephone access to technical support personnel located in our global support centers. Through our support services, we provide the resources, tools and expertise needed to maximize the use of QAD Enterprise Applications. Customers active on maintenance or the cloud are also entitled to receive product upgrades and enhancements on a when-and-if available basis.

As part of our maintenance and cloud offerings, our online support site also provides access to an extensive knowledge database, online training materials, a virtual training environment, remote diagnostics and our software download center, called QAD Store. Our support professionals in our global support centers focus on quickly resolving customers' issues, maintaining optimal system performance and providing uninterrupted service for complete customer satisfaction. In addition, we provide other products, including operational metrics, workbenches and monitoring tools. Customers have access to these products at no additional fee, provided they have a current maintenance or cloud agreement in place with QAD.

Our cloud customers are able to enjoy Internet access to their solutions in a scalable, reliable and secure environment anywhere in the world. This environment is managed by our Cloud Operations group with infrastructure operated by us, but located within third-party data center facilities or from cloud computing platform providers. The cloud operations group is dedicated to supporting our cloud solutions. Located primarily in the U.S. and India, they manage the day-to-day operations of our cloud computing solutions, act as the control point for activities related to elements of the cloud and maintain our cloud environment, including customizations, conversions and upgrades to QAD Enterprise Applications.

Generally, our on-premise customers purchase maintenance when they acquire new licenses and our maintenance retention rate is more than 90%. Our maintenance and other revenue represented 42%, 47% and 48% of our total revenues in fiscal 2018, 2017 and 2016, respectively. Our maintenance revenue is negatively impacted by customers on maintenance converting to our cloud solutions. When maintenance customers convert to the cloud, they no longer contract for maintenance as those support services and unspecified updates are included as a component of the subscription offering. Our cloud revenue represented approximately 20%, 17% and 11% of our total revenues in fiscal 2018, 2017 and 2016, respectively, and our cloud customer retention rate is also in excess of 90%. We track our retention rate of cloud and maintenance by calculating the annualized revenue of customer sites with contracts up for renewal during the period compared to the annualized revenue associated with the customer sites that have canceled during the period. The percentage of revenue not canceled is our retention rate. Conversions to the cloud are not considered cancellations for purposes of the maintenance retention rate calculation. Additional users and additional modules are not included in the annualized revenue for purposes of this calculation.

### ***QAD Global Services***

QAD offers professional services including consulting, deployment, training and integration to facilitate adoption of our Enterprise Applications solution and enable customer success.

QAD Global Services engages with our customers across the entire enterprise application life cycle through planning, design, implementation and management. Whether in the cloud or on-premise, our Global Services group assists our customers with initial deployments, upgrades to more current product versions, migration of on-premise deployments to the cloud, conversion and transfer of historical data, ongoing system and process optimization, and user training and education. In addition, through its ecosystem of partners, QAD can offer our customers augmented resources to assist on typical site-based implementation activities such as data cleansing, functional support, training and User Acceptance Testing (“UAT”).

QAD Global Services includes 450 consultants located throughout the world, augmented by a growing global network of certified partners. Our consulting ecosystem spans 65 countries. QAD consultants and partners are trained on our best practice implementation methodologies and have obtained certifications of proficiency in many areas. We offer a complete portfolio of services, delivered to consistent standards across the globe. Working in tandem with our partners, we support national, multinational and global projects on behalf of QAD customers.

In support of QAD’s vision of all customers becoming Effective Enterprises, QAD has developed a framework of Key Performance Indicators (“KPIs”) used by QAD Global Services to measure pre- and post-implementation performance of business processes and aid in the diagnosis of opportunities for continuous improvement. The QAD KPI framework is available to all customers and is monitored using the QAD analytics suite.

QAD’s principal methodology for deployment of solutions is called QAD Easy On Boarding (“EOB”). EOB has been designed to make deployment of QAD solutions on-premise or in the cloud standardized and efficient. EOB features predefined industry process models and work instructions built into the products themselves as well as implementation guides and scripts, all based on our experience with best practice standards. With EOB, implementation can be faster than more traditional approaches.

QAD Global Services focuses on assisting customers with the following activities:

**Implementations and Migrations** – QAD Global Services supports customers with the initial implementation of QAD Enterprise Applications. QAD Global Services has expertise in global implementations, harnessing the entire QAD Global Services ecosystem to provide local or remote support to meet customer requirements. QAD Global Services deploys our applications both on-premise and in the cloud. In addition, QAD Global Services has the experience to assist new customers with migration from other enterprise application systems. This service includes data conversions as well as process design change management.

**Upgrades** – QAD Global Services assists customers in the process of upgrading their QAD Enterprise Applications to the latest version, accelerating time to benefit, increasing new functionality and applying usability best practices.

**Conversions** – QAD Global Services employs a standardized process for converting from on-premise solutions to the cloud.

**Integration** – QAD Global Services has the expertise and experience to quickly integrate QAD solutions with other systems.

**Systems Management** – QAD Global Services delivers a range of services to support the technical management of systems and performance monitoring for those customers who choose on-premise deployment.

**Training and Education** – QAD Global Services offers a full range of services leveraging QAD’s learning management system. Users can access multimedia training on all QAD offerings and take advantage of pre-defined learning plans for all of the roles that QAD users typically perform. Global Services also provides customized courses that are taught on-site to meet specific customer needs and are available to end users, IT professionals, department managers, partners and consultants.

**Extended Solution Support** – QAD Global Services is available to support interfaces, any customer specific customizations and EDI solutions through our Extended Solution Support Services.

**Business Process Improvement** – QAD has developed a range of predefined diagnostic offerings called Q-Scans. QAD Global Services utilizes Q-Scans to engage in highly efficient diagnosis of key business processes and functional areas to provide recommendations to customers for continuous improvement.

**Pre-Defined Consulting Engagements** – QAD Global Services performs diagnostic and prescriptive consultations that cover many areas including customization, analytics and various areas of compliance such as MMOG/LE and FDA requirements.

QAD Global Services’ network of employees, consultants and partners knows QAD software best. They diagnose issues preventing businesses from running efficiently and prescribe steps to maximize the benefits of QAD Enterprise Applications. These QAD experts offer what outside consultants cannot - a combination of a deep understanding of the industries in which our customers operate, in-depth knowledge of functionality of the QAD solution portfolio and the proven experience of helping customers leverage our software to become more Effective Enterprises. QAD Global Services offers a full range of program management, project management, industry consulting and technical services certified in our products and methodologies.

## QAD GLOBAL PARTNER NETWORK

QAD establishes strategic relationships with our partners to expand our sales reach, improve our market impact, provide technological advantages and strengthen our strategic position in the industries that we serve. QAD and our partners are constantly evolving, broadening our expertise and our footprint in order to meet the diverse needs of our customers around the world. Today we have approximately 130 companies partnering with us to deliver innovative solutions, services and technology that help our customers build their Effective Enterprise.

## OUR STRATEGY

All aspects of our solutions, services and customer engagement are designed to support our vision for the Effective Enterprise where every business process is running at peak efficiency and perfectly aligned to our customers' strategic goals. In a constantly evolving world, continuous improvement and flexible systems are fundamental requirements for achieving this vision. In support of our vision, we focus on providing complete solutions and expertise that help our customers improve the effectiveness of their business processes. In addition, our software is designed to support global regulatory and business practice requirements that enable our customers to satisfy governmental and industry regulations, while incorporating industry best practices and providing real-time visibility and measurement supporting continuous business process improvement initiatives.

We build solutions in 26 specific industry segments across six manufacturing verticals to provide our customers the capabilities and best practices they need to run their enterprises effectively without the complexity and excess cost associated with customizing generalist solutions. We focus on those areas, within the segments we target, where we see potential for increased growth due to manufacturing expansion, cloud adoption or emerging requirements that we can address.

Our goal is to enhance our position as a leading provider of cloud-based enterprise applications for global manufacturing companies. The key elements of our strategy, which we believe will support the achievement of our vision and help drive continued growth, are as follows:

***Grow our cloud business and expand our footprint within existing customers.*** We provide full-featured vertically-focused cloud solutions and we believe there is substantial opportunity to grow our cloud-based enterprise solutions within our global manufacturing customer base and to acquire new customers in the core vertical markets we serve. Our cloud solutions allow our customers to focus on their customers and products without the distraction of administering their enterprise applications or maintaining their infrastructure. With over 2,000 customers across our core vertical markets and over 300,000 active users of our on-premise and cloud solutions, we have many opportunities to increase cloud revenue across our existing installed base. We believe new manufacturing companies, or companies created through divestiture from a larger entity, that do not have an existing legacy enterprise platform, are more likely to adopt a cloud computing solution when choosing and implementing a new enterprise system to run their business.

***Continuous product development and rapid response to change.*** Many manufacturers are facing increased change in their industries driven by technology that is enabling new disruptive business models. Just as manufacturers are facing changes in the markets they serve, they are also facing changes in the way they manufacture. Our ability to successfully compete depends in part on our continuous product development and rapid introduction of new technologies, features and functionality. Manufacturers are facing a swiftly changing business environment fueled by exponential growth in underlying technologies. Traditional ERP systems were not designed to manage this rate of change in business process. The QAD Enterprise Platform enables a rapid response to change, allowing customers to align their systems to the current optimal business process without the need for intrusive customization that hinders the ability to respond to future changes. Industry 4.0, Internet of Things ("IoT"), Machine Learning ("ML"), Artificial Intelligence ("AI"), Additive Manufacturing ("3D Printing"), Blockchain, Augmented Reality, and Predictive Analytics are all examples of evolving technologies that can impact the markets in which our customers operate. We believe delivering a focused, flexible ERP system will be increasingly attractive to pragmatic manufacturers seeking a long-term fit of their business systems in support of their strategy in changing markets. We are committed to continuous investment in product development to ensure our products have the necessary capabilities to meet the needs of our global customers and enhance our competitive position in the vertical markets we serve.

***Focus on global manufacturing and leverage expertise within key vertical markets.*** Many manufacturers operate globally, requiring a provider that can tailor solutions to the unique needs of their markets, deliver local and global services resources and support local languages. Solutions must be cost effective and easy to implement and use. Our solutions offer many benefits to customers with global operations, including capabilities that support operations in multiple geographies with a variety of languages and currencies, as well as compliance with complex local regulations and business practices. Our existing global footprint is a key leverage point for meeting these needs by utilizing offices, personnel and partnerships in many countries around the world. We also employ staff with specific knowledge and experience in the industries in which our customers operate. We provide our solutions to 26 segments across six vertical manufacturing markets; and we actively participate in several leading industry associations; and pride ourselves on the deep expertise of our staff. Our industry knowledge continues to deepen through regular interaction with our customers. This collective experience allows QAD to develop solutions with specific capabilities that address our customers' needs in the industries they serve.

***Enhance customer experience to deliver continuous value and maximize customer retention.*** Through award-winning customer engagement, recognized by Consumer Goods Technology Magazine for four straight years, QAD delivers a continuous improvement process to enable continued alignment for the long term between our customers' business strategy, people, processes, and best practices; and the technology that supports it. We strive to engage with every customer every year, frequently conducting reviews of their business processes and presenting opportunities for improvement. Our deep vertical segment focus and strong, ongoing customer relationships drive continuous development of industry-specific functionality. As a result, we have maintained retention rates in excess of 90% annually.

## TECHNOLOGY

QAD Enterprise Applications was designed to achieve our vision for global manufacturing companies to effectively run their business processes at peak efficiency, in alignment with their strategic goals. We have chosen the best technologies to achieve our vision, focusing on user experience, integration, business services, analytics, databases and deployment flexibility. We embrace 'openness' as a core principle of our designs, aiming to allow customers freedom of choice of devices and open connectivity with other systems. The core of QAD Enterprise Applications is built on a services-oriented architecture, which allows QAD Enterprise Applications' components to communicate with one another through industry-standard messaging techniques like Representation State Transfer services. This allows customers to exploit the full benefit of QAD's open architecture for their businesses.

QAD Enterprise Applications core systems are built upon the QAD Enterprise Platform. The QAD Enterprise Platform is a micro-services architecture with the technologies and development tools needed to build a world class user experience (UX) with comprehensive functionality for global manufacturing companies. This functionality is encapsulated into Apps that can be upgraded independently of each other as well as extended by customers. Apps can be accessed securely over the Internet via a web browser or mobile devices (iOS and Android). The platform provides many advanced services to Apps like an App builder, security, integration, cloud support, analytics, mobile, collaboration and a world-class UX. The platform supports UX, code, data and cloud flexibility to adapt readily to the ever-changing world of technology. The UX is built using the latest open web technologies to support a rich HTML5 user interface. Business logic can be implemented in JavaScript via the more structured Type Script, Oracle's Java or Progress Software Corporation's OpenEdge language. Databases include MySQL and Progress OpenEdge.

QAD's enterprise architecture provides significant flexibility for global companies in deploying QAD Enterprise Applications. Our enterprise architecture allows companies to separate the legal structure of their business from physical operating locations or to separate both of these from the software instances and computer hardware that support them. With QAD enterprise architecture, customers can choose which sites are a part of which companies, which sites are supported on any instance of the application, or which sites operate as one instance. Customers can also choose centralized, decentralized or hybrid computing architectures with parts of their enterprise running from both central resources and local resources.

QAD combines our technologies to provide a comprehensive cloud solution for our customers. Our cloud architecture encompasses infrastructure provisioning and application deployment, management, monitoring and security; providing a world-class development operations practice built around Information Technology Infrastructure Library (ITIL) standards. QAD's cloud infrastructure operates on a Cloud Management Platform. This enables QAD to seamlessly deploy customer systems to one of a number of global cloud infrastructure providers as part of the QAD Cloud offering. Our cloud delivery centers are certified under the ISO 9001:2008 standard for quality management, the ISO 20000:2011 standard for service management (SMS), the ISO 27001:2013 standard for information security management (ISMS), the FDA 21 CFR Part 11 requirements for electronic records and signatures, and the SSAE 16 (SOC I-Type II) requirements for reporting and compliance controls.

## PRODUCT DEVELOPMENT

Rapid change in the technology industry continued through fiscal 2018 and the manufacturing sector was focused on the IoT, Machine Learning, Augmented Reality and Predictive Analytics. In addition, our customers and the industries that we support are continually evolving with a focus on Industry 4.0, as do their expectations for integration, performance and the user experience of our software. We continue to maintain a global research and development organization that provides new product enhancements to the market on a semiannual basis in order to be responsive to industry and regulatory changes.

The enterprise software industry is continuing its transition from selling on-premise licenses to selling cloud-based solutions, which include more integration to IoT devices, social media interaction, mobile computing and platform services capabilities. In fiscal 2018, we released a major upgrade to the Enterprise Edition software suite that was focused on supply chain efficiencies and flexible manufacturing. We also introduced a new module focused on Revenue Recognition in support of new accounting standards: U.S. Financial Accounting Standards Board (“FASB”) Accounting Standards Update 2014-09, *Revenue from Contracts with Customers (Topic 606)* and International Accounting Standards Board (“IASB”) International Financial Reporting Standard 15, *Revenue from Contracts with Customers* that went into effect for publicly-traded companies for fiscal years beginning December 15, 2017 and thereafter.

We continued the transition of our business model and product suite to cloud-based offerings as we released another version of our latest user experience and QAD Enterprise Platform in the sales, service and purchasing areas of the product suite to our cloud customers. Our latest release supports mobile applications for decision making and provides insights into the health of our customers’ businesses. This offering is designed to give our customers even more value and flexibility when using our product suite with a secure browser from anywhere the user has connectivity. We take security very seriously, and with every new release we have our software verified through an outside firm by scanning all the source code and performing penetration testing to preemptively identify and remove security flaws. With our web services, rich set of API’s and the QAD Enterprise Platform, our customers can more easily connect our product suite to other applications.

We dedicate considerable technical and financial resources to research and development to continually enhance and expand our product suite. For example, in fiscal 2018, we continued our internationalization program in support of the expansion of our global customers. As we ended fiscal 2018 we were supporting our customers in over 70 countries with a single solution managed and maintained by QAD’s research and development organization. We see a growing trend to move toward electronic invoicing and registration of shipments and invoices with governments to prevent falsification and tax avoidance. Our goal is to provide our customers with software that assists them in meeting the legal requirements of the countries in which they do business.

We operate a global research and development (“R&D”) organization comprised of 420 R&D employees located in offices in the United States, India, China, Ireland, Australia, France, Belgium, Spain, Brazil, Mexico and Great Britain. Our R&D expenses totaled \$47.7 million, \$43.6 million and \$41.2 million in fiscal years 2018, 2017 and 2016, respectively. Our software is primarily developed internally; however, we also use independent firms and contractors to perform some of our product development activities when we require additional resources or specific skills or knowledge. All outside development is managed by our internal R&D organization. As needed, we acquire products or technology developed by others by purchasing or licensing products and technology from third parties. We continually review these investments in an effort to ensure that we are generating sufficient revenue or gaining enough competitive advantage to justify their costs. We routinely translate our product suite into fourteen languages and through our internationalization program we support mandatory governmental regulations and reporting requirements for over 70 countries. This is accomplished through a single offering for our customers in the cloud or on-premise, allowing them to run their businesses using a consistent core business model with the deployment model of their choice.

We plan to continue to manage significant product development operations internationally over the next several years. We believe that our ability to conduct research and development at various locations throughout the world allows us to optimize product development at lower costs, and integrate local market knowledge into our development activities. We continually assess the significant costs and challenges, including intellectual property protection, against the benefits of our international development activities.

## **DIRECT AND INDIRECT SALES**

QAD sells its products and services through direct and indirect sales channels located throughout the regions of North America, Latin America, EMEA and Asia Pacific. Each region leverages global standards and systems to enhance consistency when interacting with global customers. Additionally, we have a global strategic accounts team, which is responsible for managing QAD’s largest global customers across regions.

Our direct sales organization includes approximately 70 commissioned sales people. Incentive pay is a significant portion of the total compensation package for our sales staff. We continually align our sales organization and business strategies with market conditions to maintain an effective sales process. We cultivate the industries we serve within each territory through marketing, local product development and sales training.

Our indirect sales channel consists of approximately 40 distributors and sales agents worldwide. We do not grant exclusive rights to any of our distributors or sales agents. Our distributors and sales agents primarily sell independently to companies within their geographic territory, but may also work in conjunction with our direct sales organization. We also identify global sales opportunities through our relationships with implementation service providers, hardware vendors and other third parties.

## MARKETING

Our marketing strategy is to differentiate our offering by focusing on our role in providing value by helping our customers achieve the vision of the Effective Enterprise. Our main marketing objectives are to leverage the measurable success in business outcomes our customers have achieved and highlight hidden costs prospects may face to increase awareness and drive leads. We do this by openly and consistently communicating with QAD customers, prospects, partners, investors and other key audiences. Our primary marketing activities include: press and industry analyst relations to garner third-party validation and generate positive coverage for our company, offerings and value proposition; user conferences and events, such as Explore, as well as participation in other industry events, to create customer and prospect awareness; content marketing and engagement on social channels like Facebook, Twitter, LinkedIn and YouTube; search engine optimization, retargeting and pay per click advertising to drive traffic to our web properties; web site development and gamification to engage and educate prospects and generate interest through product information and demonstrations, case studies, white papers, and marketing collateral; customer testimonials, references, and referrals; and sales tools and field marketing events to enable our sales organization to more effectively convert leads into customers.

We recognize the changing buying dynamics and are focused on engaging with prospects early in the sales cycle in order to help set the buying criteria and specifications in a way that uniquely leads to QAD. We seek to accelerate prospects through the buying journey by demonstrating the value of our products, answering questions, and removing roadblocks.

## COMPETITION

Every aspect of our business is affected by strong competition from both enterprise software application vendors and cloud computing application services providers. The markets for our on-premise and cloud offerings are rapidly evolving; highly competitive; and subject to changing technology, shifting customer needs and frequent introductions of new applications. Our customers demand greater performance and reliability with lower complexity. Cost of implementation or conversion to the cloud and cost of ongoing maintenance and subscription are constant concerns when our customers make decisions about how best to deploy their resources.

In the on-premise space, we compete with some of the largest and most competitive enterprise application vendors in the world, such as SAP and Oracle, who hold significant market share in the traditional marketplace. These companies have considerable financial resources and name recognition; and have established broad market solutions by developing applications targeted at many industries, not just manufacturing. They often focus heavily on positioning their size as an advantage. We typically differentiate against these companies based on the specific industry focus of our solutions as well as our customer focus. Internationally, we face competition from local companies, as well as the large enterprise application competitors, many of which have products tailored for those local markets.

In addition, our industry has shifted focus from on-premise to cloud and mobile computing. Most enterprise application vendors today have some focus on cloud solutions, in addition to on-premise sales, which creates an environment in which we face competition from a variety of vendors that address one or more of our applications. As a result, our cloud solutions compete with both large enterprise software vendors and cloud computing application service providers. Smaller cloud computing vendors have so far targeted the lower end of the manufacturing supply chain market where companies operate in a single plant or single currency environment focusing mainly in the U.S. domestic market. Adding to this, other vendors that provide services in different markets may develop solutions in our target markets and some potential customers may elect to develop their own internal solutions.

We believe the key competitive factors in our markets are:

- Customer focus
- Customer outcomes
- Flexibility to meet changing business requirements
- Total cost of ownership
- Performance and reliability

- Security
- Solution breadth and functionality
- Technological innovation
- Usability
- Ability to tailor and customize services for a specific company, vertical or industry
- Compatibility between products and services deployed within on-premise IT environments and public cloud IT environments
- Speed and ease of deployment, use and maintenance
- Financial resources; and
- Reputation of the vendor.

We believe that we compete favorably on the basis of these factors. To further our market success, we must continue to respond promptly and effectively to technological change and competitors' innovations. Our ability to remain competitive will depend on our efforts in the areas of product development and sales, services and support operations.

## **EMPLOYEES**

As of January 31, 2018, we had 1,870 full-time employees, including 910 in support, subscription and professional services, 420 in research and development, 310 in sales and marketing and 230 in administration. Generally, our employees are not represented by collective bargaining agreements. However, certain employees in our Netherlands, France and Belgium subsidiaries are represented by statutory works councils as required under local law. Employees of our Brazilian subsidiary are represented by a collective bargaining agreement with the Data Processing Union.

## **INTELLECTUAL PROPERTY**

We rely on a combination of trademark, copyright, trade secret and patent laws in the United States and other jurisdictions, as well as confidentiality procedures and contractual provisions to protect our proprietary technology and our brands and we maintain programs to protect and grow our rights. We also enter into confidentiality and proprietary rights agreements with our employees, consultants and other third parties and control access to software, services, documentation and other proprietary information.

## **SEASONALITY**

Our fourth quarter has historically been our strongest quarter for new business and maintenance renewals. For a more detailed discussion, see the "Seasonal Nature of Deferred Revenue, Accounts Receivable and Operating Cash Flow" discussion in Management's Discussion and Analysis.

## **SEGMENT REPORTING**

We operate in a single reporting segment. Geographical financial information for fiscal years 2018, 2017 and 2016 is presented in Note 12 within the Notes to Consolidated Financial Statements included in Item 15 of this Annual Report on Form 10-K.

## **AVAILABLE INFORMATION**

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge on our website at [www.qad.com](http://www.qad.com), as soon as reasonably practicable after such reports have been electronically filed or otherwise furnished to the Securities and Exchange Commission. We are not including the information contained on our website as part of, or incorporating it by reference into, this annual report on Form 10-K.



## ITEM 1A. RISK FACTORS

The environment in which we operate involves significant risks and is subject to factors beyond our control. You should consider the risk factors described below before investing in our stock as such risks may have a material adverse effect on our business, results of operations and financial condition and could cause the price of our stock to decline. Please note that the risk factors described below are not exhaustive.

### **Risks associated with our cloud service offerings**

*Defects and disruptions in our services could diminish demand for our services and subject us to liability.*

Our cloud service offerings are complex and incorporate a variety of hardware and proprietary and third-party software, and may have errors or defects that could result in unanticipated downtime for our customers and harm to our reputation and our business. We have from time to time found defects in our services and new defects may be discovered in the future, especially in connection with the integration of new technologies and the introduction of new services. As a result, we could lose future sales and existing customers could elect to cancel or make warranty or other claims against us and potentially expose us to the expense and risk of litigation.

*Our revenue and profitability will be adversely affected if we do not properly manage our cloud service offerings.*

We expend significant resources to improve the reliability and security of our cloud offerings and the cost of these investments could reduce our profitability. The pricing and other terms of some of our cloud agreements require us to make estimates and assumptions at the time we enter into these contracts that could differ from actual results. Early termination, increased costs or unanticipated delays could have a material adverse effect on our profit margin and generate negative cash flow. Further, if we experience delays in implementing new cloud customers (whether due to product defects, system complexities or other factors) then customers may delay the deployment of additional users and sites, which could adversely affect our revenue growth. If we fail to meet our system availability commitments or other customer obligations then we may be required to give credits or refund fees, and we may be subject to litigation and loss of customer business. For example, if we were to miss our system availability commitments then we are obligated under our standard customer contracts to issue one day's credit against future fees for each hour of system unavailability.

*Our cloud retention rate is dependent upon a number of factors that may impact our ability to accurately predict growth in our cloud business.*

Our cloud customers typically enter into subscription agreements with an initial term of 12 to 60 months. Our customers have no obligation to renew their subscriptions after the expiration of their subscription period, and some customers may elect (for a variety of reasons, including a business downturn) not to renew, or may elect to renew at a lower subscription level. Growth in our cloud business may be affected by our inability to maintain high retention rates and sell additional features and services to our current customers, which could depend on a number of factors, including customers' satisfaction with our products and services, the prices of our offerings and general economic conditions. We cannot provide assurance that our subscriptions will be renewed at the same or higher levels of service, for the same number of users or for the same duration of time, if at all, or that we will be able to accurately predict future customer retention rates. If our customers do not renew their subscriptions or if they renew on terms less favorable to us, the rate at which our cloud business grows may decline and our revenue may be reduced.

*We rely on third-party hosting and other service providers.*

We currently serve our cloud customers from third-party data center hosting facilities located in the United States and other countries. We do not control the operation of any of these facilities, and they may be subject to damage or interruption from earthquakes, floods, fires, power loss, telecommunications failures and similar events. They may also be subject to breaches of computer hardware and software security, break-ins, sabotage, intentional acts of vandalism and similar misconduct. Despite precautions taken at these facilities, the occurrence of a natural disaster or an act of terrorism, a decision to close the facilities without adequate notice or other unanticipated problems at these facilities could result in lengthy interruptions in our service. Even with our disaster recovery precautions, our services could be interrupted. Any loss or interruption of these services could significantly increase our expenses and/or result in errors or a failure of our services which could adversely affect our business. In addition, these vendor services may not continue to be available at reasonable prices or on commercially reasonable terms, or at all.

*We may be exposed to liability and loss from cyber security breaches.*

Our cloud services involve the storage and transmission of customers' proprietary information, and security breaches could expose us to a risk of loss of this information, resulting in litigation and possible liability. Security breaches may also include "denial-of-service" attacks, which can potentially disrupt our operations and our customers' operations. Security measures may be breached in numerous ways, such as remote or on-site break-ins by computer hackers, disgruntled employees or employee error during transfer of data to additional data centers or at any time, and result in unauthorized access to our own and our customers' data, intellectual property and other confidential business information. Additionally, third parties may attempt to induce employees or customers into disclosing sensitive information such as user names, passwords or other information in order to gain access to our own and our customers' data, intellectual property and other confidential business information. Because the techniques used to obtain unauthorized access, or to sabotage systems, change frequently and generally are not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. A security breach could cause a loss of confidence in the security of our services, damage our reputation, disrupt our business, create legal liability and cause severe and potentially irreparable impact to our business.

*Our solutions can be used to collect and store personal information of our customers' employees or customers, and therefore privacy concerns and governmental regulations could result in additional cost and liability to us or inhibit sales of our solutions.*

Regulatory focus on privacy issues continues to increase and worldwide laws and regulations concerning the handling of personal information are expanding and becoming more complex. Many federal, state and foreign government bodies and agencies have adopted, or are considering adopting, laws and regulations regarding the collection, use, disclosure and retention of personal information. The European Union ("EU") and the United States entered into a new framework (known as the "Privacy Shield") in July 2016 to provide a mechanism for companies to transfer data from EU member states to the U.S. The Privacy Shield and other data transfer mechanisms are likely to be reviewed by the European courts, which may lead to uncertainty about the legal basis for data transfers to the U.S. or interruption of such transfers. In the event a court blocks transfers to or from a particular jurisdiction on the basis that transfer mechanisms are not legally adequate, this could cause operational interruptions, liabilities and reputational harm. These and other requirements could increase the cost of compliance for us and our customers, restrict our and our customers' ability to store and process data, negatively impact our ability to offer our solutions in certain locations and limit our customers' ability to deploy our solutions globally. These consequences may be more significant in countries with legislation that requires data to remain localized "in country", as this could require us or our customers to establish data storage in other jurisdictions or apply local operational processes that are difficult and costly to integrate with global processes.

If we fail to comply with such laws and regulations, we may be subject to significant fines, penalties or liabilities for noncompliance, thereby harming our business. For example, in 2016, the European Union adopted the General Data Protection Regulation ("GDPR"), which establishes new requirements regarding the handling of personal data and which becomes effective in May 2018. Non-compliance with the GDPR may result in monetary penalties of up to 4% of worldwide revenue.

*The market for cloud services may not develop as quickly as we expect.*

The market for cloud services is not as mature as the market for traditional enterprise software, and it is uncertain whether these services will achieve and sustain high levels of demand and market acceptance. Our success will depend on the willingness of customers to increase their use of cloud services in general, and for enterprise applications in particular. Some enterprises may be unwilling to use cloud services because they have concerns regarding security risks, international transfers of data, evolving regulation, government or other third-party access to data, use of outsourced services providers, and unwillingness to abandon past infrastructure investments. If the market for cloud services does not evolve in the way we anticipate or if customers do not recognize the benefits of our cloud solutions over traditional on-premise enterprise software products, and as a result we are unable to increase sales of subscriptions to our cloud offerings, then our revenues may not grow or may decline and our operating results would be harmed.

*Our focus on cloud services may result in the loss of other business opportunities and negatively impact our revenue growth.*

We have focused our sales force, management team and other personnel on growing our cloud business. This strategic direction and use of resources could result in the loss of sales opportunities in our traditional license, maintenance and services businesses. If our cloud business does not grow in accordance with our expectations and we are not able to cover the shortfall with other sales opportunities, then our business could be harmed. Although the subscription model used for our cloud business is designed to create a recurring revenue stream that is more predictable, the shift to this model may reduce our license sales, spread revenue over a longer period and negatively affect future license, maintenance and services revenue.

#### **Risks associated with rapid technological change and complexity**

*The market for our products and services is characterized by rapid technological change.*

Customer requirements for products can change rapidly as a result of innovation or change within the computer hardware and software industries, the introduction of new products and technologies and changes to industry standards. Our future success, including our cloud service offerings, will depend upon our ability to continue to enhance our current product line and to develop and introduce new products and services that keep pace with technological developments, satisfy increasingly sophisticated customer requirements, keep pace with industry and compliance standards and achieve market acceptance. Our failure to successfully develop or acquire, and market, product enhancements or new products could have a material adverse effect on our business. Despite our significant investments in research and development, we may not realize significant new revenue from these investments for several years, if at all.

*New software releases and enhancements may adversely affect our software sales.*

The actual or anticipated introduction of new products, technologies and industry standards can render existing products obsolete or unmarketable or result in delays in the purchase of those products. Significant delays in launching new products may also jeopardize our ability to compete. If we fail to anticipate or respond to developments in technology or customer requirements, have significant delays in the introduction of new products or fail to maintain overall customer satisfaction, this could experience a material adverse effect on our business.

*Services engagements are complex and pose material risks.*

Services engagements may involve technological complexity, customer customization requests and other challenges, including in connection with our cloud environments, and such challenges demand a significant number of specialized technical resources. Our failure to successfully address these issues could have a material adverse effect on our business.

*Changes in laws and regulations related to the Internet may negatively impact our business.*

Federal, state or foreign government bodies or agencies have in the past adopted, and may in the future adopt, laws or regulations relating to Internet usage. Changes in these laws or regulations could require us to modify our applications in order to comply with these laws or regulations. In addition, government agencies or private organizations may begin to impose taxes, fees or other charges for accessing the Internet or for commerce conducted via the Internet. These laws or charges could limit the growth of Internet-related commerce or communications, or negatively impact demand for Internet-based applications such as ours.

### **Risks associated with our revenue, expenses and pricing**

*Our revenue and profits may fluctuate significantly.*

Our quarterly and annual operating results have fluctuated in the past and may do so in the future. Such fluctuations have resulted from the seasonality of our customers' manufacturing businesses and budget cycles and other factors. Moreover, there can be no assurance that our revenue will grow in future periods. As a result of fluctuating revenue or due to accelerated costs and deferred revenue resulting from cloud bookings there can be no assurance that we will be profitable on a quarterly or annual basis. However, with the adoption of ASC Topic 606 in fiscal 2019, the company will capitalize sales commission expenses and recognize them ratably over the useful life of the customer contract resulting in more accurate predictability of such expenses.

*A significant portion of our revenue in any quarter may be derived from a limited number of large, non-recurring license sales.*

We may experience large individual license sales, which may cause significant variations in license fees being reported on a quarterly basis. We also believe that the purchase of our products is discretionary and may involve a significant commitment of a customer's capital resources. Therefore, a downturn in any significant customer's business could have a significant adverse impact on our revenue and profit. Further, we have historically recognized a substantial portion of our license revenue from sales booked and shipped in the last month of a quarter and, as a result, the magnitude of quarterly fluctuations in license fees may not become evident until the end of a particular quarter. Our revenue from license fees in any quarter is substantially dependent on orders booked and shipped in that quarter. We are unlikely to be able to generate revenue from alternative sources if we discover a shortfall near the end of a quarter.

*Our financial forecasts are subject to uncertainty to the extent they are based on estimated sales forecasts.*

Our revenues, and particularly our new software license revenue, are difficult to forecast, and, as a result, our financial forecasts are subject to uncertainty. Specifically, our sales forecasts are based on estimates that our sales personnel make regarding the likelihood of potential sales, including their expected closing date and fee amounts. If these estimates are inaccurate then our financial forecasts may also be inaccurate.

*The margins in our services business may fluctuate.*

Services revenue is dependent upon the timing and size of customer orders, as well as upon our related license and subscription sales. We may hire additional services staff in anticipation of customer orders and if we are unable to keep the services staff engaged on billable matters then our profit margins may suffer. In addition, certain engagements may involve fixed price arrangements and significant staffing which require us to make estimates and assumptions at the time we enter into these contracts. Variances between these estimates and assumptions and actual results could have an adverse effect on our profit margin and generate negative cash flow and negative services margins. To the extent that we are not successful in securing orders from customers to provide services, or to the extent we are not successful in achieving the expected margin on such services, our results of operations may be adversely affected.

*The margins in our cloud service offerings may fluctuate.*

Our cloud service offerings may involve fixed price arrangements, fixed and up-front costs and significant staffing which require us to make estimates and assumptions at the time we enter into these contracts. Variances between these estimates and assumptions and actual results could have an adverse effect on our profit margin and/or generate negative cash flow. To the extent that we are not successful in securing orders from customers to provide cloud services, or to the extent we are not successful in achieving the expected margin on such solutions, our results may be adversely affected.

*Because we recognize revenue from cloud services over the term of the subscription, downturns or upturns in new business may not be immediately reflected in our operating results.*

We generally recognize subscription revenue from customers ratably over the terms of their subscription agreements. As a result, most of the subscription revenue we report in each quarter is the result of subscription agreements entered into during prior quarters. Consequently, a decline in new or renewed subscriptions in any one quarter may not be reflected in our revenue results for that quarter. Any such decline, however, will negatively affect our revenue in future quarters. Accordingly, the effect of significant downturns in sales and market acceptance of our cloud services, and potential changes in our attrition rate, may not be fully reflected in our results of operations until future periods. Our subscription model also makes it difficult for us to rapidly increase our subscription revenue through additional sales in any period, as subscription revenue from new customers must be recognized over the applicable subscription term.

*A significant portion of our revenue is derived from maintenance renewals with our existing installed base of customers.*

Maintenance renewals are at the customer's discretion, and customers may elect not to renew. Further, it is our strategy to convert existing customers to our cloud services offering, which, if successful, will reduce maintenance renewals. If our existing customers discontinue maintenance to a significant degree, our revenues and results of operations will be adversely affected.

*Our maintenance retention rate is dependent upon a number of factors such as our ability to continue to develop and maintain our products, continue to recruit and retain qualified personnel to assist our customers, and promote the value of maintenance for our products to our customers.*

Our maintenance retention rate is also dependent upon factors beyond our control such as technology changes and their adoption by our customers, budgeting decisions by our customers, changes in our customers' strategy or ownership and plans by our customers to replace our products with competing products. If our maintenance retention rate decreases, our revenue and results of operations would be adversely affected.

*We have risks regarding our pricing and pricing models.*

We are occasionally obliged to offer deep discounts and other favorable terms in order to match or exceed the product and service offerings of our competitors. If we do not adapt our pricing models to reflect changes in customer demand resulting from rapid technological advances, such as those leading to alternative hosting and cloud service delivery offerings, our revenues could decrease. For example, if customer software usage evolves in ways that maintain or increase the value they derive from our products while decreasing traditional licensing metrics such as individual users, then if we do not adjust our pricing models accordingly then our revenues could decrease. Further, broad-based changes to our pricing models could adversely affect our revenues and operating results as our sales force implements, and our customers and accounting practices adjust to, the new pricing models.

*We may have exposure to additional tax liabilities.*

As a multinational organization, we are subject to income taxes as well as non-income taxes in the United States and in various foreign jurisdictions. Significant judgment is required in determining our worldwide income tax provision and other tax liabilities. Although we believe that our tax estimates are reasonable, the final determination of tax audits or tax disputes may differ from what is reflected in our historical income tax provisions and accruals. In addition, the timing and complexity of the Tax Cuts and Jobs Act, enacted on December 22, 2017 (the "Tax Act"), required significant judgment in the interpretation of the Tax Act and our provision for income taxes for the year ended January 31, 2018. The Internal Revenue Service may issue guidance on the application of the Tax Act that differs from our judgment and requires us to make adjustments to our calculations that could materially impact our effective tax rate and results of operations.

Our tax rate could be adversely affected by several factors, many of which are outside of our control, including:

- Changes in jurisdictional revenue mix;
- Changing tax laws, regulations and interpretations thereof;
- Changes in tax rates;
- Changes to the valuation allowance on deferred tax assets; and
- Assessments and any related tax, interest or penalties.

If we are deemed to owe additional taxes, our results of operations may be adversely affected.

*We report our results based on our calculations of the amount of taxes owed in the various tax jurisdictions in which we operate.*

Periodically, we may receive notices that a tax authority in a particular jurisdiction believes that we owe a greater amount of income tax than we have reported, in which case we may engage in discussions or possible dispute resolutions with these tax authorities. If the ultimate determination of our income taxes owed in any of these jurisdictions is for an amount in excess of the tax provision we have recorded or reserved for, our operating results, cash flows, and financial condition could be adversely affected. We are also subject to non-income taxes, such as payroll, sales, use, value-added, net worth, property and goods and services taxes, in the United States and in various foreign jurisdictions. Audits or disputes relating to non-income taxes may result in additional liabilities that could negatively affect our operating results, cash flows and financial condition.

*Our personnel restructurings may incur significant expense and be disruptive.*

We have in the past restructured our workforce on a company-wide, business function or geographic basis in connection with strategic changes, cost containment and other purposes. Such restructurings, and in particular reductions in the workforce, may result in significant severance and other expenses and may also reduce productivity.

#### **Risks associated with our sales cycle**

*Our products involve a long sales cycle and the timing of sales is difficult to predict. Because the licensing or subscription of our primary products generally involves a significant commitment of capital or a long-term commitment by our customers, the sales cycle associated with a purchase of our products is generally lengthy.*

This cycle varies from customer to customer and is subject to a number of significant risks over which we have little or no control. The evaluation process that our customers follow generally involves many of their personnel and requires complex demonstrations and presentations to satisfy their needs. Significant effort is required by us to support this process, whether we are ultimately successful or not. If sales forecasted for a particular quarter are not realized in that quarter, then we are unlikely to be able to generate revenue from alternative sources in time to compensate for the shortfall. As a result, a lost or delayed sale could have a material adverse effect on our quarterly and annual operating results.

## **Risks associated with our solutions**

*We may experience defects in our solutions.*

Our solutions, including licensed software, cloud services and other services, may contain defects, including security flaws, especially when first introduced or when new versions are released. The detection and correction of defects can be time consuming and costly. Defects in our solutions, including licensed third-party software, could affect the ability of our products to work with other hardware or software products. Defects could delay the development or release of new products or new versions of products and could adversely affect market acceptance of our products and our ability to conduct our cloud operations. Defects may also impair our ability to complete services implementations on time and within budget. Customers who rely on our solutions for applications that are critical to their businesses may have a greater sensitivity to such defects than customers for software products generally. Defects could expose us to product liability, performance and warranty claims as well as harm our reputation, which could adversely impact our future sales.

## **Dependence on third-party suppliers**

*We are dependent on Progress Software Corporation.*

The majority of QAD Enterprise Applications are written in a programming language that is proprietary to Progress Software Corporation, or "Progress." These QAD Enterprise Applications do not run within programming environments other than Progress and therefore our customers must acquire rights to Progress software in order to use these QAD Enterprise Applications. We have an agreement with Progress under which Progress licenses us to distribute and use Progress software related to our products. This agreement remains in effect unless terminated either by a written ten-year advance notice or due to a material breach that is not remedied. If Progress were to provide notice that it was terminating its agreement with us, this could have a material adverse effect on our business and prospects.

*Our success is dependent upon our continuing relationship with Progress.*

Our success is also dependent upon Progress continuing to develop, support and enhance its programming language, its toolset and its database, as well as the continued market acceptance of Progress products. A change in Progress' control, management or direction may adversely impact our relationship with Progress and our ability to rely on Progress products in our business. We have in the past, and may in the future, experience product release delays because of delays in the release of Progress products or product enhancements. Any of these delays could have a material adverse effect on our business.

*We are dependent on other third-party suppliers.*

We resell certain software which we license from third parties other than Progress. There can be no assurance that these third-party software arrangements and licenses will continue to be available to us on terms that provide us with the third-party software we require, provide adequate functionality in our products on terms that adequately protect our proprietary rights or are commercially favorable to us.

Certain QAD Enterprise Applications are developed using embedded programming tools from Microsoft and Sun Microsystems (owned by our competitor Oracle) for the Microsoft .NET framework and Java Programming environments, respectively. We rely on these environments' continued compatibility with customers' desktop and server operating systems. In the event that this compatibility is limited, some of our customers may not be able to easily upgrade their QAD software. If the present method of licensing the .NET framework as part of Microsoft's Desktop Operating systems is changed and a separate price were applied to the .NET framework, our expenses could increase substantially. Similarly, if Oracle decided to charge fees or otherwise change the historical licensing terms for Java technology, our expenses could increase substantially. For both of the .Net and Java elements, we rely on market acceptance and maintenance of these environments and we may be adversely affected if these were withdrawn or superseded in the market.

Our partner agreements, including development, product acquisition and reseller agreements, contain confidentiality, indemnity and non-disclosure provisions for the third party and end user. Failure to establish or maintain successful relationships with these third parties or failure of these parties to develop and support their software, provide appropriate services and fulfill confidentiality, indemnity and non-disclosure obligations could have an adverse effect on us. We have been in the past, and expect to be in the future, party to disputes about ownership, license scope and royalty or fee terms with respect to intellectual property. Failure to prevail in any such dispute could have a material adverse effect on our business.

## **Risks associated with our proprietary rights and customer contracts**

*Our intellectual property may be at risk as a result of a variety of different factors.*

We rely on a combination of protections provided by applicable copyright, trademark, patent and trade secret laws, as well as on confidentiality procedures and licensing arrangements, to establish and protect our rights in our software and related materials and information. We enter into licensing agreements with each of our on-premise customers and these agreements provide for the non-exclusive use of QAD Enterprise Applications. Our license contracts contain confidentiality and non-disclosure provisions, a limited warranty covering our applications and indemnification for the customer from infringement actions related to our applications. In addition, we generally license our software to end-users in both object code (machine-readable) and source code (human-readable) formats. While this practice facilitates customization, making software available in source code also makes it possible for others to copy or modify our software for impermissible purposes.

Despite our efforts, it may be possible for others to copy portions of our products, reverse engineer them or obtain and use information that we regard as proprietary, all of which could adversely affect our competitive position. Furthermore, there can be no assurance that our competitors will not independently develop technology similar to ours. In addition, the laws of certain countries do not protect our proprietary rights to the same extent as the laws of the United States.

*The success of our business is highly dependent on maintenance of intellectual property rights.*

The unauthorized use of our intellectual property rights may increase the cost of protecting these rights or reduce our revenues. We may initiate, or be subject to, claims or litigation for infringement of proprietary rights or to establish the validity of our proprietary rights, which could result in significant expense to us, cause product shipment delays, require us to enter royalty or licensing agreements and divert the efforts of our technical and management personnel from productive tasks, whether or not such litigation were determined in our favor.

*We may be exposed to claims for infringement of intellectual property rights and breach of contract, and we may experience impairment of our own intellectual property rights.*

Third parties may initiate proceedings against us claiming infringement or other misuse of their intellectual property rights and/or breach of our agreements with them. Further, while we actively monitor the adoption of open source software in our software development process, it is possible that our use of open source software may inadvertently subject our proprietary software to public disclosure and impairment of our intellectual property rights. The likelihood of such instances may increase as the use of open source and other third-party code becomes more prevalent in the industry. Any such instances, regardless of validity, may cause us to:

- Pay license fees or monetary damages;
- Incur high legal fees in defense of such claims;
- Alter or stop selling our products;
- Satisfy indemnification obligations to our customers;
- Release source code to third parties, possibly under open source license terms; and
- Divert management's time and attention from operating our business.

*We may be exposed to product liability claims and other liabilities.*

While our customer agreements typically contain provisions designed to limit our exposure to product liability claims and other liability, we may still be exposed to liability in the event such provisions may not apply.

*We have an errors and omissions insurance policy which may not totally protect us.*

The Company has an errors and omissions insurance policy. However, this insurance may not continue to be available to us on commercially reasonable terms or at all, or a claim otherwise covered by our insurance may exceed our coverage limits, or a claim may not be covered at all. We may be subject to product liability claims or errors or omissions claims that could have an adverse effect on us. Moreover, defending a suit, regardless of its merits, could entail substantial expense and require the time and attention of key management personnel.

## **Risks associated with our market and the economy**

*The market in which we participate is highly competitive and if we do not compete effectively our operating results could be harmed.*

The market for enterprise software solutions is highly competitive and subject to changing technology, shifting customer needs and introductions of new products and services. Many of our current and potential competitors enjoy substantial competitive advantages, such as greater name recognition, larger marketing budgets and substantially greater financial, technical and other resources. In addition, many of our current and potential competitors have established marketing relationships and access to larger customer bases. A number of companies offer products that are similar to our products and target the same markets. Any of these competitors may be able to respond more quickly to new or changing opportunities, technologies and market trends, and devote greater resources to the development, promotion and sale of their products. Our competitors may also offer extended payment terms or price reductions for their products and services, either of which could materially and adversely affect our ability to compete successfully. There can be no assurance that we will be able to compete successfully against current and future competitors or that the competitive pressures that we may face will not materially adversely affect our business, revenue and results of operations.

*We are dependent upon achieving success in certain concentrated markets.*

We have made a strategic decision to concentrate our product development, as well as our sales and marketing efforts, in certain vertical manufacturing industry segments: automotive, life sciences, consumer products, food and beverage, high technology and industrial products. We also concentrate our efforts on certain geographies, where costs to expand our market or stay in compliance with local requirements could be extensive and require a large amount of resources. An important element of our strategy is the achievement of technological and market leadership recognition for our software products in these segments and geographies. The failure of our products to achieve or maintain substantial market acceptance in one or more of these segments or geographies could have an adverse effect on us. If any of these targeted industry segments or geographies experience a material slowdown or reduced growth, those conditions could adversely affect the demand for our products.

*Unfavorable economic conditions may adversely impact our business, operating results and financial condition.*

Our operations and performance are subject to the risks arising from worldwide economic conditions, which are themselves impacted by other events, such as financial crises, natural disasters and political turmoil. In particular, the negative impact of economic conditions on manufacturing companies could have a substantial adverse effect on our sales, because our products are focused on supporting manufacturing companies. Uncertainty about global economic conditions may result in reductions in sales of our products, longer sales cycles, slower adoption of new technologies and increased price competition as manufacturing companies may delay, reduce or forego spending in response to declining asset values, tight credit, high unemployment, natural disasters, political unrest and negative financial news. Such economic conditions may also result in our customers extending their payment periods or experiencing reduced ability to pay amounts owed to us. Uncertainty about global economic conditions could also increase the volatility of our stock price. If any of the foregoing occurs, our results of operations may be adversely affected.

## **Risks associated with our third-party relationships**

*We are dependent upon the development and maintenance of sales, services and marketing channels.*

We sell and support our products through direct and indirect sales, services and support organizations throughout the world. We also maintain relationships with a number of consulting and systems integration organizations that we believe are important to our worldwide sales, marketing, service and support activities and to the implementation of our products. We believe this strategy allows for additional flexibility in ensuring our customers' needs for services are met in a cost effective, timely and high quality manner. Our services providers generally do not receive fees for the sale of our software products unless they participate actively in a sale as a sales agent or a distributor. We are aware that these third-party service providers do not work exclusively with our products and in many instances have similar, and often more established, relationships with our principal competitors. If these third parties exclusively pursue products or technology other than QAD software products or technology, or if these third parties fail to adequately support QAD software products and technology or increase support for competitive products or technology, we could be adversely affected.



## **Risks associated with acquisitions we may make**

*We may make acquisitions or investments in new businesses, products or technologies that involve additional risks.*

As part of our business strategy, we have made, and expect to continue to make, acquisitions of businesses or investments in companies that offer complementary products, services and technologies or expand our geographical presence. Such acquisitions or investments involve a number of risks which could adversely affect our business or operating results, including:

- Our business strategy may not be furthered by an acquisition as we planned;
- We may be unable to retain customers, vendors, distributors, business partners or other relationships associated with the acquired business;
- Our due diligence may not identify significant liabilities or deficiencies associated with the business, assets, products, financial condition or accounting practices of an acquired company;
- We may have difficulty integrating an acquired business due to incompatible business cultures;
- We may incur significant integration costs related to assimilating the operations and personnel of acquired companies;
- Acquisition costs may result in charges in a particular quarter, increasing variability in our quarterly earnings;
- We may not realize the anticipated revenue increase from an acquisition;
- We may be unable to realize the value of the acquired assets relative to the acquisition cost; and
- Acquisitions may distract management from our existing businesses.

These factors could have a material adverse effect on our business, financial condition and operating results. In addition such acquisitions may cause our future quarterly financial results to fluctuate due to costs related to an acquisition, such as the elimination of redundant expenses or write-offs of impaired assets recorded in connection with acquisitions. Also, consideration paid for any future acquisitions could include our stock. As a result, future acquisitions could cause dilution to existing stockholders and to earnings per share, though the likelihood of voting dilution is limited by the ability of the Company to use low-vote Class A common stock as consideration for potential acquisitions. Furthermore, we may incur significant debt to pay for future acquisitions or investments or our use of cash to pay for acquisitions may limit other potential uses of our cash, including stock repurchases, dividend payments and retirement of outstanding indebtedness.

## **Risks associated with our international operations**

*Our operations are international in scope, exposing us to additional risk.*

We derive over half of our total revenue from sales outside the United States. A significant aspect of our strategy is to focus on developing business in emerging markets. Our operating results could be negatively impacted by a variety of factors affecting our foreign operations, many of which are beyond our control. These factors include currency fluctuations, economic, political or regulatory conditions in a specific country or region, trade protection measures and other regulatory requirements. Additional risks inherent in international business activities generally include, among others:

- Longer accounts receivable collection cycles;
- Costs and difficulties of managing international operations and alliances;
- Greater difficulty enforcing intellectual property rights;
- Import or export requirements;
- Changes in political or economic conditions;
- Changes in regulatory requirements or tax law; and
- Operating in geographies with a higher inherent risk of corruption, which could adversely affect our ability to maintain compliance with domestic and international laws, including, but not limited to, the U.S. Foreign Corrupt Practices Act and other anti-corruption laws.

*We may experience foreign currency gains and losses.*

We conduct a portion of our business in currencies other than the United States dollar. Our revenues and operating results may be negatively affected by fluctuations in foreign currency exchange rates. Changes in the value of major foreign currencies, including the euro and Mexican peso, relative to the United States dollar can significantly and adversely affect our revenues, expenses and operating results.

*Changes in accounting principles, or interpretations thereof, could have a significant impact on our financial position and results of operations.*

We prepare our Consolidated Financial Statements in accordance with accounting principles generally accepted in the United States of America ("GAAP"). A change in these principles can have a significant impact on our reported results and may even retroactively affect previously reported transactions. The adoption of new or revised accounting principles may require that we make significant changes to our systems, processes and controls.

The U.S.-based Financial Accounting Standards Board ("FASB") is currently working together with the International Accounting Standards Board ("IASB") on several projects to further align accounting principles and facilitate more comparable financial reporting between companies who are required to follow GAAP under SEC regulations and those who are required to follow International Financial Reporting Standards outside of the United States. These efforts by the FASB and IASB may result in different accounting principles under GAAP that may result in materially different financial results for us in areas including, but not limited to, principles for recognizing revenue and lease accounting. Additionally, significant changes to GAAP resulting from the FASB's and IASB's efforts may require that we change how we process, analyze and report financial information and that we change financial reporting controls.

#### **We are exposed to fluctuations in the market values of our investments**

Given the global nature of our business, we have investments both domestically and internationally. Credit ratings and market values of these investments can be negatively impacted by liquidity, credit deterioration or losses, financial results, foreign exchange rates, or other factors. As a result, the value or liquidity of our cash equivalents and marketable securities could decline, thus adversely affecting our financial condition and operating results.

#### **The market for our Class A and Class B common stock is volatile**

*Our stock price could become more volatile and investments could lose value.*

The market price of our common stock and the number of shares of each class traded each day has experienced significant fluctuations and may continue to fluctuate significantly. The market price for our common stock may be affected by a number of factors, including, but not limited to:

- Shortfalls in our expected net revenue, earnings or key performance metrics;
- Changes in recommendations or estimates by securities analysts;
- The announcement of new products by us or our competitors;
- Quarterly variations in our or our competitors' results of operations;
- A change in our dividend or stock repurchase activities;
- Developments in our industry or changes in the market for technology stocks;

- Changes in rules or regulations applicable to our business; and
- Other factors, including economic instability and changes in political or market conditions.

*The dual class structure of our common stock as contained in our charter documents could adversely impact the market for our common stock.*

Our dual-class stock structure could adversely impact the market for our stock. The liquidity of our common stock may be adversely impacted by our dual-class structure because each class has less of a public float than it would if we had a single class of common stock. In addition, there are fewer Class B shares than Class A shares and Class B shares may be less desirable to the public due to the 20% higher dividend on Class A shares. Also, the holding of lower voting Class A common stock may not be permitted by the investment policies of certain institutional investors or may be less attractive to managers of certain institutional investors.

*If research analysts do not publish research about our business or if they issue unfavorable commentary or downgrade our common stock, our stock price and trading volume could decline.*

The trading market for our common stock depends in part on the research and reports that research analysts publish about us and our business. If we do not maintain adequate research coverage, or if one or more analysts who covers us downgrades our stock or publishes inaccurate or unfavorable research about our business, the price of our common stock could decline. If one or more of the research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our common stock could decrease, which could cause our stock price or trading volume to decline.

*We are obligated to maintain proper and effective internal control over financial reporting. We may not complete our analysis of our internal control over financial reporting in a timely manner, or this internal control may not be determined to be effective, which may adversely affect investor confidence in our company and, as a result, the value of our common stock.*

We are required, pursuant to the Securities and Exchange Act of 1934, as amended (the “Exchange Act”), to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. This assessment includes disclosure of any material weaknesses identified by our management in our internal control over financial reporting, as well as a statement that our auditors have issued an attestation report on our internal controls.

While we were able to determine in our management’s report for fiscal 2018 that our internal control over financial reporting is effective, as well as provide an unqualified attestation report from our independent registered public accounting firm to that effect, we may not be able to complete our evaluation, testing, and any required remediation in a timely fashion or our independent registered public accounting firm may not be able to formally attest to the effectiveness of our internal control over financial reporting in the future. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting that we are unable to remediate before the end of the same fiscal year in which the material weakness is identified, we will be unable to assert that our internal controls are effective. If we are unable to assert that our internal control over financial reporting is effective, or if our auditors are unable to attest to the effectiveness of our internal controls or determine we have a material weakness in our internal controls, we could lose investor confidence in the accuracy and completeness of our financial reports, which could cause the price of our common stock to decline.

*If we are unable to pay quarterly dividends, our reputation and stock price may be harmed.*

Our payment of dividends may require the use of a significant portion of our cash earnings. As a result, we may not retain a sufficient amount of cash to fund our operations or finance future growth opportunities, new product development initiatives and unanticipated capital expenditures which could adversely affect our financial performance. Additionally, our board of directors may, at its discretion, decrease or entirely discontinue the payment of dividends at any time. Our ability to pay dividends will depend on our ability to generate sufficient cash flows from operations in the future. This ability may be subject to certain economic, financial, competitive and other factors that are beyond our control. Any failure to pay dividends may negatively impact our reputation and investor confidence in us and may negatively impact the price of our common stock.

#### **Our common stock ownership is concentrated**

*The dual class structure of our common stock as contained in our charter documents has the effect of concentrating voting control with certain stockholders, including Karl Lopker and Pamela Lopker, thus limiting our other stockholders’ ability to influence corporate matters.*

Our Class B common stock has one vote per share and our Class A common stock has 1/20<sup>th</sup> vote per share. Stockholders who hold shares of our Class B common stock together held approximately 80% of the voting power of our outstanding capital stock as of January 31, 2018. As of January 31, 2018, Karl Lopker and Pamela Lopker jointly and beneficially owned approximately 42% of the outstanding shares of our Class A and Class B common stock, representing approximately 68% of the voting power of our outstanding capital stock. Currently they have sufficient voting control to determine the outcome of a stockholder vote concerning:

- The election and removal of all members of our board of directors;
- The merger, consolidation or sale of the Company or all of our assets; and
- All other matters requiring stockholder approval, regardless of how our other stockholders vote their shares.

In addition, the holders of our Class B common stock collectively will continue to be able to control all matters submitted to our stockholders for approval even if their stock holdings represent less than 50% of the outstanding shares of our common stock. Because of the 20-to-1 voting ratio between our Class B and Class A common stock, the holders of our Class B common stock collectively will continue to control a majority of the combined voting power of our common stock even when the shares of Class B common stock represent as little as 5% of all outstanding shares of our Class A common stock. This concentrated control will limit the ability of our Class A stockholders to influence corporate matters for the foreseeable future, and, as a result, the market price of our Class A common stock could be adversely affected.

This concentrated control limits the ability of our other stockholders to influence corporate matters and also limits the liquidity of the shares owned by other stockholders. Should the interests of Karl Lopker and Pamela Lopker differ from those of other stockholders, the other stockholders may not be afforded the protections of having a majority of directors on the board who are independent from our principal stockholders or our management. For example, Karl Lopker's and Pamela Lopker's concentrated control could discourage others from initiating potential merger, takeover or other change of control transactions; and, transactions could be pursued that our other stockholders do not view as beneficial. As a result, the market price of our Class A and Class B common stock could be adversely affected.

*We are not required to comply with certain corporate governance rules of NASDAQ, that would otherwise apply to us as a company listed on NASDAQ, because we are a controlled company.*

Specifically, we are not required to have a majority of independent directors or a compensation committee comprised solely of independent directors; select, or recommend for the board's selection, director nominees by a majority of independent directors or a nominating committee comprised solely of independent directors; determine officer compensation by a compensation committee comprised solely of independent directors or by a majority of the board upon recommendation of a compensation committee comprised solely of independent directors; and satisfy certain responsibilities of the compensation committee prior to retaining or receiving advice from a compensation consultant, legal counsel or other advisor to the compensation committee.

*Provisions in the Company's charter documents or Delaware law could discourage a takeover that stockholders may consider favorable.*

Our Certificate of Incorporation contains certain other provisions that may have an "anti-takeover" effect. The Certificate of Incorporation contains authority for the Board to issue up to 5,000,000 shares of preferred stock without stockholder approval. Although the Company has no present intention to issue any such shares, we could issue such shares in a manner that deters or seeks to prevent an unsolicited bid for us. The Certificate of Incorporation also does not provide for cumulative voting and, accordingly, a significant minority stockholder could not necessarily elect any designee to the board of directors. In addition, Section 203 of the Delaware Corporation Law may discourage, delay, or prevent a change in control of us by imposing certain restrictions on various business combinations. Furthermore, our dual class structure concentrates the voting power of our stock in a small group of stockholders who would have the ability to control the outcome of a stockholder vote. As a result of these provisions in the Company's Certificate of Incorporation, including our dual class structure, and Delaware law, our stockholders may be deprived of an opportunity to sell their shares at a premium over prevailing market prices and it would be more difficult to replace our directors and management.

### **We are dependent upon highly skilled personnel**

Our performance depends on the talents and efforts of highly skilled employees, including the continued service of a relatively small number of key technical and senior management personnel. In particular, our Chairman of the Board and President, Pamela Lopker, and Chief Executive Officer, Karl Lopker, are critical to overall management of QAD, maintenance of our culture and setting our strategic direction. All of our executive officers and key employees are at-will employees and we do not have key-person insurance covering any of our employees. Our future success depends on our continuing ability to attract and retain highly skilled personnel in all areas of our organization. Competition for such personnel is intense and many of our competitors are larger and have greater financial resources for attracting skilled personnel. The loss of key technical and senior management personnel or the inability to attract and retain additional qualified personnel could have an adverse effect on our continued ability to compete effectively.

We have hired personnel in countries where advanced technical expertise and other expertise are available at lower costs to improve our cost structure. We may experience competition for employees in these countries, which may negatively affect our employee retention efforts and increase our expenses in an effort to offer a competitive compensation program.

### **Catastrophic events may disrupt our business**

Our corporate headquarters, including network infrastructure, internal technology systems and certain of our research and development activities, is located in Southern California, a region susceptible to fires, mudslides and seismic activity. Additionally, certain of our other facilities and those of our suppliers and third-party data hosting services, may be located in regions affected by natural disasters. Our corporate headquarters has been disrupted, and any of the aforementioned facilities, suppliers and hosting services may be disrupted in the future, by significant natural disasters. Such a natural disaster, as well as a terrorist attack, cyber-attack, war or other catastrophic event, may result in power loss, telecommunications failure, loss of access to the Internet, software or hardware malfunction, or physical access restrictions that our disaster recovery plans do not adequately address. This could result in system interruptions, loss of intellectual property, delays in our product development, interruptions in our customer services, breaches of data security and loss of critical data, which may have a material adverse affect on our business, operating results and financial condition, and negatively impact our reputation.

### **ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

### **ITEM 2. PROPERTIES**

QAD's corporate headquarters are located in Santa Barbara, California. The corporate headquarters are owned by QAD and consist of approximately 120,000 square feet situated on 28 acres of land.

In addition to the corporate headquarters, QAD owns a facility in Dublin, Ireland and leases over 25 offices throughout the world with lease agreements ending on various dates through fiscal year 2026. QAD's leased properties include offices in the United States, Belgium, France, Germany, Ireland, Italy, Poland, Spain, The Netherlands, United Kingdom, Australia, China, India, Japan, Singapore, Thailand, Brazil and Mexico. QAD will seek to review lease commitments in the future as may be required. QAD anticipates that its current domestic and international facilities are substantially sufficient to meet its needs for at least the next twelve months.

### **ITEM 3. LEGAL PROCEEDINGS**

We are not party to any material legal proceedings. We are from time to time party, either as plaintiff or defendant, to various legal proceedings and claims which arise in the ordinary course of business. While the outcome of these claims cannot be predicted with certainty, management does not believe that the outcome of any of these legal matters will have a material adverse effect on our consolidated financial position or results of operations.

### **ITEM 4. MINE SAFETY DISCLOSURES**

Not applicable.

## PART II

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

QAD common stock has been traded on the NASDAQ Global Market ("NASDAQ") since our initial public offering in August 1997 under the symbol "QADI" through December 14, 2010. On December 14, 2010, QAD shareholders approved a recapitalization plan pursuant to which the Company established two classes of common stock (the "Recapitalization"). Our Class A Common Stock and Class B Common Stock are traded on the NASDAQ under the symbols "QADA" and "QADB", respectively. The following table reflects the range of high and low sale prices of our Common Stock as reported by NASDAQ:

	QADA		QADB	
	Low Price	High Price	Low Price	High Price
Fiscal 2018:				
Fourth quarter	\$ 34.90	\$ 43.40	\$ 26.72	\$ 34.00
Third quarter	30.25	38.10	21.58	30.80
Second quarter	29.40	33.40	24.21	27.13
First quarter	26.04	30.95	21.38	26.09

	QADA		QADB	
	Low Price	High Price	Low Price	High Price
Fiscal 2017:				
Fourth quarter	\$ 22.90	\$ 31.10	\$ 19.90	\$ 26.20
Third quarter	18.88	24.75	17.05	21.68
Second quarter	18.35	20.53	13.79	17.89
First quarter	17.11	21.52	14.67	17.85

#### Holdings

As of March 31, 2018, there were approximately 170 shareholders of record of our Class A common stock and approximately 145 shareholders of record of our Class B common stock. Because many of our shares of common stock are held by brokers or other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by the record holders.

#### Dividends

We declared four quarterly cash dividends in fiscal 2018 of \$0.072 and \$0.06 per share of Class A and Class B stock, respectively. Continuing quarterly cash dividends are subject to profitability measures, liquidity requirements of QAD and Board discretion.

#### Recent Sales of Unregistered Securities

None.

#### Issuer Purchases of Equity Securities

None.

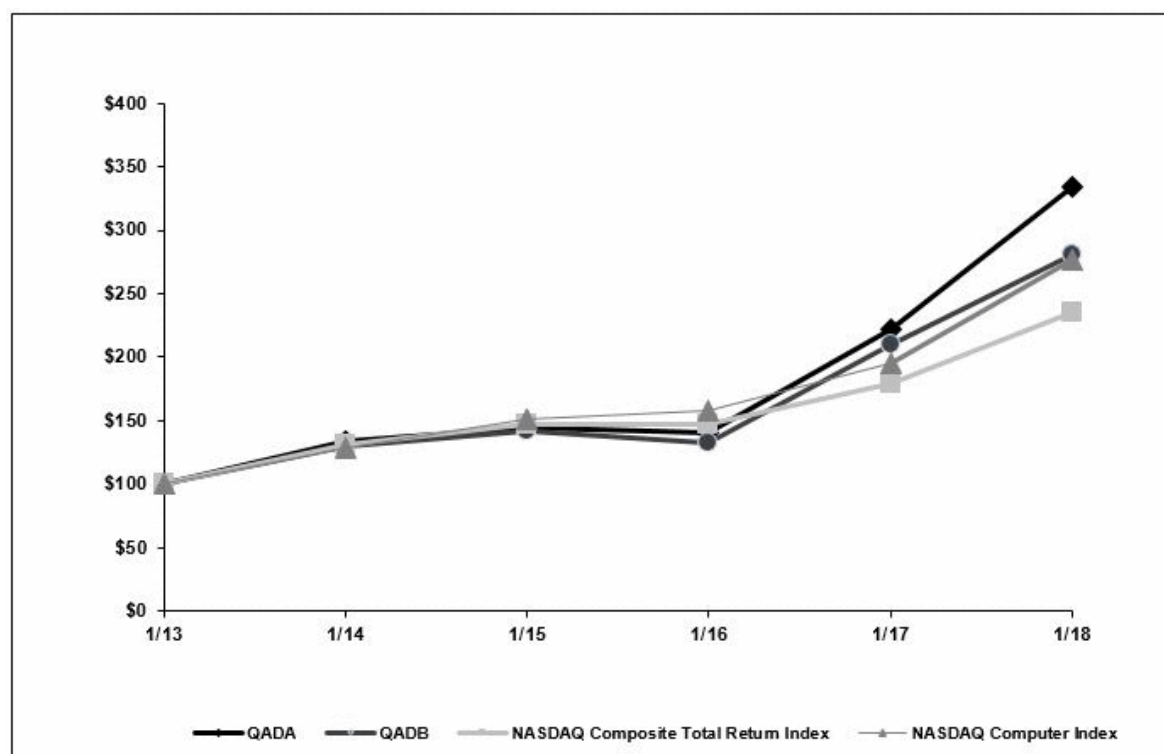
## STOCKHOLDER RETURN PERFORMANCE GRAPH

The line graph below compares the annual percentage change in the cumulative total stockholder return on QAD's common stock with the cumulative total return of the NASDAQ Composite Total Return Index and the NASDAQ Computer Index, on an annual basis, for the period beginning January 31, 2013 and ending January 31, 2018.

The graph assumes that \$100 was invested in QAD common stock on January 31, 2013 and that all dividends were reinvested. Historic stock price performance has been restated to reflect the effect of the Recapitalization for all periods presented. Historic stock price performance should not be considered indicative of future stock price performance.

*The following Share Performance Graph shall not be deemed to be "filed" with the Securities and Exchange Commission, nor shall such information be incorporated by reference into any future filings under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that the Company specifically incorporates it by reference into such filing.*

### COMPARISON OF CUMULATIVE TOTAL RETURN AMONG QAD INC., THE NASDAQ COMPOSITE TOTAL RETURN INDEX, AND THE NASDAQ COMPUTER INDEX



Measurement Periods (Annually from Fiscal Year 2013 through Fiscal Year 2018)	QADA	QADB	NASDAQ Composite Total Return Index	NASDAQ Computer Index
01/31/13	100.00	100.00	100.00	100.00
01/31/14	134.48	129.27	130.61	128.08
01/31/15	145.10	141.81	147.52	151.53
01/31/16	140.54	132.73	146.84	158.35
01/31/17	222.26	210.02	178.69	195.80
01/31/18	334.30	281.26	235.87	276.80

**ITEM 6. SELECTED FINANCIAL DATA**

	Years Ended January 31				
	2018 (1)	2017 (2)	2016 (3)	2015 (4)	2014
	(in thousands, except per share data)				
STATEMENTS OF OPERATIONS DATA:					
Revenues:					
Subscription Fees	\$ 69,615	\$ 52,167	\$ 38,806	\$ 28,217	\$ 19,406
License fees	25,807	23,633	29,891	40,917	36,176
Maintenance and other	128,142	130,406	132,962	141,295	139,557
Professional services	81,454	71,767	76,193	84,672	71,172
Total revenue	305,018	277,973	277,852	295,101	266,311
Operating (loss) income	(3,074)	3,364	10,171	15,985	9,403
Net (loss) income	\$ (9,065)	\$ (15,450)	\$ 8,912	\$ 12,946	\$ 6,386
Basic net (loss) income per share:					
Class A	\$ (0.49)	\$ (0.84)	\$ 0.49	\$ 0.84	\$ 0.42
Class B	\$ (0.41)	\$ (0.70)	\$ 0.41	\$ 0.70	\$ 0.35
Diluted net (loss) income per share:					
Class A	\$ (0.49)	\$ (0.84)	\$ 0.47	\$ 0.79	\$ 0.41
Class B	\$ (0.41)	\$ (0.70)	\$ 0.40	\$ 0.68	\$ 0.34
Dividends declared per common share:					
Class A	\$ 0.29	\$ 0.29	\$ 0.29	\$ 0.29	\$ 0.29
Class B	\$ 0.24	\$ 0.24	\$ 0.24	\$ 0.24	\$ 0.24
BALANCE SHEET DATA:					
Cash and equivalents	147,023	145,082	137,731	120,526	75,984
Working capital	70,960	80,351	86,791	69,757	20,644
Total assets	299,817	280,890	287,341	282,151	233,672
Current portion of long-term debt	466	446	422	406	389
Long-term debt	13,313	13,767	14,191	14,603	15,085
Total stockholders' equity	105,628	112,686	128,006	110,565	63,064

- (1) Fiscal year 2018 net loss includes a \$2.0 million estimated tax liability, representing the Company's best estimate of the impact of the 2017 U.S. Tax Reform Act (the "Tax Act") in accordance with QAD's understanding of the Tax Act and the related guidance available.
- (2) Fiscal year 2017 includes placement of a valuation allowance of \$16.3 million against U.S. federal and state net deferred tax assets.
- (3) Fiscal year 2016 includes an issuance of 450,000 shares of Class A common stock at \$20.00 per share for net proceeds to the Company of \$8.4 million after deduction of offering expenses as a result of an option to purchase additional shares exercised in full by the underwriters related to the stock issuance described in note (4) below.
- (4) Fiscal year 2015 includes an issuance of 2,000,000 shares of Class A common stock at \$20.00 per share for net proceeds to the Company of \$37.0 million after deducting offering expenses.



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

### INTRODUCTION

The following discussion should be read in conjunction with our Consolidated Financial Statements and Notes to Consolidated Financial Statements included in Item 15 of this Annual Report on Form 10-K.

### BUSINESS OVERVIEW

QAD ("QAD", the "Company", "we" or "us") is a leading provider of flexible, cloud-based and on-premise enterprise software and services for global manufacturing companies. QAD Enterprise Applications support operational requirements in the areas of financials, customer management, supply chain, manufacturing, service and support, analytics, business process management and integration. QAD's portfolio also includes related solutions for quality management software, supply chain management software, transportation management software and business-to-business interoperability. Since 1979, QAD solutions have supported customers in the automotive, consumer products, food and beverage, high technology, industrial manufacturing and life sciences industries to better align operations with their strategic goals to become Effective Enterprises.

We have four principal sources of revenue:

- Subscription of Enterprise Applications through our cloud offering in a Software as a Service ("SaaS") model as well as other hosted applications;
- License purchases of Enterprise Applications;
- Maintenance and support, including technical support, training materials, product enhancements and upgrades; and
- Professional services, including implementations, technical and application consulting, training, migrations and upgrades.

We operate primarily in the following four geographic regions: North America, Latin America, EMEA and Asia Pacific. In fiscal 2018, approximately 46% of our total revenue was generated in North America, 29% in EMEA, 17% in Asia Pacific and 8% in Latin America. The majority of our revenue is generated from global customers who have operations in multiple countries throughout the world. Subscription, license and maintenance revenues are generally assigned to the region where a majority of the end users are located. Services revenue is assigned based on the region where the services are delivered. A significant portion of our revenue and expenses are derived from international operations which are primarily conducted in foreign currencies. As a result, changes in the value of foreign currencies relative to the U.S. dollar have impacted our results of operations and may impact our future results of operations. At January 31, 2018, we employed approximately 1,870 employees worldwide, of which 650 employees were based in North America, 590 employees in EMEA, 530 employees in Asia Pacific and 100 employees in Latin America.

Our customer base and our target markets are primarily global manufacturing companies; therefore, our results are heavily influenced by the state of the manufacturing economy on a global basis. As a result, our management team monitors several economic indicators, with particular attention to the Global and Country Purchasing Managers' Indexes ("PMI"). The PMI is a survey conducted on a monthly basis by polling businesses that represent the makeup of respective sectors. Since most of our customers are manufacturers, our revenue has historically correlated with fluctuations in the manufacturing PMI. Global macro economic trends and manufacturing spending are important barometers for our business, and the health of the U.S., Western European and Asian economies have a meaningful impact on our financial results.

We are transitioning our business model from traditional perpetual licensing to cloud based subscriptions. During fiscal 2018, we closed most of our new customer deals in the cloud. In addition, we converted many of our existing customers from on-premise licenses to our cloud based solution. Recurring revenue, which we define as subscription revenue plus maintenance revenue, accounted for 65% of total revenue for fiscal 2018, compared to 66% one year ago. By reducing our customers' up-front costs and providing more flexibility in how customers gain access to and pay for our products, we expect our cloud business model will be more attractive to our customers than perpetual licenses. We anticipate this will increase our long-term revenue growth rate by increasing total subscriptions and customer value over time.

## FISCAL 2018 OPERATING RESULTS

To provide a framework for assessing how our underlying businesses performed excluding the effect of foreign currency fluctuations, we compare the changes in results from one period to another period using constant currency. In order to calculate our constant currency results, we apply the current foreign currency exchange rates to the prior period results. In the tables below, we present the change based on actual results in reported currency and in constant currency (in thousands):

	Year Ended January 31, 2018	Year Ended January 31, 2017	Favorable (Unfavorable) Change in Constant Currency	Favorable (Unfavorable) Change due to Currency Fluctuations	Total Favorable (Unfavorable) Change as Reported
Total revenue	\$ 305,018	\$ 277,973	\$ 24,118	\$ 2,927	\$ 27,045
Cost of revenue	149,425	130,851	(17,356)	(1,218)	(18,574)
Gross profit	155,593	147,122	6,762	1,709	8,471
Operating expenses	158,667	143,758	(13,882)	(1,027)	(14,909)
(Loss) income from operations	<u>\$ (3,074)</u>	<u>\$ 3,364</u>	<u>\$ (7,120)</u>	<u>\$ 682</u>	<u>\$ (6,438)</u>

In fiscal 2018, our total revenue was positively impacted by the weakening of the U.S. dollar relative to other currencies. Approximately 54% of our total revenue is generated outside the U.S. and we expect that a significant portion of our business will continue to be conducted in currencies other than the U.S. dollar, particularly the euro. Total revenue for fiscal 2018 was 10% higher than in fiscal 2017, and included a favorable currency impact of \$2.9 million. In constant currency, total revenue increased by \$24.1 million, driven by higher subscription revenue from our cloud offering and higher services activity. In constant currency, income from operations declined by \$7.1 million. We generated a significant amount of new cloud business in the fourth quarter of fiscal 2018, which resulted in higher commissions and bonuses without the associated revenue, as we currently recognize those expenses up front while the revenue is recognized ratably over the contract period. Higher sales expenses combined with lower margins in our professional services business resulted in a pre-tax loss in fiscal 2018. We expect profitability will improve in fiscal 2019.

**Subscription Revenue.** Subscription revenue consists of recurring fees from customers to access our products via the cloud and other subscription offerings. Our cloud offerings typically include access to QAD software, hosting, support and product updates, if and when available. Included in subscription revenue are the fees for transition services such as set up, configuration, database conversion and migration. Sales of QAD Enterprise Applications in the cloud represented over 85% of our total subscription revenue in fiscal 2018 and 2017. Our subscription revenue represented 23% and 19% of our total revenue in fiscal 2018 and 2017, respectively. Our cloud customer retention rate is in excess of 90%. We track our retention rate of cloud and maintenance by calculating the annualized revenue of customer sites with contracts up for renewal during the period compared to the annualized revenue associated with the customer sites that have canceled during the period. The percentage of revenue not canceled is our retention rate. Additional users and additional modules are not included in the annualized revenue for purposes of this calculation.

On a constant currency basis, subscription revenue increased by \$17.1 million, or 33%, in fiscal 2018 when compared to the prior year. Subscription margin improved to 56% in fiscal 2018 from 48% in fiscal 2017. We expect to achieve annual subscription margins of 60% in fiscal 2019. Growing our cloud solution and offering our products as SaaS continues to be a key strategic initiative for us. Subscription revenue is billed on a quarterly or annual basis and recognized ratably over the term of the agreement, typically 12 to 60 months.

Our cloud customers include a mix of existing customers who have converted from our on-premise model and new customers who are implementing our cloud solution. New customers typically generate less revenue up front as compared to customers who are converting to cloud. New customers tend to increase the number of users as their sites go live over time. Existing customers are already using our product at the time of conversion to the cloud; therefore, a greater number of sites and users generally go live from the conversion date. Internally we track new cloud business in the form of bookings, which we define as the average annual value of the contract. Our annual growth in bookings was 53% year over year.

**License Revenue.** License revenue is derived from software license fees that customers pay for our core product, QAD Enterprise Applications, and any add-on modules they purchase. In fiscal 2018, on a constant currency basis, license revenue increased by \$1.7 million, or 7%. License revenue in fiscal 2018 was primarily a result of our existing customers purchasing additional users and modules which we believe was a result of a strong manufacturing economy as denoted by the global PMI in excess of 50%. During fiscal 2018 the number of license orders was lower when compared to the prior year, but the average size of the orders was higher. Our revenue mix has continued to shift from license to subscription revenue as a result of our business model transition. While we expect license revenue to decline over time, we do continue to experience quarterly fluctuations.

At times, our license revenue is impacted by deferrals. When we enter into a multi-element transaction with fixed fee services or when we sell licenses for additional users under a pricing model that does not satisfy vendor specific objective evidence (“VSOE”) requirements, we may be required to recognize license revenue ratably over the longer of the maintenance period or expected services implementation timeframe rather than recognizing license revenue at the time of sale. Additionally, if at the time of the license sale we have not finalized the services agreement, we will defer the entire arrangement until the services agreement is signed.

We expect new customers are more likely to subscribe to our cloud based offerings rather than purchasing perpetual licenses. As a result, we believe a majority of our license revenue will be generated from existing customers and their affiliates. We anticipate that license revenue will decrease as existing customers elect to subscribe to QAD products in the cloud instead of purchasing licenses.

**Maintenance Revenue.** We offer support services 24 hours a day, seven days a week in addition to providing software upgrades, which include additional or improved functionality, when and if available. In fiscal 2018, on a constant currency basis, maintenance revenue decreased by \$4.0 million, or 3%. As our customers continue to migrate to our cloud offerings, we believe our maintenance revenue is likely to continue to decline. When customers convert to QAD Enterprise Applications in the cloud they no longer pay separately for maintenance as those support services are included as a component of the subscription offering.

Maintenance revenue fluctuations are influenced by: (1) new license revenue growth; (2) annual renewal of support contracts; (3) fluctuations in currency rates; (4) adjustments to revenue as a result of revenue recognition rules; and (5) customer conversions to the cloud. The vast majority of our customers renew their annual support contracts. Over the last three years, our annual retention rate of customers subscribing to maintenance has been greater than 90%. We track our retention rate of cloud and maintenance by calculating the annualized revenue of customer sites with contracts up for renewal during the period compared to the annualized revenue associated with the customer sites that have canceled during the period. The percentage of revenue not canceled is our retention rate. Conversions to the cloud are not considered cancellations for purposes of this calculation. Maintenance revenue is generally billed on an annual basis and recognized ratably over the term of the agreement, typically twelve months.

**Professional Services Revenue.** Our professional services business includes technical and application consulting; and training, implementations, migrations and upgrades related to our solutions. In fiscal 2018, on a constant currency basis, professional services revenue increased by \$8.9 million, or 12%. A significant portion of our professional services revenue is generated from cloud implementations and upgrade projects for existing customers. These projects are discretionary in nature and are affected by general economic conditions in the manufacturing industry and our customers' businesses. As global economic activity has increased, so has our professional services business. We increased our services capacity by adding headcount and partners in fiscal 2018 in order to fulfill additional projects. The investment in hiring and training additional services personnel has negatively impacted our professional services margins in fiscal 2018. We expect to improve services margins in fiscal 2019 to slightly above breakeven.

We manage our partners and subcontractors to supplement our internal resources, which provides us with the flexibility to contend with these fluctuations in demand and helps us mitigate low utilization rates in slow times. We believe this also helps us extend our global reach by keeping a higher number of partners engaged and knowledgeable about our products.

Our professional services organization provides our customers with expertise and assistance in planning and implementing our solutions whether in the cloud or on-premise. Consultants typically assist customers with the initial installation of a system, the conversion and transfer of the customer's historical data into our software, and ongoing training, education, and system upgrades. We believe our professional services help customers implement our software more efficiently, support a customer's success with our solution, strengthen our customer relationships, and add to our industry-specific knowledge base for use in future implementations and product innovations. Our professional services margins have historically ranged from about breakeven to 10%. We believe we offer competitive rates and view our professional services organization as a department supporting the implementation and deployment of our products which improves the overall customer experience. Professional services margins lower our overall operating margin as professional services margins are inherently lower than margins for our subscription, license and maintenance revenues.

Although our professional services are optional, many of our customers use these services for some of their planning, implementation, or related needs. Professional services are typically rendered under time and materials-based contracts with services typically billed on an hourly basis. Professional services are sometimes rendered under fixed-fee based contracts with payments due on specific dates or milestones.

Professional services revenue growth is contingent upon subscription and license revenue growth and customer upgrade cycles, which are influenced by the strength of general economic and business conditions and the competitive position of our software products. Our professional services business has competitive exposure to offshore providers which could create the risk of pricing pressure, fewer customer orders and reduced gross margins.

**Cash Flow and Financial Condition.** In fiscal 2018, we generated cash flow from operating activities of \$10.4 million. Our cash and equivalents at January 31, 2018 totaled \$147.0 million, with all of the \$13.8 million of debt on our balance sheet related to the mortgage of our headquarters. Our primary uses of cash have been funding investment in research and development, growing our services organization by hiring 87 employees in fiscal 2018 and funding operations to drive revenue and long-term earnings growth. In addition, we use cash for acquisitions, dividend payments, share repurchase programs and other equity-related transactions.

In fiscal 2019, we anticipate that our priorities for use of cash will be developing sales and services resources and continued investment in research and development to drive and support growth and profitability. We will continue to evaluate acquisition opportunities that are complementary to our product footprint, solutions delivery and technology direction. We will also continue to assess share repurchases and dividend payments. We do not anticipate additional borrowing requirements in fiscal 2019.

**Seasonal Nature of Deferred Revenue, Accounts Receivable and Operating Cash Flow.** Deferred revenue primarily consists of billings to customers for maintenance and subscription. When renewing maintenance we generally invoice our customers in annual cycles and when renewing subscription we generally invoice our customers quarterly or annually. We typically issue renewal invoices in advance of the renewal period. Depending on timing, the initial invoice and the subsequent renewal invoice may occur in different quarters. This may result in quarterly fluctuations in deferred revenue and accounts receivable. There is a disproportionate weighting towards annual billings in the fourth quarter, primarily as a result of large enterprise account buying patterns. Our fourth quarter has historically been our strongest quarter for new business and renewals. The year on year compounding effect of this seasonality in both billing patterns and overall new and renewal business causes the value of invoices that we generate in the fourth quarter for both new business and renewals to increase as a proportion of our total annual billings.

The sequential quarterly changes in accounts receivable, related deferred revenue and operating cash flow during the first three quarters of our fiscal year are not necessarily indicative of the billing activity that occurs in the fourth quarter as displayed below (in thousands):

	January 31, 2018	October 31, 2017	July 31, 2017	April 30, 2017
<b>Fiscal 2018</b>				
Accounts receivable, net	\$ 83,518	\$ 50,753	\$ 42,397	\$ 46,381
Deferred revenue, current	116,693	83,117	89,661	97,235
Operating cash flow (1)	7,574	(4,794)	(244)	7,882
	January 31, 2017	October 31, 2016	July 31, 2016	April 30, 2016
<b>Fiscal 2017</b>				
Accounts receivable, net	\$ 69,441	\$ 39,100	\$ 45,468	\$ 44,829
Deferred revenue, current	104,125	73,982	85,268	92,640
Operating cash flow (1)	13,209	3,451	663	1,357
	January 31, 2016	October 31, 2015	July 31, 2015	April 30, 2015
<b>Fiscal 2016</b>				
Accounts receivable, net	\$ 65,512	\$ 41,233	\$ 45,957	\$ 51,222
Deferred revenue, current	97,911	69,616	82,505	91,408
Operating cash flow (1)	13,892	(70)	5,748	4,487

(1) Operating cash flow represents net cash provided by (used in) operating activities for the three months ended in the periods stated above.

## Backlog

### Subscription backlog

We generally sign multiple-year subscription contracts for our applications, but bill them quarterly or annually. The timing of our invoices to each customer is a negotiated term and varies among our subscription contracts. For multiple-year agreements, it is common to invoice an initial amount at contract signing followed by subsequent quarterly or annual invoices. At any point in the contract term, there can be amounts that we have not yet been contractually able to invoice. Until such time as these amounts are invoiced, they are not recorded in revenue, unearned revenue or elsewhere in our consolidated financial statements. To the extent future invoicing is determined to be certain, we consider those future subscription invoices to be non-cancelable backlog. Future invoicing is determined to be certain when we have a fully executed non-cancelable contract and invoicing is not dependent on a future event such as customer funding or the delivery of a specific product or feature. The amount of non-cancelable subscription contract backlog was \$103.8 million and \$73.2 million as of January 31, 2018 and 2017, respectively.

### *Maintenance backlog*

Maintenance backlog consists of maintenance contracts for licenses of our proprietary software that has not been invoiced. Typical maintenance contracts are for a one-year term and are renewed annually. Accordingly, we have historically operated with little maintenance backlog. Maintenance backlog was \$18.0 million and \$11.7 million at January 31, 2018 and 2017, respectively.

We expect that the amount of subscription and maintenance backlog relative to the total value of our contracts will change from year to year due to several factors, including the amount invoiced early in the contract term, the timing and duration of customer agreements, varying invoicing cycles, the timing of customer renewals, changes in customer financial circumstances and foreign currency fluctuations. Accordingly, we believe that fluctuations in backlog are not always a reliable indicator of future revenues and we do not utilize backlog as a key management metric internally.

### **CRITICAL ACCOUNTING POLICIES**

The SEC defines “critical accounting policies” as those that require application of management’s most difficult, subjective, or complex judgments. These policies often require us to make estimates about the effects of matters that are inherently uncertain and are subject to change in subsequent periods.

We consider the following policies to be critical because of the significance of these items to our operating results and the estimation processes and management judgment involved in each:

- Revenue
- Accounts receivable allowances for doubtful accounts
- Goodwill and intangible assets – impairment assessments
- Income taxes
- Stock-based compensation

Our senior management has reviewed these critical accounting policies and related disclosures. Historically, estimates described in our critical accounting policies that have required significant judgment and estimation on the part of management have been reasonably accurate.

**Revenue.** We offer our software using two models, a traditional on-premise licensing model and a cloud delivery model. The traditional model involves the sale or license of software on a perpetual basis to customers who take possession of the software and install and maintain the software on their own hardware. Under the cloud delivery model we provide access to our software on a hosted basis as a service and customers generally do not have the contractual right to take possession of the software.

Revenue is recognized when 1) persuasive evidence of an arrangement exists 2) delivery has occurred or services have been rendered 3) fees are fixed or determinable and 4) collectability is probable. If we determine that any of the four criteria is not met, we will defer recognition of revenue until all the criteria are met.

Revenue is presented net of sales, use and value-added taxes collected from our customers.

#### *Software Revenue Recognition (On-Premise Model)*

The majority of our software is sold or licensed in multiple-element arrangements that include support services and often consulting services or other elements. Delivery of software is considered to have occurred upon electronic transfer of the license key that provides immediate availability of the product to the purchaser. Determining whether and when some of the above noted revenue recognition criteria have been satisfied often involves assumptions and judgments that can have a significant impact on the timing and amount of revenue we report. Our typical payment terms vary by region. Occasionally, payment terms of up to one year may be granted for software license fees to customers with an established history of collections without concessions.

Provided all other revenue recognition criteria have been met, we recognize license revenue on delivery using the residual method when VSOE exists for all of the undelivered elements (for example, support services, consulting, or other services) in the arrangement. We allocate revenue to each undelivered element based on VSOE, which is the price charged when that element is sold separately or, for elements not yet sold separately, the price established by our management if it is probable that the price will not change before the element is sold separately. We allocate revenue to undelivered support services (maintenance) based on rates charged to renew the support services annually after an initial period. We allocate revenue to undelivered consulting services based on time and materials rates of stand-alone services engagements by role and by country. We review VSOE at least annually. If we were to be unable to establish or maintain VSOE for one or more undelivered elements within a multiple-element software arrangement, it could adversely impact revenues, results of operations and financial position because we may have to defer all or a portion of the revenue or recognize revenue ratably.

Multiple-element software arrangements for which VSOE does not exist for all undelivered elements typically occur when we introduce a new product or product bundles for which we have not established VSOE for support services or fixed fee consulting or other services. In these instances, revenue is deferred and recognized ratably over the longer of the support services (maintenance period) or consulting services engagement, assuming there are no specified future deliverables. In the instances in which it has been determined that revenue on these bundled arrangements will be recognized ratably due to lack of VSOE, at the time of recognition, we allocate revenue from these bundled arrangement fees to all of the non-license revenue categories based on VSOE of similar support services or consulting services. The remaining arrangement fees, if any, are then allocated to software license fee revenues. The associated costs primarily consist of payroll and related costs to perform both the consulting services and provide support services and royalty expense related to the license and maintenance revenue. These costs are expensed as incurred and included in cost of maintenance, subscription and other revenue, cost of professional services and cost of license fees.

Revenue from support services and product updates, referred to as maintenance revenue, is recognized ratably over the term of the maintenance period, which in most instances is one year. Software license updates provide customers with rights to unspecified software product updates, maintenance releases and patches released during the term of the support period on a when-and-if available basis. Product support includes Internet access to technical content, as well as Internet and telephone access to technical support personnel. Our customers generally purchase both product support and license updates when they acquire new software licenses. In addition, a majority of customers renew their support services contracts annually.

We occasionally resell third party systems as part of an end-to-end solution requested by our customers. Hardware revenue is recognized on a gross basis in accordance with the guidance contained in ASC 605-45, *Revenue Recognition – Principal Agent Considerations*. We consider delivery to occur when the product is shipped and title and risk of loss have passed to the customer.

We execute arrangements through indirect sales channels via sales agents and distributors who are authorized to market our software products to end users. In arrangements with sales agents, revenue is recognized on a sell-through basis once an order is received from the end user, collectability from the end user is probable, a signed license agreement from the end user has been received, delivery has been made to the end user and all other revenue recognition criteria have been satisfied. Sales agents are compensated on a commission basis. Distributor arrangements are those in which the resellers are authorized to market and distribute our software products to end users in specified territories and the distributor bears the risk of collection from the end user customer. We recognize revenue from transactions with distributors when the distributor submits a written purchase commitment, collectability from the distributor is probable, a signed license agreement is received from the distributor and delivery has occurred to the distributor, provided that all other revenue recognition criteria have been satisfied. Revenue from distributor transactions is recorded on a net basis (the amount actually received by us from the distributor). We do not offer rights of return, product rotation or price protection to any of our distributors.

#### *Subscription Revenue Recognition*

We recognize the following fees in subscription revenue: i) subscription fees from customers accessing our cloud and our other subscription offerings, ii) transition fees for services such as set up, configuration, database conversion and migration, and iii) support fees on hosted products. Our subscription arrangements do not generally provide customers with the right to take possession of the subscribed software.

Subscription revenue is recognized ratably over the initial subscription period committed to by the customer commencing when the customer has been given access to the cloud environment. Transition fees are recognized over the estimated life of the customer relationship once the customer has gone live. The initial subscription period is typically 12 to 60 months. Our subscription services are non-cancelable, though customers typically have the right to terminate their contracts if we materially fail to perform. We generally invoice our customers in advance in quarterly or annual installments and typical payment terms provide that customers pay us within 30 days of invoice.

We may enter into multiple-element arrangements that may include a combination of our subscription offering and other professional services or arrangements that may include both software and non-software elements. We allocate revenue to each element in an arrangement based on a selling price hierarchy in accordance with ASC 605-25, *Revenue Recognition - Multiple Deliverable Revenue Arrangements*. In order to treat deliverables in a multiple-deliverable arrangement as separate units of accounting, the deliverables must have standalone value upon delivery. We evaluate each element in a multiple-element arrangement to determine whether it represents a separate unit of accounting. An element constitutes a separate unit of accounting when the item has standalone value and delivery of any undelivered elements is probable and within our control. Subscription and support services have standalone value because they are routinely sold separately by us. Consulting services and other services have standalone value because we have sold consulting services separately and there are several third party vendors that routinely provide similar consulting services to our customers on a standalone basis. We determine the relative selling price for a deliverable based on its VSOE, if available, or Estimated Selling Price (“ESP”), if VSOE is not available. We have determined that third-party evidence (“TPE”) is not a practical alternative due to differences in our service offerings compared to other parties and the availability of relevant third-party pricing information. The determination for ESP is made through consultation with and approval by management taking into consideration the go-to-market strategy. As our go-to-market strategies evolve, there may be modifications of pricing practices in the future, which could result in changes in both VSOE and ESP.

For multiple-element arrangements that may include a combination of our subscription offerings and other professional services, the total arrangement fee is allocated to each element based on the VSOE / ESP value of each element. After allocation, the revenue associated with the subscription offering and other professional services are recognized as described above.

#### *Professional Services*

Revenue from consulting services, which we call professional services in the Consolidated Statements of Income and Comprehensive Income, are typically comprised of implementation, development, training or other consulting services sold along with on-premise and cloud. Consulting services are generally sold on a time-and-materials basis and can include services ranging from software installation to data conversion and building non-complex interfaces to allow the software to operate in integrated environments. We recognize revenue for time-and-materials as the service is performed or upon written acceptance from customers, if applicable, assuming all other conditions for revenue recognition have been met. Consulting engagements can range anywhere from one day to many months and are based strictly on the customer's requirements and complexities and are independent of the functionality of our software. Our software, as delivered, can generally be used by the customer for the customer's purpose upon installation. Further, implementation and integration services provided are generally not essential to the functionality of the software, as delivered, and do not result in any material changes to the underlying software code. On occasion, we enter into fixed fee arrangements in which customer payments are tied to achievement of specific milestones. In fixed fee arrangements, revenue is recognized as services are performed as measured by costs incurred to date, as compared to total estimated costs to be incurred to complete the work. In milestone achievement arrangements, we recognize revenue as the respective milestones are achieved.

***Accounts Receivable Allowance for Doubtful Accounts.*** The accounts receivable allowance for doubtful accounts is comprised of the allowance for bad debt and the allowance for sales adjustments.

#### *Allowance for Bad Debt*

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. We review the collectability of our accounts receivable each period by analyzing balances based on age and record specific allowances for any balances that we determine may not be fully collectible due to inability of the customers to pay. We also provide for a general reserve based on historical data including analysis of write-offs and other known factors. Provisions to the allowance for bad debt are included as bad debt expense in “General and Administrative” expense. Judgment is required in adjusting our receivables to amounts we believe are realizable, especially when a customer is experiencing financial difficulty or is in bankruptcy. Although we use the best information available in making our estimates, we may incur additional bad debt expense in future periods which could have a material effect on earnings in any given quarter should additional allowances for doubtful accounts be necessary. The determination to write-off specific accounts receivable balances is made based on likelihood of collection and past due status. Past due status is based on invoice date and terms specific to each customer.

#### *Allowance for Sales Adjustments*

We do not generally provide a contractual right of return; however, in the course of business we have occasionally allowed sales adjustments related to customer dispute resolution. We record a provision against revenue for estimated sales adjustments in the same period the related revenues are recorded or when current information indicates additional amounts are required. These estimates are based on historical experience, specifically identified customers and other known factors. Although we use the best information available in making our estimates, we may incur additional provisions against revenue in future periods which could have a material effect on earnings in any given quarter should additional allowances for sales returns be necessary.

***Goodwill and Intangible Assets – Impairment Assessments.*** When we acquire a business, a portion of the purchase consideration is typically allocated to acquired technology and other identifiable intangible assets, such as customer relationships and developed technology. The excess of the purchase consideration over the net of the acquisition-date fair value of identifiable assets acquired and liabilities assumed is recorded as goodwill. The amounts allocated to acquired technology and other intangible assets represent our estimates of their fair values at the acquisition date. We amortize the acquired technology and other intangible assets with finite lives over their estimated useful lives. The estimation of acquisition-date fair values of intangible assets and their useful lives requires us to make assumptions and judgments, including but not limited to an evaluation of macroeconomic conditions as they relate to our business, industry and market trends, projections of future cash flows and appropriate discount rates.

We review the carrying value of goodwill using the methodology prescribed in FASB Accounting Standards Codification 350 *Intangibles—Goodwill and Other* (“ASC 350”). We test goodwill for impairment annually in our fourth fiscal quarter or sooner should events or changes in circumstances indicate potential impairment as required under Accounting Standard Update No. 2011-08, “Testing Goodwill for Impairment” (“ASU 2011-08”). ASU 2011-08 provides for an optional assessment of qualitative factors of impairment (“optional assessment”) prior to necessitating a two-step quantitative impairment test. Should the optional assessment be utilized for any given fiscal year, qualitative factors to consider include cost factors; financial performance; legal, regulatory, contractual, political, business, or other factors; entity specific factors; industry and market considerations; macroeconomic conditions; and other relevant events and factors affecting the reporting unit. If, after assessing the totality of events or circumstances, it is more likely than not that the fair value of the reporting unit is greater than its carrying value, then performing the two-step impairment test is unnecessary.

Under the two-step quantitative impairment test, we use discounted cash flow models which include assumptions regarding projected cash flows. Variances in these assumptions could have a significant impact on our conclusion as to whether goodwill is impaired, or the amount of any impairment charge. Impairment charges, if any, result from instances where the fair values of net assets associated with goodwill are less than their carrying values. As changes in business conditions and our assumptions occur, we may be required to record impairment charges.

Management evaluates the Company as a single reporting unit for business and operating purposes as almost all of our revenue streams are generated by the same underlying technology whether acquired, purchased or developed. In addition, the majority of our costs are, by their nature, shared costs that are not specifically identifiable to a geography or product line but relate to almost all products. As a result, there is a high degree of interdependency among our revenues and cash flows for levels below the consolidated entity and identifiable cash flows for a reporting unit separate from the consolidated entity are not meaningful.

For our annual impairment assessment in fiscal 2018, 2017 and 2016 we did not utilize the optional assessment. An impairment analysis was performed at the enterprise level which compared our market capitalization to our net assets as of the test date, November 30. As our market capitalization substantially exceeded our net assets, there was no indication of goodwill impairment for fiscal 2018, 2017 and 2016.

We make judgments about the recoverability of purchased finite lived intangible assets whenever events or changes in circumstances indicate that an impairment may exist. Each fiscal year we evaluate the estimated remaining useful lives of purchased intangible assets and whether events or changes in circumstances warrant a revision to the remaining periods of amortization. Recoverability of finite lived intangible assets is measured by comparison of the carrying amount of the asset to the future undiscounted cash flows the asset is expected to generate.

Assumptions and estimates about future values and remaining useful lives of our intangible assets are complex and subjective. They can be affected by a variety of factors, including external factors such as industry and economic trends and internal factors such as changes in our business strategy and our internal forecasts. Although we believe the historical assumptions and estimates we have made are reasonable and appropriate, different assumptions and estimates could materially impact our reported financial results. We did not recognize any intangible asset impairment charges in fiscal 2018, 2017 and 2016.

**Income Taxes.** We are a U.S. based multinational company subject to tax in the U.S. (federal and state) and numerous foreign jurisdictions. Tax laws, regulations, and administrative practices in various jurisdictions may be subject to significant change, with or without notice, due to economic, political, and other conditions, and significant judgment is required in evaluating and estimating our provision and accruals for these taxes. There are many transactions that occur during the ordinary course of business for which the ultimate tax determination is uncertain. Our effective tax rate could be affected by numerous factors, such as intercompany transactions, the relative amount of foreign earnings, including earnings being lower than anticipated in jurisdictions where we have lower statutory rates and higher than anticipated in jurisdictions where we have higher statutory tax rates, the applicability of special tax regimes, losses incurred in jurisdictions for which we are not able to realize the related tax benefit, changes in our deferred tax assets and liabilities and their valuation, and changes in the relevant tax law, accounting, and other laws, regulations, administrative practices, principles and interpretations.



In December 2017, the U.S. Tax Cuts and Jobs Act ("Tax Act") was signed into law. The Tax Act significantly changes how the U.S. taxes corporations. The Tax Act requires complex computations to be performed that were not previously required; significant judgments to be made in interpretation of the provisions and significant estimates in calculations; and the preparation and the analysis of information not previously relevant or regularly produced. The U.S. Treasury Department, the IRS, and other standard-setting bodies could interpret or issue guidance on how provisions of the Tax Act will be applied or otherwise administered that is different from our interpretation. As we complete our analysis of the Tax Act, collect and prepare necessary data, and interpret any additional guidance, we may make adjustments to provisional amounts that we have recorded that may materially impact our provision for income taxes in the period in which the adjustments are made.

The amount of income tax we pay is subject to ongoing audits by federal, state and foreign tax authorities, which sometimes results in proposed assessments. Our estimate of the potential outcome for any uncertain tax position requires judgment. For tax related contingencies, we account for uncertain tax positions based on a two-step approach: recognition and measurement. We recognize a tax position when we determine that it is more likely than not that the position will be sustained upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. For those positions that do not meet the recognition threshold, no tax benefit is recognized in the financial statements. For those tax positions that meet the recognition threshold, we measure the tax position as the largest amount of benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. We record interest and penalties related to income tax liabilities as income tax expense. We have reserves to address tax positions that could be challenged by taxing authorities, even though we believe that the positions taken are appropriate. Our tax reserves are reviewed on a quarterly basis and adjusted as events occur that could affect our liability.

The carrying value of our deferred tax assets reflects an amount that is more likely than not to be realized with taxable income generated by results of future operations. At January 31, 2018, we had \$8.6 million of deferred tax assets, net of valuation allowances and uncertain tax positions, consisting of \$43.2 million of gross deferred tax assets offset by valuation allowances of \$33.7 million and uncertain tax positions of \$0.9 million. In assessing the likelihood of realizing tax benefits associated with deferred tax assets and the need for a valuation allowance we consider the weight of all available evidence both positive and negative including expected future taxable income and tax planning strategies that are both prudent and feasible. For the year ended January 31, 2018, management continued to maintain a full valuation allowance on its U.S. federal and state deferred tax assets. The valuation allowance increased by \$3.8 million primarily due to the foreign tax credits recorded due to the Tax Act.

**Stock-Based Compensation.** We account for share-based payments ("equity awards") to employees in accordance with ASC 718, *Compensation—Stock Compensation* ("ASC 718"), which requires that share-based payments (to the extent they are compensatory) be recognized in our Consolidated Statements of Income and Comprehensive Income based on their fair values as measured at the grant date. The fair value of an equity award is recognized as stock-based compensation expense ratably over the vesting period of the equity award. Determining the fair value of stock-based awards at the grant date requires judgment and the fair value per share of historical grants of equity awards may not be indicative of the fair value per share for future grants of equity awards.

#### *Fair Value of RSUs*

The fair value of restricted stock units ("RSUs") is determined on the grant date of the award as the market price of our common stock on the date of grant, reduced by the present value of estimated dividends foregone during the vesting period. As our stock price fluctuates, so does the fair value of our future RSU grants. Judgment is required in determining the present value of estimated dividends foregone during the vesting period. We estimate the dividends for purposes of this calculation based on our historical dividend payments per share, which has remained consistent over the last three years.

#### *Fair Value of SARs*

The fair value of stock-settled stock appreciation rights ("SARs") is determined on the grant date of the award using the Black-Scholes-Merton valuation model. One of the inputs to the Black-Scholes-Merton valuation model is the fair market value on the date of the grant. As our stock price fluctuates, so does the fair value of our future SAR grants. Judgment is required in determining the remaining inputs to the Black-Scholes-Merton valuation model. Furthermore, the values underlying these inputs fluctuate, which impacts the fair value of our future SAR grants. These inputs include the expected life, volatility, the risk-free interest rate and the dividend rate. The following describes our policies with respect to determining these valuation inputs:

**Expected Life** – The expected life valuation input includes a computation that is based on historical vested SAR exercises and post-vest expiration patterns and an estimate of the expected life for SARs that were fully vested and outstanding. Furthermore, based on our historical pattern of SAR exercises and post-vest expiration patterns we determined that there are two discernible populations, which include QAD's directors and officers and all other QAD employees. The estimate of the expected life for SARs that were fully vested and outstanding was determined as the midpoint of a range as follows: the low end of the range assumes the fully vested and outstanding SARs are exercised or expire unexercised on the evaluation date and the high end of the range assumes that these SARs are exercised or expire unexercised upon contractual term.

*Volatility* – The volatility valuation input is based on the historical volatility of our common stock, which we believe is representative of the expected volatility over the expected life of options and SARs.

*Risk Free Interest Rate* – The risk-free interest rate is based on the U.S. Treasury constant maturities in effect at the time of grant for the expected term of the SAR.

*Dividend Rate* – The dividend rate is based on our historical dividend payments per share. Historically, have we paid quarterly dividends at a rate of \$0.072 per share of Class A common stock and \$0.060 per share of Class B common stock.

We record deferred tax assets for equity awards that result in deductions on our income tax returns, based on the amount of stock-based compensation recognized and the fair values attributable to the vested portion of those equity awards. Because the deferred tax assets we record are based upon the stock-based compensation expenses in a particular jurisdiction, the aforementioned inputs that affect the fair values of our equity awards may also indirectly affect our income tax expense. If the tax deduction is less than the deferred tax asset, the calculated shortfall would increase our income tax expense. If the tax deduction is more than the deferred tax asset, the calculated windfall would decrease our income tax expense.

To the extent we change the terms of our employee stock-based compensation programs or experience fluctuations in the underlying criteria used to determine our equity award valuations, among other potential impacts, the stock-based compensation expense that we record in future periods and the tax benefits that we realize may differ significantly from what we have recorded in previous reporting periods.

## RECENTLY ISSUED ACCOUNTING STANDARDS

For a full description of recent accounting pronouncements, including the expected dates of adoption and estimated effects on results of operations and financial condition, see Note 1 “Summary of Business and Significant Accounting Policies” within the Notes to Consolidated Financial Statements included in Item 15 of this Annual Report on Form 10-K.

## RESULTS OF OPERATIONS

We operate in several geographical regions as described in Note 12 “Business Segment Information” within the Notes to Consolidated Financial Statements. In order to present our results of operations without the effects of changes in foreign currency exchange rates, we provide certain financial information on a “constant currency basis”, which is in addition to the actual financial information presented in the following tables. In order to calculate our constant currency results, we apply the current foreign currency exchange rates to the prior period results.

### Revenue

	Year Ended January 31, 2018	Year Ended January 31, 2017	Change in Constant Currency	Change due to Currency Fluctuations	Total Change as Reported	
(in thousands)					\$	%
Revenue						
Subscription fees	\$ 69,615	\$ 52,167	\$ 17,060	\$ 388	\$ 17,448	33%
Percentage of total revenue	23%	19%				
License fees	25,807	23,633	1,746	428	2,174	9%
Percentage of total revenue	8%	8%				
Maintenance and other	128,142	130,406	(3,615)	1,351	(2,264)	-2%
Percentage of total revenue	42%	47%				
Professional services	81,454	71,767	8,927	760	9,687	13%
Percentage of total revenue	27%	26%				
Total revenue	<u>\$ 305,018</u>	<u>\$ 277,973</u>	<u>\$ 24,118</u>	<u>\$ 2,927</u>	<u>\$ 27,045</u>	10%

(in thousands)	Year Ended January 31, 2017	Year Ended January 31, 2016	Change in Constant Currency	Change due to Currency Fluctuations	Total Change as Reported	
					\$	%
Revenue						
Subscription fees	\$ 52,167	\$ 38,806	\$ 14,155	\$ (794)	\$ 13,361	34%
Percentage of total revenue	19%	14%				
License fees	23,633	29,891	(5,677)	(581)	(6,258)	-21%
Percentage of total revenue	8%	11%				
Maintenance and other	130,406	132,962	(660)	(1,896)	(2,556)	-2%
Percentage of total revenue	47%	48%				
Professional services	71,767	76,193	(3,135)	(1,291)	(4,426)	-6%
Percentage of total revenue	26%	27%				
Total revenue	\$ 277,973	\$ 277,852	\$ 4,683	\$ (4,562)	\$ 121	0%

**Total Revenue.** On a constant currency basis, total revenue was \$305.0 million for fiscal 2018, representing a \$24.1 million, or 9%, increase from \$280.9 million for fiscal 2017. When comparing categories within total revenue at constant rates, our results for fiscal 2018 included increases in subscription, license and professional services revenue partially offset by a decrease in maintenance and other revenue. Our customers are widely dispersed and no single customer accounted for more than 10% of total revenue in any of the last three fiscal years. Revenue outside the North America region as a percentage of total revenue was 54% and 53% for fiscal 2018 and 2017, respectively. On a constant currency basis, total revenue increased across all regions during fiscal 2018 when compared to the same period last year. Our products are sold to manufacturing companies that operate mainly in the following six industries: automotive, consumer products, food and beverage, high technology, industrial products and life sciences. Given the similarities between consumer products and food and beverage as well as between high technology and industrial products, we aggregate them for management review. The following table presents revenue by industry for fiscal 2018, 2017 and 2016:

	Years Ended January 31,		
	2018	2017	2016
Automotive	37%	35%	32%
Consumer products and food and beverage	16%	16%	21%
High technology and industrial products	33%	33%	33%
Life sciences	14%	16%	14%
Total revenue	100%	100%	100%

On a constant currency basis, total revenue was \$278.0 million for fiscal 2017, representing a \$4.7 million, or 2%, increase from \$273.3 million for fiscal 2016. When comparing categories within total revenue at constant rates, our results for fiscal 2017 included an increase in subscription revenue partially offset by decreases in license fees and professional services revenue. Maintenance and other revenue was generally flat on a constant currency basis. Revenue outside the North America region as a percentage of total revenue was 53% and 54% for fiscal 2017 and 2016, respectively. On a constant currency basis, total revenue increased in our North America, Latin America and Asia Pacific regions and was flat in our EMEA region during fiscal 2017 when compared to the prior year.

**Subscription Revenue.** On a constant currency basis, subscription revenue was \$69.6 million for fiscal 2018, representing a \$17.0 million, or 32%, increase from \$52.6 million for fiscal 2017. On a constant currency basis, subscription revenue increased in our North America, EMEA and Asia Pacific regions and remained relatively flat in our Latin America region during fiscal 2018 when compared to the prior year. The increase in subscription revenue was primarily due to sales of QAD Enterprise Applications in the cloud, which represented over 85% of total subscription revenue in fiscal 2018 and 2017. Cloud revenue consists of new customer sites; existing Enterprise Applications users converting from on-premise; and additional users and modules purchased by our existing cloud customers. Approximately half of our new cloud deals comes from existing customers converting Enterprise Applications users to cloud users and the other half comes from new customers and new modules. Our cloud customer retention rate is in excess of 90%.

The following table presents cloud revenue by region for fiscal 2018, 2017 and 2016:

	Years Ended January 31,		
	2018	2017	2016
North America	54%	60%	61%
EMEA	24%	17%	14%
Asia Pacific	14%	15%	15%
Latin America	8%	8%	10%
Total cloud revenue	100%	100%	100%

The following table presents cloud revenue by industry for fiscal 2018, 2017 and 2016:

	Years Ended January 31,		
	2018	2017	2016
Automotive	35%	39%	42%
Consumer products and food and beverage	15%	15%	16%
High technology and industrial products	23%	18%	16%
Life sciences	27%	28%	26%
Total cloud revenue	100%	100%	100%

We expect the growth rate of subscription revenue in the future to be primarily attributable to growth in sales of our QAD Enterprise Applications in the cloud.

On a constant currency basis, subscription revenue was \$52.2 million for fiscal 2017, representing a \$14.2 million, or 37%, increase from \$38.0 million for fiscal 2016. On a constant currency basis, subscription revenue increased across all regions during fiscal 2017 when compared to the prior year. The increase in subscription revenue was primarily due to sales of QAD Enterprise Applications in the cloud, which represented over 85% of total subscription revenue in fiscal 2017 and 2016.

*License Revenue.* On a constant currency basis, license revenue was \$25.8 million for fiscal 2018, representing a \$1.7 million, or 7%, increase from \$24.1 million for fiscal 2017. On a constant currency basis, license revenue increased in our North America and Asia Pacific regions, and decreased in our EMEA and Latin America regions during fiscal 2018 when compared to the same period last year. One of the metrics that management uses to measure license revenue performance is the number of customers that have placed sizable license orders in the period. During fiscal 2018, 15 customers placed license orders totaling more than \$0.3 million, two of which exceeded \$1.0 million. This compared to fiscal 2017 in which 15 customers placed license orders totaling more than \$0.3 million, two of which exceeded \$1.0 million. The majority of our license revenue has come from additional users and module purchases from our existing customers, which we believe is a result of a strong global manufacturing environment. As cloud revenue increases we expect license revenue to decline, though there may be fluctuations in license revenue from period to period.

On a constant currency basis, license revenue was \$23.6 million for fiscal 2017, representing a \$5.7 million, or 19%, decrease from \$29.3 million for fiscal 2016. On a constant currency basis, license revenue decreased in our North America, EMEA and Asia Pacific regions and was flat in our Latin America region during fiscal 2017 when compared to the prior year. During fiscal 2017, 15 customers placed license orders totaling more than \$0.3 million, two of which exceeded \$1.0 million. This compared to fiscal 2016 in which 18 customers placed license orders totaling more than \$0.3 million, none of which exceeded \$1.0 million.

*Maintenance and Other Revenue.* On a constant currency basis, maintenance and other revenue was \$128.1 million for fiscal 2018, representing a \$3.7 million, or 3%, decrease from \$131.8 million for fiscal 2017. On a constant currency basis, maintenance and other revenue decreased in our North America, EMEA and Asia Pacific regions and increased in our Latin America region during fiscal 2018 when compared to the prior year. The decrease in maintenance and other revenue was primarily attributable to the impact of customers converting to the cloud. When customers convert to the cloud they no longer pay for maintenance as those support services are included as a component of the subscription offering. We continue to see renewal rates consistent with history; however, conversions from on-premise to cloud will result in future decreases in maintenance revenue.

On a constant currency basis, maintenance and other revenue was \$130.4 million for fiscal 2017, representing a \$0.7 million, or 1%, decrease from \$131.1 million for fiscal 2016. On a constant currency basis, maintenance and other revenue decreased slightly in our North America, EMEA and Asia Pacific regions and increased in our and Latin America region during fiscal 2017 when compared to the prior year.

We track our retention rate of cloud and maintenance by calculating the annualized revenue of customer sites with contracts up for renewal during the period compared to the annualized revenue associated with the customer sites that have canceled during the period. The percentage of revenue not canceled is our retention rate. Conversions to the cloud are not considered cancellations for purposes of this calculation. Our maintenance retention rate has remained in excess of 90% for fiscal 2018, 2017 and 2016.

*Professional Services Revenue.* On a constant currency basis, professional services revenue was \$81.5 million for fiscal 2018, representing a \$9.0 million, or 12%, increase from \$72.5 million for fiscal 2017. On a constant currency basis, professional services revenue increased across all regions during fiscal 2018 when compared to the prior year. The increase in professional services revenue period over period can be attributed to a higher amount of professional services revenue per customer as we continue to see activity from cloud implementations and existing customer upgrades. In order to support the increase in professional services revenue, we have added capacity through additional employees and partners in fiscal 2018.

On a constant currency basis, professional services revenue was \$71.8 million for fiscal 2017, representing a \$3.1 million, or 4%, decrease from \$74.9 million for fiscal 2016. On a constant currency basis, professional services revenue decreased in our North America, EMEA and Latin America regions and increased in our Asia Pacific region during fiscal 2017 when compared to the prior year. The decrease in professional services revenue period over period can be attributed to a lower number of engagements.

*Total Cost of Revenue*

(in thousands)	Year Ended January 31, 2018	Year Ended January 31, 2017	Change in Constant Currency	Change due to Currency Fluctuations	Total Change as Reported	
					\$	%
Cost of revenue						
Cost of subscription	\$ 30,563	\$ 27,027	\$ (3,449)	\$ (87)	\$ (3,536)	-13%
Cost of license	2,946	2,990	45	(1)	44	1%
Cost of maintenance and other	31,246	30,517	(452)	(277)	(729)	-2%
Cost of professional services	84,670	70,317	(13,500)	(853)	(14,353)	-20%
Total cost of revenue	<u>\$ 149,425</u>	<u>\$ 130,851</u>	<u>\$ (17,356)</u>	<u>\$ (1,218)</u>	<u>\$ (18,574)</u>	-14%
Percentage of revenue	49%	47%				

(in thousands)	Year Ended January 31, 2017	Year Ended January 31, 2016	Change in Constant Currency	Change due to Currency Fluctuations	Total Change as Reported	
					\$	%
Cost of revenue						
Cost of subscription	\$ 27,027	\$ 20,635	\$ (6,504)	\$ 112	\$ (6,392)	-31%
Cost of license	2,990	3,624	633	1	634	17%
Cost of maintenance and other	30,517	30,973	198	258	456	1%
Cost of professional services	70,317	71,330	(29)	1,042	1,013	1%
Total cost of revenue	<u>\$ 130,851</u>	<u>\$ 126,562</u>	<u>\$ (5,702)</u>	<u>\$ 1,413</u>	<u>\$ (4,289)</u>	-3%
Percentage of revenue	47%	46%				

Total cost of revenue consists of cost of subscription, cost of license, cost of maintenance and other and cost of professional services. Cost of subscription includes salaries, benefits, bonuses of our cloud operations employees; stock-based compensation for those employees; third-party contractor expense, hosting and hardware costs; royalties; professional fees; travel; and an allocation of information technology and facilities costs. Cost of license includes license royalties, amortization of capitalized software costs and fulfillment. Cost of maintenance and other includes salaries, benefits and bonuses of our support group, stock-based compensation for those employees, travel expense, professional fees, fulfillment and an allocation of information technology and facilities costs. Cost of professional services includes salaries, benefits and bonuses, costs of fulfilling service contracts, stock-based compensation for those employees, third-party contractor expense, travel expense for services employees and an allocation of information technology and facilities costs.

*Total Cost of Revenue.* On a constant currency basis, total cost of revenue was \$149.4 million and \$132.1 million for fiscal 2018 and 2017, respectively and as a percentage of total revenue was 49% for fiscal 2018 and 47% for fiscal 2017. The increase in total cost of revenue as a percentage of total revenue was mainly due to lower professional services margins and the shift in our revenue mix from maintenance to cloud. The non-currency related increase in cost of revenue of \$17.3 million, or 13%, in fiscal 2018 compared to fiscal 2017 was primarily due to higher hosting and personnel costs associated with the growth of our cloud business and higher third-party contractor, travel and personnel costs associated with increased professional services revenue.

On a constant currency basis, total cost of revenue as \$130.9 million and \$125.1 million for fiscal 2017 and 2016, respectively and as a percentage of total revenue was 47% for fiscal 2017 and 46% for fiscal 2016. The increase in total cost of revenue as a percentage of total revenue was mainly due to lower professional services margin and the shift in our revenue mix from on-premise licenses to cloud. The non-currency related increase in cost of revenue of \$5.8 million, or 5%, in fiscal 2017 compared to fiscal 2016 was primarily due to higher hosting and personnel costs associated with the growth of our cloud business which were partially offset by a decrease in license royalties related to a decline in license revenue.

*Cost of Subscription.* On a constant currency basis, cost of subscription was \$30.6 million for fiscal 2018, representing a \$3.5 million, or 13%, increase from \$27.1 million for fiscal 2017. The non-currency related increase in cost of subscription of \$3.5 million in fiscal 2018 compared to fiscal 2017 was primarily due to higher hosting costs of \$2.5 million, higher salaries and related costs of \$0.8 million as a result of higher headcount of approximately 9 people and higher third-party contractor costs of \$0.4 million. These costs were partially offset by \$0.8 million of personnel costs cross charged to our services department to support conversion and upgrade projects. Cost of subscription as a percentage of subscription revenue was 44% and 52% in fiscal 2018 and 2017, respectively. We expect to continue to improve our subscription margins over time as we leverage ongoing economies of scale and operational efficiencies, but we also anticipate quarterly fluctuations in our subscription margins as we make investments in our data centers and cloud operations to support future growth. Our strategic investments in cloud growth may not match the timing of revenue increases.

On a constant currency basis, cost of subscription was \$27.0 million for fiscal 2017, representing a \$6.5 million, or 32%, increase from \$20.5 million for fiscal 2016. The non-currency related increase in cost of subscription of \$6.5 million in fiscal 2017 compared to fiscal 2016 was primarily due to higher hosting costs of \$3.5 million, higher salaries and related costs of \$0.9 million as a result of higher headcount of approximately 16 people, higher third-party contractor costs of \$0.7 million and higher professional fees of \$0.3 million. In addition, cost of subscription included higher personnel costs from other departments who worked on cloud engagements of \$1.0 million. Cost of subscription as a percentage of subscription revenue was 52% and 53% in fiscal 2017 and 2016, respectively.

*Cost of License.* On a constant currency basis, cost of license was \$2.9 million for fiscal 2018, representing a \$0.1 million, or 3%, decrease from \$3.0 million for fiscal 2017. As a percent of license revenue, royalty expense remained relatively consistent year over year.

On a constant currency basis, cost of license was \$3.0 million for fiscal 2017, representing a \$0.6 million, or 17%, decrease from \$3.6 million for fiscal 2016. Cost of license in fiscal 2017 compared to fiscal 2016 included lower royalties associated with lower license revenue. As a percent of license revenue, royalty expense remained consistent year over year.

*Cost of Maintenance and Other.* On a constant currency basis, cost of maintenance and other was \$31.2 million for fiscal 2018, representing a \$0.4 million, or 1%, increase from \$30.8 million for fiscal 2017. The non-currency related increase in cost of maintenance and other of \$0.4 million in fiscal 2018 compared to fiscal 2017 was due to higher salaries and related costs of \$0.4 million as a result of higher headcount of approximately 3 people. Cost of maintenance and other as a percentage of maintenance and other revenue was 24% and 23% in fiscal 2018 and 2017, respectively.

On a constant currency basis, cost of maintenance and other was \$30.5 million for fiscal 2017, representing a \$0.2 million, or 1%, decrease from \$30.7 million for fiscal 2016. The year over year decrease in cost of maintenance and other was primarily related to lower royalties of \$0.3 million. Cost of maintenance and other as a percentage of maintenance and other revenue was 23% in both fiscal 2017 and 2016.

*Cost of Professional Services.* On a constant currency basis, cost of professional services was \$84.7 million for fiscal 2018, representing a \$13.5 million, or 19%, increase from \$71.2 million for fiscal 2017. The non-currency related increase in cost of professional services of \$13.5 million was primarily due to higher salaries and related costs of \$4.4 million, as a result of higher headcount of approximately 87 people, higher third-party contractor costs of \$3.6 million, higher bonuses of \$1.3 million, higher travel of \$1.5 million and higher information technology and facilities allocated costs of \$0.7 million. In addition, cost of professional services included higher personnel costs from other departments for employees who worked on services engagements of \$1.2 million. Cost of professional services as a percentage of professional services revenue was 104% for fiscal 2018 and 98% for fiscal 2017. Our professional services margins have been negatively impacted by headcount additions and increased use of third-party contractors to fulfill a higher demand for services engagements. Since new hires are not immediately billable, our professional services margins are expected to improve as those resources become fully utilized, which we anticipate to occur in fiscal 2019.

On a constant currency basis, cost of professional services was \$70.3 million for both fiscal 2017 and 2016. The non-currency related changes in cost of professional services in fiscal 2017 compared to fiscal 2016 included higher salaries and related costs of \$1.4 million, as a result of higher headcount of approximately 18 people, higher bonuses of \$0.5 million, higher information technology and facilities allocated costs of \$0.4 million partially offset by lower third-party contractor costs of \$0.6 million and lower travel of \$0.4 million. In addition, professional services costs benefited from higher cost relief of \$1.6 million related to staff who worked on cloud engagements and sales activities. Cost of professional services as a percentage of professional services revenue was 98% for fiscal 2017 and 94% for fiscal 2016.

## Sales and Marketing

	Year Ended January 31, 2018	Year Ended January 31, 2017	Change in Constant Currency	Change due to Currency Fluctuations	Total Change as Reported	
(in thousands)					\$	%
Sales and marketing	\$ 75,368	\$ 67,194	\$ (7,571)	\$ (603)	\$ (8,174)	-12%
Percentage of revenue	25%	24%				

	Year Ended January 31, 2017	Year Ended January 31, 2016	Change in Constant Currency	Change due to Currency Fluctuations	Total Change as Reported	
(in thousands)					\$	%
Sales and marketing	\$ 67,194	\$ 66,535	\$ (1,514)	\$ 855	\$ (659)	-11%
Percentage of revenue	24%	24%				

Sales and marketing expense includes salaries, benefits, commissions, bonuses, stock-based compensation and travel expense for our sales and marketing employees in addition to costs of programs aimed at increasing revenue, such as trade shows, user group events, lead generation, advertising and various sales and promotional programs. Sales and marketing expense also includes personnel costs of order processing, sales agent fees and an allocation of information technology and facilities costs. We pay and expense commissions for cloud deals at the time the contract is signed, whereas the related revenue is recognized in future periods.

On a constant currency basis, sales and marketing expense was \$75.4 million for fiscal 2018, representing a \$7.6 million, or 11%, increase from \$67.8 million for fiscal 2017. The non-currency related increase in sales and marketing expense of \$7.6 million in fiscal 2018 compared to fiscal 2017 was primarily due to higher commissions of \$3.2 million, higher salaries and related costs of \$2.1 million as a result of higher headcount of approximately 16 people, higher bonuses of \$1.6 million and higher travel of \$0.5 million. Stronger than anticipated new cloud business bookings in the fiscal 2018 fourth quarter resulted in higher bonuses and commissions without the associated revenue, as we currently recognize these expenses up front, while the revenue is recognized ratably over the contract period.

On a constant currency basis, sales and marketing expense was \$67.2 million for fiscal 2017, representing a \$1.5 million, or 2%, increase from \$65.7 million for fiscal 2016. The non-currency related increase in sales and marketing expense of \$1.5 million in fiscal 2017 compared to fiscal 2016 was primarily due to higher bonuses of \$0.3 million, higher marketing expense of \$0.3 million, higher payroll taxes of \$0.2 million, higher leave expense of \$0.2 million and higher information technology and facilities allocated costs of \$0.2 million partially offset by lower travel of \$0.4 million. In addition, sales and marketing expense was negatively impacted by lower cost relief of \$0.7 million related to sales and marketing employees working on services engagements in the prior year.

## Research and Development

	Year Ended January 31, 2018	Year Ended January 31, 2017	Change in Constant Currency	Change due to Currency Fluctuations	Total Change as Reported	
(in thousands)					\$	%
Research and development	\$ 47,661	\$ 43,587	\$ (3,700)	\$ (374)	\$ (4,074)	-9%
Percentage of revenue	16%	16%				

	Year Ended January 31, 2017	Year Ended January 31, 2016	Change in Constant Currency	Change due to Currency Fluctuations	Total Change as Reported	
(in thousands)					\$	%
Research and development	\$ 43,587	\$ 41,237	\$ (2,743)	\$ 393	\$ (2,350)	-6%
Percentage of revenue	16%	15%				

Research and development is expensed as incurred and consists primarily of salaries, benefits, bonuses, stock-based compensation, training and travel expense for research and development employees and professional services, such as fees paid to software development firms and independent contractors. Research and development expense also includes an allocation of information technology and facilities costs, and is reduced by reimbursements from joint development projects. As part of our vertical focus we regularly seek to engage in joint development arrangements with our customers in order to enhance specific functionality and industry experience, although the number and size of joint development arrangements may fluctuate.

On a constant currency basis, research and development expense was \$47.7 million fiscal 2018, representing a \$3.7 million, or 8%, increase from \$44.0 million for fiscal 2017. The non-currency related increase in research and development expense of \$3.7 million in fiscal 2018 compared to fiscal 2017 was primarily due to higher salaries and related costs of \$2.2 million, as a result of higher headcount of approximately 35 people, higher bonuses of \$0.9 million and higher professional fees of \$0.6 million.

On a constant currency basis, research and development expense was \$43.6 million for fiscal 2017, representing a \$2.8 million, or 7%, increase from \$40.8 million for fiscal 2016. The non-currency related increase in research and development expense of \$2.8 million in fiscal 2017 compared to fiscal 2016 was primarily due to higher salaries and related costs of \$1.7 million, as a result of higher headcount of approximately 29 people, higher information technology and facilities allocated costs of \$0.4 million, higher bonuses of \$0.3 million and higher professional fees of \$0.3 million.

## General and Administrative

	Year Ended January 31, 2018	Year Ended January 31, 2017	Change in Constant Currency	Change due to Currency Fluctuations	Total Change as Reported	
(in thousands)					\$	%
General and Administrative	\$ 35,222	\$ 32,318	\$ (2,863)	\$ (41)	\$ (2,904)	-9%
Percentage of revenue	11%	12%				

	Year Ended January 31, 2017	Year Ended January 31, 2016	Change in Constant Currency	Change due to Currency Fluctuations	Total Change as Reported	
(in thousands)					\$	%
General and Administrative	\$ 32,318	\$ 32,689	\$ (141)	\$ 512	\$ 371	1%
Percentage of revenue	12%	11%				

General and administrative expense includes salaries, benefits, bonuses, stock-based compensation and travel expense for our finance, human resources, legal and executive personnel, as well as professional fees for accounting and legal services, bad debt expense and an allocation of information technology and facilities costs.

On a constant currency basis, general and administrative expense was \$35.2 million for fiscal 2018, representing a \$2.8 million, or 9%, increase from \$32.4 million for fiscal 2017. The non-currency related increase in general and administrative expense of \$2.8 million in fiscal 2018 compared to fiscal 2017 was primarily due to higher bonuses of \$1.0 million, higher stock compensation of \$0.8 million and higher legal and accounting fees of \$0.8 million.

On a constant currency basis, general and administrative expense was \$32.3 million for fiscal 2017, representing a \$0.1 million increase from \$32.2 million for fiscal 2016. The non-currency related increase in general and administrative expense of \$0.1 million in fiscal 2017 compared to fiscal 2016 was primarily due to higher salaries and related costs of \$0.6 million partially offset by lower stock compensation of \$0.2 million and lower travel of \$0.2 million.

## Amortization of Intangibles from Acquisitions

Amortization of intangibles from acquisitions totaled \$0.4 million, \$0.7 million and \$0.7 million for fiscal 2018, 2017 and 2016, respectively. Amortization expense was due to the intangible assets acquired from our DynaSys and CEBOS acquisitions.

## Total Other (Income) Expense

	Year Ended January 31, 2018	Increase (Decrease) Compared to Prior Period		Year Ended January 31, 2017	Increase (Decrease) Compared to Prior Period		Year Ended January 31, 2016
(in thousands)		\$	%		\$	%	
Other (income) expense							
Interest income	\$ (1,547)	\$ (851)	-122%	\$ (696)	\$ (376)	-118%	\$ (320)
Interest expense	669	(1)	0%	670	(42)	-6%	712
Other income, net	2,012	2,448	561%	(436)	321	42%	(757)
Total other (income) expense, net	\$ 1,134	\$ 1,596	345%	\$ (462)	\$ (97)	-27%	\$ (365)
Percentage of revenue	0%			0%			0%

Total other (income) expense, net was \$1.1 million, \$(0.5) million and \$(0.4) million for fiscal 2018, 2017 and 2016, respectively. When comparing fiscal 2018 to fiscal 2017, the unfavorable change is primarily related to higher foreign exchange losses of \$2.3 million, as the U.S. dollar declined approximately 10% against the euro and Mexican peso, partially offset by higher interest income of \$0.9 million. When comparing fiscal 2017 to fiscal 2016, the favorable change is primarily related to an increase in the fair value of our interest rate swap of \$0.5 million and higher interest income of \$0.4 million partially offset by lower foreign exchange gains of \$0.7 million.

Interest rate swap valuations and foreign exchange gains and losses are subject to changes which are inherently unpredictable. Our interest rate swap is accounted for using mark-to-market accounting. Accordingly, changes in the fair value of the swap each reporting period are adjusted through earnings, subjecting us to non-cash volatility in our results of operations. The swap fixes the interest rate on our mortgage to 4.31% over the entire term of the mortgage. Although the agreement allows us to prepay the loan and exit the agreement early, we have no intention of doing so. As a result, we will have non-cash adjustments through earnings each reporting period. Over the term of the mortgage, however, the net impact of these mark-to-market adjustments on earnings will be zero.



## Income Tax Expense

(in thousands)	Year Ended January 31, 2018	Increase (Decrease) Compared to Prior Period		Year Ended January 31, 2017	Increase (Decrease) Compared to Prior Period		Year Ended January 31, 2016
		\$	%		\$	%	
Income tax expense	\$ 4,857	\$(14,419)	-75%	\$ 19,276	\$ 17,652	1,087%	\$ 1,624
Percentage of revenue	2%			7%			1%
Effective tax rate	-115%			504%			15%

We recorded income tax expense of \$4.9 million, \$19.3 million and \$1.6 million for fiscal 2018, 2017, and 2016 respectively. QAD's effective tax rate was -115%, 504%, and 15% for fiscal 2018, 2017, and 2016, respectively. We had a pre-tax loss of \$(4.2) million and pre-tax income of \$3.8 million for fiscal 2018 and 2017, respectively. In 2018, our effective tax rate was significantly impacted by the Tax Act, jurisdictional mix of income across our entities and equity compensation windfalls. The Tax Act increased our U.S. tax expense by \$2.0 million and impacted our effective tax rate by 46%. Our effective tax rate in fiscal 2017 was extraordinarily high due to a \$16.3 million valuation allowance placed on U. S. federal and state net deferred tax assets. The low effective rate in fiscal 2016 was attributable to the liquidation of an investment in a Japan legal entity, which gave us the ability to utilize expired net operating losses for Japanese tax purposes in the year of liquidation.

For further information regarding income taxes, see Note 3 "Income Taxes" within the Notes to Consolidated Financial Statements included in Item 15 of this Annual Report on Form 10-K.

## Non-GAAP Financial Measures

Regulation S-K Item 10(e), "Use of Non-GAAP Financial Measures in Commission Filings," defines and prescribes the conditions for use of non-GAAP financial information. Our measures of non-GAAP adjusted EBITDA, non-GAAP adjusted EBITDA margins, non-GAAP pre-tax income and estimated cash taxes on GAAP earnings each meet the definition of a non-GAAP financial measure. We define the non-GAAP measures as follows:

- Non-GAAP adjusted EBITDA - EBITDA is GAAP net income before net interest expense, income tax expense, depreciation and amortization. Non-GAAP adjusted EBITDA is EBITDA less stock-based compensation expense and the change in the fair value of our interest rate swap.
- Non-GAAP adjusted EBITDA margins - Calculated by dividing non-GAAP adjusted EBITDA by total revenue.
- Non-GAAP pre-tax income - GAAP income before income taxes not including the effects of stock-based compensation expense, amortization of purchased intangible assets and the change in fair value of our interest rate swap.
- Estimated cash taxes on GAAP earnings - Defined as GAAP total tax expense excluding changes in reserves for unrecognized tax benefits.

QAD's management uses non-GAAP measures internally to evaluate the business and believes that presenting non-GAAP measures provides useful information to investors regarding the underlying business trends and performance of our ongoing operations as well as useful metrics for monitoring our performance and evaluating it against industry peers. The non-GAAP financial measures presented should be used in addition to, and in conjunction with, results presented in accordance with GAAP, and should not be relied upon to the exclusion of GAAP financial measures. Management strongly encourages investors to review our consolidated financial statements in their entirety and to not rely on any single financial measure in evaluating the company.

QAD non-GAAP measures reflect adjustments based on the following items:

**Stock-based compensation expense:** We have excluded the effect of stock-based compensation expense from our non-GAAP adjusted EBITDA and non-GAAP pre-tax income calculations. Although stock-based compensation expense is calculated in accordance with current GAAP and constitutes an ongoing and recurring expense, such expense is excluded from non-GAAP results because it is not an expense which generally requires cash settlement by QAD, and therefore is not used by us to assess the profitability of our operations. We also believe the exclusion of stock-based compensation expense provides a more useful comparison of our operating results to the operating results of our peers.

**Amortization of purchased intangible assets:** We amortize purchased intangible assets in connection with our acquisitions. We have excluded the effect of amortization of purchased intangible assets, which include purchased technology, customer relationships, trade names and other intangible assets, from our non-GAAP pre-tax income calculation, because doing so makes internal comparisons to our historical operating results more consistent. In addition, we believe excluding amortization of purchased intangible assets provides a more useful comparison of our operating results to the operating results of our peers.

**Change in fair value of the interest rate swap:** We entered into an interest rate swap to mitigate our exposure to the variability of one-month LIBOR for our floating rate debt related to the mortgage of our headquarters. We have excluded the gain/loss adjustments to record the interest rate swap at fair value from our non-GAAP adjusted EBITDA and non-GAAP pre-tax income calculations. We believe that these fluctuations are not indicative of our operational costs or meaningful in evaluating comparative period results because we currently have no intention of exiting the debt agreement early; and therefore over the life of the debt the sum of the fair value adjustments will be zero.

The following table sets forth the reconciliation of the non-GAAP financial measures of adjusted EBITDA, adjusted EBITDA margins and non-GAAP pre-tax income to the most comparable GAAP measures for fiscal years 2018, 2017 and 2016 (in thousands):

	Years Ended January 31,		
	2018	2017	2016
Total revenue	\$ 305,018	\$ 277,973	\$ 277,852
Net (loss) income	(9,065)	(15,450)	8,912
Add back:			
Net interest (income) expense	(878)	(26)	392
Depreciation	4,562	4,326	3,968
Amortization	1,199	1,710	1,807
Income taxes	4,857	19,276	1,624
EBITDA	\$ 675	\$ 9,836	\$ 16,703
Add back:			
Stock based compensation expense	8,924	7,323	7,440
Change in fair value of interest rate swap	(377)	(485)	48
Adjusted EBITDA	\$ 9,222	\$ 16,674	\$ 24,191
Adjusted EBITDA margin	3%	6%	9%
Non-GAAP pre-tax income reconciliation			
(Loss) income before income taxes	\$ (4,208)	\$ 3,826	\$ 10,536
Add back			
Stock-based compensation expense	8,924	7,323	7,440
Amortization of purchased intangible assets	842	1,377	1,377
Change in fair value of interest rate swap	(377)	(485)	48
Non-GAAP income before income taxes	\$ 5,181	\$ 12,041	\$ 19,401
Estimated cash taxes on GAAP earnings	\$ 2,812	\$ 2,688	\$ 2,429

## LIQUIDITY AND CAPITAL RESOURCES

Our primary source of cash is from the sale of subscriptions, licenses, maintenance and professional services to our customers. Our primary use of cash is payment of our operating expenses which mainly consist of employee-related expenses, such as compensation and benefits, as well as general operating expenses for facilities and overhead costs. In addition to operating expenses, we may also use cash for capital expenditures; payment of dividends and stock repurchases; and to invest in our growth initiatives, which include acquisitions of products, technologies and businesses.

At January 31, 2018, our principal sources of liquidity were cash and equivalents totaling \$147.0 million and net accounts receivable of \$83.5 million. During fiscal 2015 we closed an offering of 2,000,000 shares of Class A common stock. The net proceeds to us from the sale of the stock were \$37.0 million after deducting underwriting discounts and commissions; and offering expenses. In early fiscal 2016 the offering underwriters exercised in full an option to purchase additional shares. As a result, 450,000 shares of Class A common stock were issued in fiscal 2016 generating \$8.4 million in additional proceeds. At January 31, 2018, our cash and equivalents consisted of current bank accounts, registered money market funds and time delineated deposits. Approximately 85% of our cash and equivalents were held in U.S. dollar denominated accounts as of January 31, 2018.

Our primary commercial banking relationship is with Bank of America and its global affiliates. Our cash and equivalents are held by diversified financial institutions globally, and as of January 31, 2018 the portion of our cash and equivalents held by or invested through Bank of America was approximately 95%. Our largest cash concentrations are in the United States and Ireland. The majority of our cash and equivalents are held in investment accounts which are predominantly placed in money market mutual funds and in U.S. Treasury and government securities funds. The remaining cash and equivalents are held in deposit accounts and certificates of deposit.

We had a U.S. line of credit facility with Rabobank that permitted unsecured short-term borrowings of up to \$20 million. We had not drawn on the line of credit during any of the last three fiscal years. Our line of credit expired in July, 2018 and we did not renew it.

We are a U.S. based multinational company subject to tax in multiple U.S. and foreign tax jurisdictions. In addition to providing for U.S. income taxes on earnings from the United States, we provide for U.S. income taxes on the earnings of foreign subsidiaries unless the subsidiaries' earnings are considered permanently reinvested outside the United States. We do not anticipate changing our intention regarding permanently reinvested earnings as of the balance sheet date.

In December 2017, the U.S. Tax Cuts and Jobs Act ("Tax Act") was signed into law. The Tax Act includes a mandatory one-time tax on accumulated earnings of our foreign subsidiaries which resulted in an estimated \$2 million of additional U.S. tax. In spite of the U.S. taxation on these earnings, we intend to permanently reinvest the earnings in our foreign subsidiaries. We do not expect to incur significant additional taxes on repatriation of these earnings; however, foreign withholding taxes, currency translation, state taxes and currency control laws must always be considered.

The following table summarizes our cash flows for the fiscal years ended January 31, 2018, 2017 and 2016, respectively.

(in thousands)	Years Ended January 31,		
	2018	2017	2016
Net cash provided by operating activities	\$ 10,418	\$ 18,680	\$ 24,057
Net cash used in investing activities	(4,669)	(3,406)	(3,348)
Net cash used in financing activities	(9,165)	(7,814)	(487)
Effect of foreign exchange rates on cash and equivalents	5,357	(109)	(3,017)
Net increase in cash and equivalents	\$ 1,941	\$ 7,351	\$ 17,205

Typical factors affecting our cash provided by operating activities include our level of revenue and earnings for the period; the timing and amount of employee bonus payments and income tax payments; and the timing and amount of billings and cash collections from our customers, which is our largest source of operating cash flow. Net cash flows provided by operating activities were \$10.4 million and \$18.7 million for fiscal 2018 and 2017, respectively. The decrease in cash flow provided by operating activities from fiscal 2017 to fiscal 2018 was due to a decrease in pre-tax income of \$8 million. Although our revenue increased 10% year over year, our personnel expenses were significantly higher as a result of hiring 160 additional employees to support the growth in our subscription and services offerings.

Net cash flows provided by operating activities were \$18.7 million and \$24.1 million for fiscal 2017 and 2016, respectively. A decrease in net income of \$24.4 million and the negative cash flow effect of changes in accounts receivable of \$14.9 million was offset by the positive cash flow effect of changes in deferred revenue, accounts payable and other liabilities of \$16.8 million and a non-cash change in deferred tax asset valuation allowances of \$14.3 million.

Net cash used in investing activities consisted primarily of capital expenditures of \$3.7 million, \$3.3 million and \$3.2 million for fiscal 2018, 2017 and 2016, respectively. We continue to monitor our capital spending and do not believe we are delaying critical capital expenditures required to run our business.

Net cash used in financing activities consisted primarily of payments of withholding taxes on settlement of stock-based compensation and payment of dividends. We paid withholding taxes of \$3.4 million, \$2.1 million and \$2.5 million in fiscal 2018, 2017 and 2016, respectively, on vested restricted stock units and exercised stock appreciation rights. We made dividend payments of \$5.4 million, \$5.3 million and \$5.2 million in fiscal 2018, 2017 and 2016, respectively. On a regular basis the Board of Directors evaluates our ability to continue to pay dividends as well as the structure of any potential dividend payments. Net cash provided by financing activities during 2016 included proceeds received from the sale of stock of \$8.4 million after deducting offering expenses and underwriting discounts and commissions.

We have historically calculated accounts receivable days' sales outstanding ("DSO"), using the countback, or last-in first-out, method. This method calculates the number of days of billed revenue represented by the accounts receivable balance as of period end. When reviewing the performance of our entities, DSO under the countback method is used by management. It is management's belief that the countback method best reflects the relative health of our accounts receivable as of a given quarter-end or year-end because of the cyclical nature of our billings. Our billing cycle includes high annual maintenance renewal billings at year-end that will not be recognized as earned revenue until future periods.

DSO under the countback method was relatively consistent at 51 days and 50 days as of January 31, 2018 and 2017, respectively. DSO using the average method, which is calculated utilizing the accounts receivable balance and earned revenue for the most recent quarter, was 93 days and 85 days January 31, 2018 and 2017, respectively. The aging of our accounts receivable remained consistent when compared with the same period last year. We believe our reserve methodology is adequate, our reserves are properly stated as of January 31, 2018 and the quality of our receivables remains good.

There have been no material changes in our contractual obligations or commercial commitments outside the ordinary course of business. Cash requirements for items other than normal operating expenses are anticipated for capital expenditures, dividend payments and other equity transactions. We may require cash for acquisitions of new businesses, software products or technologies complementary to our business.

We believe that our cash on hand, net cash provided by operating activities and available borrowings under our existing credit facility will provide us with sufficient resources to meet our current and long-term working capital requirements, debt service, dividend payments and other cash needs for at least the next twelve months.

Our revenue, earnings, cash flows, receivables, and payables are subject to fluctuations due to changes in foreign currency exchange rates, for which we have put in place foreign currency contracts as part of our risk management strategy. See Part II, Item 7A, "Quantitative and Qualitative Disclosures about Market Risk" for further discussion.

## CONTRACTUAL OBLIGATIONS

The following table summarizes our significant contractual obligations at January 31, 2018 and the effect these contractual obligations are expected to have on our liquidity and cash flows in future periods.

	Years Ended January 31,					Thereafter	Total
	2019	2020	2021	2022	2023		
	(In millions)						
Notes payable	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 11.8	\$ —	\$ 13.8
Notes payable interest payments	0.6	0.6	0.5	0.5	0.2	—	2.4
Lease obligations	6.0	4.3	2.5	0.8	0.5	0.2	14.3
Purchase obligations	5.8	4.5	2.3	0.4	—	—	13.0
Total	\$ 12.9	\$ 9.9	\$ 5.8	\$ 2.2	\$ 12.5	\$ 0.2	\$ 43.5

Purchase obligations are contractual obligations for the purchase of goods or services. They are defined as agreements that are enforceable and legally binding for QAD which specify all significant terms, including fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. Purchase obligations relate primarily to information technology infrastructure costs, hosting services agreements and costs associated with our sales and marketing events.

We have omitted unrecognized tax benefits from this table due to the inherent uncertainty regarding the timing of potential issue resolution. Specifically, either (a) the underlying positions have not been fully enough developed under audit to quantify at this time, or (b) the years relating to the issues for certain jurisdictions are not currently under audit. As of January 31, 2018, we had \$1.7 million of unrecognized tax benefits. This is before the netting required by ASU 2013-11 which requires the netting of unrecognized tax benefits against deferred tax assets for a loss or credit that would apply in settlement of the uncertain tax position. For further information regarding the unrecognized tax benefits see Note 3 “Income Taxes” within Notes to Consolidated Financial Statements.

Purchase orders or contracts for the purchase of supplies and other goods and services are not included in the table above. We are not able to determine the aggregate amount of such purchase orders that represent contractual obligations, as purchase orders may represent authorizations to purchase rather than binding agreements. Our purchase orders are based on our current procurement or development needs and are fulfilled by our vendors within short time frames. We do not have significant agreements for the purchase of supplies or other goods specifying minimum quantities or set prices that exceed our expected requirements for three months.

We have certain royalty commitments associated with the shipment and licensing of certain products. Royalty expense is generally based on the number of units shipped or a percentage of the underlying revenue. Royalty expense, included in cost of subscription, license and maintenance and other revenue, was \$17.1 million, \$16.2 million and \$15.9 million in fiscal 2018, 2017 and 2016, respectively.

#### *Note Payable*

Effective May 30, 2012, QAD Ortega Hill, LLC entered into a variable rate credit agreement (the “2012 Mortgage”) with Rabobank, N.A., to refinance a pre-existing mortgage. The 2012 Mortgage has an original principal balance of \$16.1 million and bears interest at the one month LIBOR rate plus 2.25%. One month LIBOR was 1.56 % at January 31, 2018. The 2012 Mortgage matures in June 2022 and is secured by the Company’s headquarters located in Santa Barbara, California. In conjunction with the 2012 Mortgage, QAD Ortega Hill, LLC entered into an interest rate swap with Rabobank, N.A. The swap agreement has an initial notional amount of \$16.1 million and a schedule matching that of the underlying loan that synthetically fixes the interest rate on the debt at 4.31% for the entire term of the 2012 Mortgage. The terms of the 2012 Mortgage provide for QAD Ortega Hill, LLC to make net monthly payments of \$88,100 consisting of principal and interest and one final payment of \$11.7 million. The unpaid balance as of January 31, 2018 was \$13.8 million.

#### *Lease Obligations*

We lease certain office facilities, office equipment and automobiles under operating lease agreements. Although our office lease agreements end on various dates through fiscal year 2026, they typically include termination options at earlier dates. The contractual obligations table reflects future minimum rental payments under non-cancellable operating lease commitments with terms of more than one year. For further discussion of our leased office facilities, see Item 2 entitled “Properties” included elsewhere in this Annual Report on Form 10-K.

#### *Off-Balance Sheet Arrangements*

As of January 31, 2018, we did not have any off-balance sheet arrangements as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

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

*Foreign Exchange Rates.* We have operations in foreign locations around the world and we are exposed to risk resulting from fluctuations in foreign currency exchange rates. We have experienced significant foreign currency fluctuations in fiscal 2018 due primarily to the volatility of the euro and Mexican peso in relation to the U.S. dollar. However, while strengthening of the U.S. dollar compared to foreign currency exchange rates generally has the effect of reducing revenues it also has the effect of reducing expenses denominated in currencies other than the U.S. dollar. These foreign currency exchange rate movements could create a foreign currency gain or loss that could be realized or unrealized for us. Unfavorable movements in foreign currency exchange rates between the U.S. dollar and other foreign currencies may have an adverse impact on our operations. We did not have any foreign currency forward or option contracts, other material foreign currency denominated derivatives or other financial instruments open as of January 31, 2018.

We face two risks related to foreign currency exchange rates—translation risk and transaction risk. Amounts invested in our foreign operations are translated into U.S. dollars using period-end exchange rates. The resulting translation adjustments are recorded as a component of accumulated other comprehensive loss in the Consolidated Balance Sheets. Revenues and expenses in foreign currencies translate into higher or lower revenues and expenses in U.S. dollars as the U.S. dollar weakens or strengthens against other currencies. Our international subsidiaries also hold U.S. dollar and euro-based net monetary accounts subject to revaluation that results in realized or unrealized foreign currency gains or losses. Furthermore, we have exposure to foreign exchange fluctuations arising from the remeasurement of non-functional currency assets, liabilities and intercompany balances into U.S. dollars for financial reporting purposes.

For fiscal 2018, 2017 and 2016, approximately 51%, 51% and 52%, respectively, of our revenue was denominated in foreign currencies. We also incurred a significant portion of our expenses in currencies other than the U.S. dollar, approximately 41% for fiscal 2018 and 40% for both fiscal 2017 and 2016. Based on a hypothetical 10% adverse movement in all foreign currency exchange rates, our revenue would be adversely affected by approximately 5% partially offset by a positive effect on our expenses of approximately 4%, and our operating income would be adversely affected by approximately 87%.

For fiscal 2018, 2017 and 2016, foreign currency transaction and remeasurement losses (gains) totaled \$2.5 million, \$0.2 million and \$(0.5) million, respectively, and are included in “Other (income) expense, net” in our Consolidated Statements of Operations and Comprehensive (Loss) Income. We performed a sensitivity analysis on the net U.S. dollar and euro-based monetary accounts subject to revaluation that are held by our international subsidiaries and on the non-functional currency assets, liabilities and intercompany balances that are remeasured into U.S. dollars. A hypothetical 10% adverse movement in all foreign currency exchange rates would result in foreign currency transaction and remeasurement losses of approximately \$3.0 million.

These estimates assume an adverse shift in all foreign currency exchange rates against the U.S. dollar, which do not always move in the same direction or in the same degrees, and actual results may differ materially from the hypothetical analysis.

*Interest Rates.* We invest our surplus cash in a variety of financial instruments, consisting principally of short-term marketable securities with maturities of less than 90 days at the date of purchase. Our investment securities are held for purposes other than trading. Cash balances held by subsidiaries are invested primarily in registered money market funds with local operating banks. Based on an interest rate sensitivity analysis of our cash and equivalents, we estimate a 10% adverse change in interest rates from the 2017 fiscal year-end rates would not have a material adverse effect on our cash flows or financial condition for the next fiscal year.

Our debt is comprised of a loan agreement, secured by real property, which bears interest at the one-month LIBOR rate plus 2.25%. In conjunction with the loan agreement we entered into an interest rate swap. The swap agreement has an initial notional amount and schedule matching that of the underlying loan that synthetically fixes the interest rate on the debt at 4.31%.

Our interest rate swap is accounted for using mark-to-market accounting. Accordingly, changes in the fair value of the swap each reporting period are adjusted through earnings, subjecting us to non-cash volatility in our results of operations. We prepared a sensitivity analysis using a modeling technique that measures the change in the fair values arising from a hypothetical 10% adverse movement in levels of interest rates across the entire yield curve, with all other variables held constant. Based upon the results of this analysis a 10% adverse change in interest rates from the January 31, 2018 rates would cause a \$0.1 million reduction in our results of operations. We believe it is prudent to hedge the expected volatility of the variable rate mortgage on our corporate headquarters. The swap fixes the interest rate on our mortgage to 4.31% over the entire term of the mortgage. Although the agreement allows us to prepay the loan and exit the agreement early, we have no intention of doing so. As a result, we will have non-cash adjustments through earnings each reporting period. However, over the term of the mortgage, the net impact of these mark-to-market adjustments on earnings will be zero.

#### **ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

The response to this item is included in Item 15 of this Annual Report on Form 10-K.

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

None.

## ITEM 9A. CONTROLS AND PROCEDURES

### *(a) Evaluation of Disclosure Controls and Procedures*

QAD maintains disclosure controls and procedures that are designed to ensure that information required to be disclosed in reports that it files or submits under the Securities Exchange Act of 1934 (the “Exchange Act”) is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, and that such information is accumulated and communicated to management, including the Chief Executive Officer and the Chief Financial Officer, to allow timely decisions regarding required disclosure. QAD’s management, under the supervision and with the participation of the Chief Executive Officer and the Chief Financial Officer, evaluated the effectiveness of QAD’s disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 10-K. Based on this evaluation, QAD’s principal executive officer and principal financial officer have concluded that QAD’s disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) were effective at a reasonable assurance level.

### *(b) Management’s Report on Internal Control Over Financial Reporting*

QAD’s management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended. QAD’s system of internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with generally accepted accounting principles. QAD’s internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of QAD’s assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that QAD’s receipts and expenditures are being made only in accordance with authorizations of QAD’s management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of QAD’s assets that could have a material effect on the financial statements.

Management has assessed the effectiveness of QAD’s internal control over financial reporting as of January 31, 2018 based on the criteria described in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on management’s assessment, management has concluded that QAD’s internal control over financial reporting was effective at the reasonable assurance level as of January 31, 2018. We reviewed the results of management’s assessment with our Audit Committee.

Our independent registered public accounting firm, KPMG LLP, has audited our internal control over financial reporting as of January 31, 2018, as stated in their report included in this Annual Report on Form 10-K.

### *(c) Changes in Internal Control over Financial Reporting*

There were no changes in the Company’s internal control over financial reporting identified in connection with the evaluation required by paragraph (d) of Exchange Act Rules 13a-15 or 15d-15 that occurred during our last fiscal quarter that have materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

### *(d) Limitations on the Effectiveness of Controls*

QAD’s management does not expect that its disclosure controls and procedures or its internal control over financial reporting will prevent all errors and all fraud. 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. 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 QAD have been 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.

## ITEM 9B. OTHER INFORMATION

None.

## PART III

### ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information regarding QAD directors is set forth in the section entitled “Election of Directors” appearing in our Definitive Proxy Statement for the Annual Meeting of Stockholders (“Proxy Statement”) to be filed with the Securities and Exchange Commission within 120 days after the end of our fiscal year ended January 31, 2018, which information is incorporated herein by reference.

In addition, the other information required by Item 10 is incorporated by reference from the Proxy Statement.

#### EXECUTIVE OFFICERS OF THE REGISTRANT

Set forth below is certain information concerning our executive officers. All ages are as of March 31, 2018.

NAME	AGE	POSITION(S)
Pamela M. Lopker	63	Chairman of the Board and President
Karl F. Lopker	66	Chief Executive Officer
Daniel Lender	51	Chief Financial Officer and Executive Vice President
Anton Chilton	50	Chief, Global Field Operations and Executive Vice President
Kara Bellamy	42	Chief Accounting Officer, Corporate Controller and Senior Vice President

*Pamela M. Lopker* founded QAD in 1979 and has been President and Chairman of the Board since QAD Inc.’s incorporation in 1986. Prior to founding QAD, Ms. Lopker served as Senior Systems Analyst for Comtek Research from 1977 to 1979. She is certified in Production and Inventory Management by the American Production and Inventory Control Society. Ms. Lopker earned a Bachelor of Arts degree in Mathematics from the University of California, Santa Barbara. She is married to Karl F. Lopker, Chief Executive Officer of QAD. The Board nominated Ms. Lopker to serve as a director because she is the founder and visionary for the Company, with over thirty-five years of enterprise software company experience, extensive software industry expertise and a deep understanding of the Company’s products, customers, industry and global operational issues. Her history with and knowledge of QAD, combined with her unique skills, is important to the Board’s oversight of long-term strategy and provides the Board with a deep understanding of the Company’s business and operations.

*Karl F. Lopker* has served as Chief Executive Officer and director of QAD Inc. since joining the Company in 1986. Previously, he founded Deckers Outdoor Corporation in 1973 and was its President until 1981. Mr. Lopker is certified in Production and Inventory Management by the American Production and Inventory Control Society. He received a Bachelor of Science degree in Electrical Engineering from the University of California, Santa Barbara. Mr. Lopker is married to Pamela M. Lopker, Chairman of the Board and President of QAD. The Board nominated Mr. Lopker to serve as a director based on his industry expertise, knowledge of QAD’s customer base, strategic counsel and extensive history with QAD. His in-depth knowledge of the Company, its industry and its customers assists the Board in overseeing management and is important to the Board’s oversight of strategy and risk management. Mr. Lopker also brings strong leadership skills and complex business operational experience to the Board by virtue of his over thirty years of experience as CEO.

*Daniel Lender* was first appointed Chief Financial Officer and Executive Vice President in July 2003. Previously, he served as QAD’s Vice President of Global Sales Operations and Vice President of Latin America. Mr. Lender joined QAD in 1998 as Treasurer following a nine-year tenure with the former Republic National Bank of New York, last serving as Vice President and Treasurer of the Bank’s Delaware subsidiary. He earned a master of business administration degree from the Wharton School of the University of Pennsylvania and a bachelor of science degree in applied economics and business management from Cornell University.

*Anton Chilton* was appointed Chief, Global Field Operations and Executive Vice President in March 2017. Previously, he served as Executive Vice President, Global Services since June 2015. Mr. Chilton joined QAD in 2004 as Services Director of the Company’s Asia-Pacific region, based in Australia. He subsequently served as Managing Director of QAD Australia and New Zealand from 2006 to 2009. Mr. Chilton transferred to QAD’s headquarters in 2009, serving as Senior Vice President – Strategic Global Accounts until 2011, when he became Senior Vice President - Professional Services. Prior to joining QAD, Mr. Chilton held senior roles in global systems integration at Atos Origin and Cap Gemini. Mr. Chilton began his career at British Steel designing software and infrastructure solutions and received his education in the Submarine Service, British Royal Navy. Mr. Chilton has an Executive MBA from INSEAD.

*Kara Bellamy* has served as Chief Accounting Officer, Corporate Controller and Senior Vice President since January 2008. Previously, she served as QAD’s Director of Finance, Americas beginning in 2006 and joined QAD as Assistant Corporate Controller in 2004. Prior to joining QAD, Ms. Bellamy served as Corporate Controller for Somera Communications, Inc. from 2002 through 2004. Prior to that, she was an audit manager with Ernst & Young. Ms. Bellamy is a Certified Public Accountant (inactive) and received a bachelor of arts degree in business economics with an accounting emphasis from the University of California, Santa Barbara.



**ITEM 11. EXECUTIVE COMPENSATION**

Information regarding executive compensation is set forth under the caption “Executive Compensation” in the Proxy Statement, which information is incorporated herein by reference.

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

Information regarding security ownership of certain beneficial owners and management is set forth under the caption “Stock Ownership of Directors, Executive Officers and Certain Beneficial Owners” in the Proxy Statement, which information is incorporated herein by reference.

**ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE**

Information regarding certain relationships and related transactions is set forth under the caption “Certain Relationships and Related Party Transactions” in the Proxy Statement, which information is incorporated herein by reference.

**ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES**

Information regarding services performed by, and fees paid to, our independent auditors is set forth under the caption “Principal Accountant Fees and Services” in the Proxy Statement, which information is incorporated herein by reference.

## PART IV

### ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

#### 1. INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

	<b>Page</b>
Report of Independent Registered Public Accounting Firm	60
Consolidated Balance Sheets as of January 31, 2018 and 2017	61
Consolidated Statements of Operations and Comprehensive (Loss) Income for the years ended January 31, 2018, 2017 and 2016	62
Consolidated Statements of Stockholders' Equity for the years ended January 31, 2018, 2017 and 2016	63
Consolidated Statements of Cash Flows for the years ended January 31, 2018, 2017 and 2016	64
Notes to Consolidated Financial Statements	65

#### 2. INDEX TO FINANCIAL STATEMENT SCHEDULES

The following financial statement schedule is filed as a part of this Annual Report on Form 10-K:

	<b>Page</b>
<b>SCHEDULE II—VALUATION AND QUALIFYING ACCOUNTS</b>	<b>86</b>

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

#### 3. INDEX OF EXHIBITS

See the Index of Exhibits at page 96.

### ITEM 16. FORM 10-K SUMMARY

None.

## Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors  
QAD Inc.:

### *Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting*

We have audited the accompanying consolidated balance sheets of QAD Inc. and subsidiaries (the Company) as of January 31, 2018 and 2017, the related consolidated statements of operations and comprehensive (loss) income, stockholders' equity, and cash flows for each of the years in the three-year period ended January 31, 2018, and the related notes and financial statement schedule II (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of January 31, 2018, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of January 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three-year period ended January 31, 2018, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of January 31, 2018, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

### *Basis for Opinions*

The Company's management is responsible for these consolidated financial statements, 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 consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements 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. 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 audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

### *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

We have served as the Company's auditor since 1990.

Los Angeles, California  
April 13, 2018

**QAD INC.**  
**CONSOLIDATED BALANCE SHEETS**  
(in thousands, except share data)

	<b>January 31,</b>	
	<b>2018</b>	<b>2017</b>
<b>Assets</b>		
Current assets:		
Cash and equivalents	\$ 147,023	\$ 145,082
Accounts receivable, net of allowances of \$1,763 and \$2,205 at January 31, 2018 and 2017, respectively	83,518	69,441
Other current assets	15,856	15,351
Total current assets	246,397	229,874
Property and equipment, net	30,408	30,872
Capitalized software costs, net	990	732
Goodwill	11,023	10,558
Deferred tax assets, net	7,944	6,166
Other assets, net	3,055	2,688
Total assets	\$ 299,817	\$ 280,890
<b>Liabilities and Stockholders' Equity</b>		
Current liabilities:		
Current portion of long-term debt	\$ 466	\$ 446
Accounts payable	14,818	11,316
Deferred revenue	116,693	104,125
Other current liabilities	43,460	33,636
Total current liabilities	175,437	149,523
Long-term debt	13,313	13,767
Other liabilities	5,439	4,914
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, \$0.001 par value. Authorized 5,000,000 shares; none issued or outstanding	—	—
Common stock:		
Class A, \$0.001 par value. Authorized 71,000,000 shares; issued 16,605,215 shares at both January 31, 2018 and 2017	16	16
Class B, \$0.001 par value. Authorized 4,000,000 shares; issued 3,537,380 shares at both January 31, 2018 and 2017	4	4
Additional paid-in capital	200,456	197,594
Treasury stock, at cost (892,700 shares and 1,125,552 shares at January 31, 2018 and 2017, respectively)	(12,461)	(15,170)
Accumulated deficit	(75,559)	(61,127)
Accumulated other comprehensive loss	(6,828)	(8,631)
Total stockholders' equity	105,628	112,686
Total liabilities and stockholders' equity	\$ 299,817	\$ 280,890

See accompanying notes to consolidated financial statements.

**QAD INC.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE (LOSS) INCOME**  
(in thousands)

	Years Ended January 31,		
	2018	2017	2016
Revenue:			
Subscription fees	\$ 69,615	\$ 52,167	\$ 38,806
License fees	25,807	23,633	29,891
Maintenance and other	128,142	130,406	132,962
Professional services	81,454	71,767	76,193
Total revenue	305,018	277,973	277,852
Costs of revenue:			
Subscription fees	30,563	27,027	20,635
License fees	2,946	2,990	3,624
Maintenance and other	31,246	30,517	30,973
Professional services	84,670	70,317	71,330
Total cost of revenue	149,425	130,851	126,562
Gross profit	155,593	147,122	151,290
Operating expenses			
Sales and marketing	75,368	67,194	66,535
Research and development	47,661	43,587	41,237
General and administrative	35,222	32,318	32,689
Amortization of intangible assets from acquisitions	416	659	658
Total operating expenses	158,667	143,758	141,119
Operating (loss) income	(3,074)	3,364	10,171
Other (income) expense:			
Interest income	(1,547)	(696)	(320)
Interest expense	669	670	712
Other (income) expense, net	2,012	(436)	(757)
Total other (income) expense, net	1,134	(462)	(365)
(Loss) income before income taxes	(4,208)	3,826	10,536
Income tax expense	4,857	19,276	1,624
Net (loss) income	<u>\$ (9,065)</u>	<u>\$ (15,450)</u>	<u>\$ 8,912</u>
Basic net (loss) income per share:			
Class A	\$ (0.49)	\$ (0.84)	\$ 0.49
Class B	\$ (0.41)	\$ (0.70)	\$ 0.41
Diluted net (loss) income per share:			
Class A	\$ (0.49)	\$ (0.84)	\$ 0.47
Class B	\$ (0.41)	\$ (0.70)	\$ 0.40
Net (loss) income	\$ (9,065)	\$ (15,450)	\$ 8,912
Other comprehensive income (loss), net of tax			
Foreign currency translation adjustment	1,803	98	(1,311)
Total comprehensive (loss) income	<u>\$ (7,262)</u>	<u>\$ (15,352)</u>	<u>\$ 7,601</u>

See accompanying notes to consolidated financial statements.

**QAD INC.**  
**CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY**  
(in thousands)

	Number of Shares			Amount		Additional	Treasury	Accumulated	Accumulated	Total
	Class A	Class B	Treasury	Class A	Class B	Paid-in	Stock	Deficit	Other Comprehensive	Stockholders'
						Capital			Loss	Equity
<b>Balance, January 31, 2015</b>	16,152	3,537	(1,610)	\$ 16	\$ 4	\$ 185,546	\$ (22,977)	\$ (44,606)	\$ (7,418)	\$ 110,565
Net income	—	—	—	—	—	—	—	8,912	—	8,912
Foreign currency translation adjustments	—	—	—	—	—	—	—	—	(1,311)	(1,311)
Stock award exercises	—	—	105	—	—	(3,289)	2,207	(9)	—	(1,091)
Stock-based compensation income tax benefits	—	—	—	—	—	736	—	—	—	736
Stock compensation expense	—	—	—	—	—	7,440	—	—	—	7,440
Dividends declared (\$0.288 and \$0.24 per Class A and Class B share, respectively)	—	—	—	—	—	—	—	(5,235)	—	(5,235)
Proceeds from stock issuance, net of costs	450	—	—	—	—	8,365	—	—	—	8,365
Restricted stock	2	—	139	—	—	(3,378)	2,053	(45)	—	(1,370)
<b>Balance, January 31, 2016</b>	16,604	3,537	(1,366)	\$ 16	\$ 4	\$ 195,420	\$ (18,717)	\$ (40,983)	\$ (8,729)	\$ 127,011
Cumulative effect of the adoption of ASU 2016-09	—	—	—	—	—	388	—	607	—	995
Adjusted balance at February 1, 2016	16,604	3,537	(1,366)	\$ 16	\$ 4	\$ 195,808	\$ (18,717)	\$ (40,376)	\$ (8,729)	\$ 128,006
Net loss	—	—	—	—	—	—	—	(15,450)	—	(15,450)
Foreign currency translation adjustments	—	—	—	—	—	—	—	—	98	98
Stock award exercises	—	—	59	—	—	(1,406)	795	—	—	(611)
Stock-based compensation income tax benefits	—	—	—	—	—	89	—	—	—	89
Stock compensation expense	—	—	—	—	—	7,323	—	—	—	7,323
Dividends declared (\$0.288 and \$0.24 per Class A and Class B share, respectively)	—	—	—	—	—	—	—	(5,301)	—	(5,301)
Restricted stock	1	—	182	—	—	(4,220)	2,752	—	—	(1,468)
<b>Balance, January 31, 2017</b>	16,605	3,537	(1,125)	\$ 16	\$ 4	\$ 197,594	\$ (15,170)	\$ (61,127)	\$ (8,631)	\$ 112,686
Net loss	—	—	—	—	—	—	—	(9,065)	—	(9,065)
Foreign currency translation adjustments	—	—	—	—	—	—	—	—	1,803	1,803
Stock award exercises	—	—	63	—	—	(2,118)	1,129	—	—	(989)
Stock compensation expense	—	—	—	—	—	8,924	—	—	—	8,924
Dividends declared (\$0.288 and \$0.24 per Class A and Class B share, respectively)	—	—	—	—	—	—	—	(5,367)	—	(5,367)
Restricted stock	—	—	170	—	—	(3,944)	1,580	—	—	(2,364)
<b>Balance, January 31, 2018</b>	16,605	3,537	(892)	\$ 16	\$ 4	\$ 200,456	\$ (12,461)	\$ (75,559)	\$ (6,828)	\$ 105,628

See accompanying notes to consolidated financial statements.



**QAD INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(in thousands)

	Years Ended January 31,		
	2018	2017	2016
Cash flows from operating activities:			
Net (loss) income	\$ (9,065)	\$ (15,450)	\$ 8,912
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation and amortization	5,772	6,046	5,785
Provision for doubtful accounts and sales adjustments	1,021	237	774
Loss on disposal of property and equipment	85	41	29
Net change in valuation allowance	1,695	16,861	2,564
Other deferred income taxes	(2,171)	(2,035)	(3,154)
Change in fair value of a derivative instrument	(377)	(485)	48
Stock compensation expense	8,924	7,323	7,440
Changes in assets and liabilities, net of effects from acquisitions:			
Accounts receivable	(12,562)	(4,141)	10,804
Other assets	(1,204)	(90)	(2,768)
Accounts payable	2,821	646	(1,441)
Deferred revenue	7,001	7,245	(2,675)
Other liabilities	8,478	2,482	(2,261)
Net cash provided by operating activities	10,418	18,680	24,057
Cash flows from investing activities:			
Purchase of property and equipment	(3,720)	(3,267)	(3,208)
Capitalized software costs	(1,019)	(146)	(153)
Other, net	70	7	13
Net cash used in investing activities	(4,669)	(3,406)	(3,348)
Cash flows from financing activities:			
Repayments of debt	(445)	(434)	(406)
Dividends paid	(5,367)	(5,301)	(5,235)
Tax payments, net of proceeds, related to stock awards	(3,353)	(2,079)	(2,461)
Payment of contingent liability associated with acquisitions	—	—	(750)
Proceeds from issuance of common stock, net of issuance cost	—	—	8,365
Net cash used in financing activities	(9,165)	(7,814)	(487)
Effect of exchange rates on cash and equivalents	5,357	(109)	(3,017)
Net increase in cash and equivalents	1,941	7,351	17,205
Cash and equivalents at beginning of year	145,082	137,731	120,526
Cash and equivalents at end of year	\$ 147,023	\$ 145,082	\$ 137,731
Supplemental disclosure of cash flow information:			
Cash paid during the period for:			
Interest	\$ 651	\$ 655	\$ 700
Income taxes, net of refunds	3,961	3,396	3,925

See accompanying notes to consolidated financial statements.



**QAD INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. SUMMARY OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES**

**BUSINESS**

QAD is a leading provider of flexible, cloud-based and on-premise enterprise software and services for global manufacturing companies. QAD Enterprise Applications supports operational requirements in the areas of financials, customer management, supply chain, manufacturing, service and support, analytics, business process management and integration. QAD's portfolio includes related solutions for quality management software, supply chain management software, transportation management software and business-to-business interoperability. Since 1979, QAD solutions have enabled customers in the automotive, consumer products, food and beverage, high technology, industrial manufacturing and life sciences industries to better align operations with their strategic goals to become Effective Enterprises. QAD was founded in 1979, incorporated in California in 1986 and reincorporated in Delaware in 1997.

**PRINCIPLES OF CONSOLIDATION**

The consolidated financial statements include the accounts of QAD Inc. and all of its subsidiaries. All subsidiaries are wholly-owned and all significant balances and transactions among the entities have been eliminated from the consolidated financial statements.

**USE OF ESTIMATES**

The financial statements have been prepared in conformity with U.S. generally accepted accounting principles and, accordingly, include amounts based on informed estimates and judgments of management that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the Company's financial statements, and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. Changes in estimates resulting from continuing changes in the economic environment will be reflected in the financial statements in future periods.

The Company considers certain accounting policies related to revenue, accounts receivable allowances for doubtful accounts, goodwill and intangible assets, income taxes, and accounting for stock-based compensation to be critical policies due to the significance of these items to its operating results and the estimation processes and management judgment involved in each.

**FOREIGN CURRENCY TRANSLATIONS AND TRANSACTIONS**

The financial position and results of operations of the Company's foreign subsidiaries are generally determined using the country's local currency as the functional currency. Assets and liabilities recorded in foreign currencies are translated at the exchange rates on the balance sheet date. Revenue and expenses are translated at average rates of exchange prevailing during the year. Translation adjustments resulting from this process are charged or credited to other comprehensive (loss) income, which is included in "Accumulated other comprehensive loss" within the Consolidated Balance Sheets.

Gains and losses resulting from foreign currency transactions and remeasurement adjustments of monetary assets and liabilities not held in an entity's functional currency are included in earnings. Foreign currency transaction and remeasurement losses (gains) for fiscal 2018, 2017 and 2016 totaled \$2.5 million, \$0.2 million and \$(0.5) million, respectively, and are included in "Other (income) expense, net" in the accompanying Consolidated Statements of Operations and Comprehensive (Loss) Income.

**CASH AND EQUIVALENTS**

Cash and equivalents consist of cash and short-term marketable securities with maturities of less than 90 days at the date of purchase. The Company considers all highly liquid investments purchased with an original maturity of 90 days or less to be cash equivalents. At January 31, 2018 and 2017, the Company's cash and equivalents consisted of money market mutual funds invested in U.S. Treasury and government securities, deposit accounts and certificates of deposit.

## ACCOUNTS RECEIVABLE, NET

Accounts receivable, net, consisted of the following as of January 31:

	2018	2017
	(in thousands)	
Accounts receivable	\$ 85,281	\$ 71,647
Less allowance for:		
Doubtful accounts	(396)	(1,090)
Sales adjustments	(1,367)	(1,116)
Accounts receivable, net	<u>\$ 83,518</u>	<u>\$ 69,441</u>

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The collectability of accounts receivable is reviewed each period by analyzing balances based on age. Specific allowances are recorded for any balances that the Company determines may not be fully collectible due to a customer's inability to pay. The Company also provides a general reserve based on historical data including analysis of write-offs and other known factors. Provisions to the allowance for bad debts are included as bad debt expense in "General and Administrative" expense. The determination to write-off specific accounts receivable balances is based on the likelihood of collection and past due status. Past due status is based on invoice date and terms specific to each customer. The January 31, 2017 allowance for doubtful accounts included \$0.7 million related to a fully reserved customer account. During fiscal 2018 the collections legal process was exhausted and the \$0.7 million allowance for doubtful accounts was removed from the balance sheet, with a corresponding decrease in accounts receivable.

The Company does not generally provide a contractual right of return; however, in the course of business sales adjustments related to customer dispute resolution may occur. A provision is recorded against revenue for estimated sales adjustments in the same period the related revenues are recorded or when current information indicates additional amounts are required. These estimates are based on historical experience, specifically identified customers and other known factors.

## FINANCIAL INSTRUMENTS AND CONCENTRATION OF CREDIT RISK

The carrying amounts of cash and equivalents, accounts receivable and accounts payable approximate fair value due to the short-term maturities of these instruments. The Company's line of credit and note payable both bear a variable market interest rate, subject to certain minimum interest rates. Therefore, the carrying amounts outstanding under the line of credit and note payable reasonably approximate fair value.

Concentration of credit risk with respect to trade receivables is limited due to the large number of customers comprising our customer base, and their dispersion across many different industries and locations throughout the world. No single customer accounted for 10% or more of the Company's total revenue in any of the last three fiscal years. In addition, no single customer accounted for 10% or more of accounts receivable at January 31, 2018 or 2017.

## PROPERTY AND EQUIPMENT

Property and equipment are stated at cost. Additions and significant improvements to property and equipment are capitalized, while maintenance and repairs are expensed as incurred. For financial reporting purposes, depreciation is generally expensed via the straight-line method over the useful life of three years for computer equipment and software, five years for furniture and office equipment, 10 years for building improvements, and 39 years for buildings. Leasehold improvements are depreciated over the shorter of the lease term or the useful life of five years.

Certain costs associated with software developed for internal use, including payroll costs for employees, are capitalized once the project has reached the application development stage and are included in property and equipment classified as software. These costs are amortized using the straight-line method over the expected useful life of the software, beginning when the asset is substantially ready for use. Costs incurred during the preliminary project stage, maintenance, training and research and development costs are expensed as incurred.

Property and equipment, net consisted of the following as of January 31:

	2018	2017
	(in thousands)	
Buildings and building improvements	\$ 32,444	\$ 31,979
Computer equipment and software	17,312	16,027
Furniture and office equipment	7,632	6,748
Leasehold improvements	6,677	5,984
Land	3,850	3,850
Automobiles	54	54
	67,969	64,642
Less accumulated depreciation and amortization	(37,561)	(33,770)
	<u>\$ 30,408</u>	<u>\$ 30,872</u>

The changes in property and equipment, net, for the fiscal years ended January 31 were as follows:

	<u>2018</u>	<u>2017</u>
	<u>(in thousands)</u>	
<b>Cost</b>		
Balance at February 1	\$ 64,642	\$ 64,925
Additions	3,720	3,267
Disposals	(1,874)	(3,258)
Impact of foreign currency translation	1,481	(292)
Balance at January 31	<u>67,969</u>	<u>64,642</u>
<b>Accumulated depreciation</b>		
Balance at February 1	(33,770)	(32,845)
Depreciation	(4,562)	(4,326)
Disposals	1,719	3,211
Impact of foreign currency translation	(948)	190
Balance at January 31	<u>(37,561)</u>	<u>(33,770)</u>
Property and equipment, net at January 31	<u>\$ 30,408</u>	<u>\$ 30,872</u>

Depreciation and amortization expense of property and equipment for fiscal 2018, 2017 and 2016 was \$4.6 million, \$4.3 million, and \$4.0 million, respectively. There was no impairment of property and equipment assets during fiscal 2018, 2017 and 2016.

#### CAPITALIZED SOFTWARE COSTS

The Company capitalizes software development costs incurred in connection with the localization and translation of its products once technological feasibility has been achieved based on a working model. A working model is defined as an operative version of the computer software product that is completed in the same software language as the product to be ultimately marketed, performs all the major functions planned for the product and is ready for initial customer testing (usually identified as beta testing). In addition, the Company capitalizes software purchased from third parties or through business combinations as acquired software technology, if the related software under development has reached technological feasibility.

The amortization of capitalized software costs is the greater of the straight-line basis over three years, the expected useful life, or a computation using a ratio of current revenue for a product compared to the estimated total of current and future revenues for that product. The Company periodically compares the unamortized capitalized software costs to the estimated net realizable value of the associated product. The amount by which the unamortized capitalized software costs of a particular software product exceeds the estimated net realizable value of that asset would be reported as a charge to the Consolidated Statements of Operations and Comprehensive (Loss) Income.

Capitalized software costs and accumulated amortization at January 31 were as follows:

	<u>2018</u>	<u>2017</u>
	<u>(in thousands)</u>	
<b>Capitalized software costs:</b>		
Acquired software technology	\$ —	\$ 3,458
Capitalized software development costs	1,516	748
	1,516	4,206
Less accumulated amortization	(526)	(3,474)
Capitalized software costs, net	<u>\$ 990</u>	<u>\$ 732</u>

Acquired software technology costs relate to technology purchased from the Company's fiscal 2013 acquisitions of DynaSys and CEBOS. In addition to the acquired software technology, the Company has capitalized costs related to translations and localizations of QAD Enterprise Applications.

It is the Company's policy to write off capitalized software development costs once fully amortized. Accordingly, during fiscal 2018, \$3.7 million of costs and accumulated amortization was removed from the balance sheet and was primarily related to the acquired software technology which was fully amortized during fiscal 2018.

Amortization of capitalized software costs for fiscal 2018, 2017 and 2016 was \$0.8 million, \$1.0 million and \$1.1 million, respectively. Amortization of capitalized software costs is included in "Cost of license fees" in the accompanying Consolidated Statements of Operations and Comprehensive (Loss) Income.

Estimated amortization expense relating to the Company's capitalized software costs as of January 31, 2018 is \$445,000, \$365,000 and \$180,000 in fiscal 2019, 2020 and 2021, respectively.

## GOODWILL AND INTANGIBLE ASSETS

Goodwill represents the excess of the purchase price over the fair value of net assets of purchased businesses. Goodwill is not amortized, but instead is subject to impairment tests on at least an annual basis and whenever circumstances suggest that goodwill may be impaired. The Company tests goodwill for impairment in the fourth quarter of each fiscal year. The Company performs a two-step impairment test. Under the first step of the goodwill impairment test, the Company is required to compare the fair value of a reporting unit with its carrying amount, including goodwill. If the fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is not considered impaired and the second step is not performed. If the results of the first step of the impairment test indicate that the fair value of a reporting unit does not exceed its carrying amount, then the second step of the goodwill impairment test is required. The second step of the goodwill impairment test compares the implied fair value of the reporting unit goodwill with the carrying amount of that goodwill. The impairment loss is measured by the excess of the carrying amount of the reporting unit goodwill over the implied fair value of that goodwill.

Management evaluates the Company as a single reporting unit for business and operating purposes as almost all of the Company's revenue streams are generated by the same underlying technology whether acquired, purchased or developed. In addition, the majority of the Company's costs are, by their nature, shared costs that are not specifically identifiable to a geography or product line but relate to almost all products. As a result, there is a high degree of interdependency among the Company's revenues and cash flows for levels below the consolidated entity and identifiable cash flows for a component separate from the consolidated entity are not meaningful. Therefore, the Company's impairment test considers the consolidated entity as a single reporting unit.

Judgments about the recoverability of purchased finite lived intangible assets are made whenever events or changes in circumstances indicate that an impairment may exist. Each fiscal year the Company evaluates the estimated remaining useful lives of purchased intangible assets and whether events or changes in circumstances warrant a revision to the remaining periods of amortization. Recoverability of finite-lived intangible assets is measured by comparison of the carrying amount of the asset to the future undiscounted cash flows the asset is expected to generate.

Assumptions and estimates about future values and remaining useful lives of intangible assets are complex and subjective. They can be affected by a variety of factors, including external factors such as industry and economic trends and internal factors such as changes in the Company's business strategy or internal forecasts.

The changes in the carrying amount of goodwill for the fiscal years ended January 31, 2018, and 2017 were as follows:

	<b>Gross Carrying Amount</b>	<b>Accumulated Impairment (in thousands)</b>	<b>Goodwill, Net</b>
Balance at January 31, 2016	\$ 26,253	\$ (15,608)	\$ 10,645
Impact of foreign currency translation	(87)	—	(87)
Balance at January 31, 2017	26,166	(15,608)	10,558
Impact of foreign currency translation	465	—	465
Balance at January 31, 2018	<u>\$ 26,631</u>	<u>\$ (15,608)</u>	<u>\$ 11,023</u>

During each of the fourth quarters of fiscal 2018, 2017 and 2016, an impairment analysis was performed at the enterprise level which compared the Company's market capitalization to its net assets as of the test date, November 30. As the market capitalization substantially exceeded the Company's net assets, there was no indication of goodwill impairment for fiscal 2018, 2017 and 2016.

Intangible assets were as follows:

	<b>January 31, 2017 (in thousands)</b>
Amortizable intangible assets	
Customer relationships	\$ 2,721
Trade name	515
	3,236
Less: accumulated amortization	(2,821)
Net amortizable intangible assets	<u>\$ 415</u>

The Company's intangible assets as of January 31, 2017 are related to the DynaSys and CEBOS acquisitions completed in fiscal 2013. Intangible assets are included in "Other assets, net" in the accompanying Consolidated Balance Sheets. As of January 31, 2018, the Company's intangible assets were fully amortized.

Amortization of intangible assets was \$0.4 million for the fiscal year 2018 and \$0.7 million for each of the fiscal years 2017 and 2016.

## INCOME TAXES

Income tax expense includes U.S. (federal and state) and foreign income taxes. Tax legislation commonly known as the Tax Cuts and Jobs Act of 2017 (the "Tax Act") includes a mandatory one-time tax on accumulated earnings of foreign subsidiaries, and as a result, all previously unremitted earnings for which no U.S. deferred tax liability had been accrued have now been subject to U.S. federal income tax. Notwithstanding the U.S. taxation of these amounts, the Company intends to continue to invest most or all of these earnings, as well as its capital in these subsidiaries, indefinitely outside of the U.S. and does not expect to incur any significant, additional taxes related to such amounts.

Deferred tax assets and liabilities reflect the effects of temporary differences between the carrying amounts of assets and liabilities and their tax bases and are stated at enacted tax rates expected to be in effect when taxes are actually paid or recovered. Deferred tax assets are evaluated for future realization and reduced by a valuation allowance to the extent the Company believes they will not be realized. The Company considers many factors when assessing the likelihood of future realization of its deferred tax assets, including recent cumulative loss experience and expectations of future earnings, and investment in such jurisdiction, the carry-forward periods available to the Company for tax reporting purposes, and other relevant factors.

The Company utilizes a two-step approach to recognizing and measuring uncertain income tax positions (tax contingencies). The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount which is more than 50% likely of being realized upon ultimate settlement. The Company considers many factors when evaluating its tax positions and estimating its tax benefits, which may require periodic adjustments and which may not accurately forecast actual outcomes. The Company includes interest and penalties related to its tax contingencies in income tax expense.

## STOCK-BASED COMPENSATION

The Company accounts for share-based payments ("equity awards") to employees in accordance with ASC 718, *Compensation—Stock Compensation* ("ASC 718"), which requires that share-based payments (to the extent they are compensatory) be recognized in the Consolidated Statements of Income and Comprehensive Income based on the fair values of the equity awards as measured at the grant date. The fair value of an equity award is recognized as stock-based compensation expense ratably over the vesting period of the equity award. Determining the fair value of equity awards at the grant date requires judgment.

### Fair Value of RSUs

The fair value of restricted stock units ("RSUs") is determined on the grant date of the award as the market price of the Company's common stock on the date of grant, reduced by the present value of estimated dividends foregone during the vesting period. Judgment is required in determining the present value of estimated dividends foregone during the vesting period. The Company estimates the dividends for purposes of this calculation based on the Company's historical dividend payments per share, which has remained consistent over the last three years.

### Fair Value of SARs

The fair value of stock-settled stock appreciation rights ("SARs") is determined on the grant date of the award using the Black-Scholes-Merton valuation model. One of the inputs to the Black-Scholes-Merton valuation model is the fair market value of the Company's stock on the date of grant. Judgment is required in determining the remaining inputs to the Black-Scholes-Merton valuation model. These inputs include the expected life, volatility, the risk-free interest rate and the dividend rate. The following describes the Company's policies with respect to determining these valuation inputs:

*Expected Life* - The expected life valuation input includes a computation that is based on historical vested SAR exercises and post-vest expiration patterns and an estimate of the expected life for SARs that were fully vested and outstanding. Furthermore, based on the Company's historical pattern of SAR exercises and post-vest expiration patterns the Company determined that there are two discernible populations which include the Company's directors and officers ("D&O") and all other QAD employees. The estimate of the expected life for SARs that were fully vested and outstanding is determined as the midpoint of a range as follows: the low end of the range assumes the fully vested and outstanding SARs are exercised or expire unexercised on the evaluation date and the high end of the range assumes that these SARs are exercised or expire unexercised upon contractual term.

*Volatility* - The volatility valuation input is based on the historical volatility of the Company's common stock, which the Company believes is representative of the expected volatility over the expected life of SARs.

*Risk-Free Interest Rate* - The risk-free interest rate is based on the U.S. Treasury constant maturities in effect at the time of grant for the expected term of the SAR.

*Dividend Rate* - The dividend rate is based on the Company's historical dividend payments per share.

The Company records deferred tax assets for equity awards that result in deductions on its income tax returns, based on the amount of stock-based compensation recognized and the fair values attributable to the vested portion of those equity awards. Because the deferred tax assets the Company records are based upon the stock-based compensation expenses in a particular jurisdiction, the aforementioned inputs that affect the fair values of equity awards may also indirectly affect the income tax expense. If the tax deduction is less than the deferred tax asset, the calculated shortfall would increase income tax expense. If the tax deduction is more than the deferred tax asset, the calculated windfall would decrease income tax expense.

## **COMPREHENSIVE (LOSS) INCOME**

Comprehensive (loss) income includes changes in the balances of items that are reported directly as a separate component of Stockholders' Equity on the Consolidated Balance Sheets. The components of comprehensive (loss) income are net (loss) income and foreign currency translation adjustments. The Company does not provide for income taxes on foreign currency translation adjustments since it does not provide for taxes on the unremitted earnings of its foreign subsidiaries. The changes in "Accumulated other comprehensive loss" are included in the Company's Consolidated Statements of Operations and Comprehensive (Loss) Income.

## **REVENUE**

The Company offers its software using two models, a traditional on-premise licensing model and a cloud delivery model. The traditional model involves the sale or license of software on a perpetual basis to customers who take possession of the software and install and maintain the software on their own hardware. Under the cloud delivery model the Company provides access to the software on a hosted basis as a service and customers generally do not have the contractual right to take possession of the software.

Revenue is recognized when 1) persuasive evidence of an arrangement exists 2) delivery has occurred or services has been rendered 3) fees are fixed or determinable and 4) collectability is probable. If we determine that any of the four criteria is not met, we will defer recognition of revenue until all the criteria are met.

Revenue is presented net of sales, use and value-added taxes collected from customers.

### *Software Revenue Recognition (On-Premise Model)*

The majority of the Company's software is sold or licensed in multiple-element arrangements that include support services and often consulting services or other elements. Delivery of software is considered to have occurred upon electronic transfer of the license key that provides immediate availability of the product to the purchaser. Determining whether and when some of the above noted revenue recognition criteria have been satisfied often involves assumptions and judgments that can have a significant impact on the timing and amount of revenue reported. Typical payment terms vary by region. Occasionally, payment terms of up to one year may be granted for software license fees to customers with an established history of collections without concessions.

Provided all other revenue recognition criteria have been met, the Company recognizes license revenue on delivery using the residual method when VSOE exists for all of the undelivered elements (for example, support services, consulting, or other services) in the arrangement. Revenue is allocated to each undelivered element based on VSOE, which is the price charged when that element is sold separately or, for elements not yet sold separately, the price established by management if it is probable that the price will not change before the element is sold separately. The Company allocates revenue to undelivered support services (maintenance) based on rates charged to renew the support services annually after an initial period. Revenue is allocated to undelivered consulting services based on time and materials rates of stand-alone services engagements by role and by country. The Company reviews VSOE at least annually. If the Company is unable to establish or maintain VSOE for one or more undelivered elements within a multiple-element software arrangement, it could adversely impact revenues, results of operations and financial position because the Company may have to defer all or a portion of the revenue or recognize revenue ratably.

Multiple-element software arrangements for which VSOE does not exist for all undelivered elements typically occur when the Company introduces a new product or product bundles for which the Company has not established VSOE for support services or fixed fee consulting or other services. In these instances, revenue is deferred and recognized ratably over the longer of the support services (maintenance period) or consulting services engagement, assuming there are no specified future deliverables. In the instances in which it has been determined that revenue on these bundled arrangements will be recognized ratably due to lack of VSOE, at the time of recognition, the Company allocates revenue from these bundled arrangement fees to all of the non-license revenue categories based on VSOE of similar support services or consulting services. The remaining arrangement fees, if any, are then allocated to software license fee revenues. The associated costs primarily consist of payroll and related costs to perform both the consulting services and provide support services and royalty expense related to the license and maintenance revenue. These costs are expensed as incurred and included in cost of maintenance, subscription and other revenue, cost of professional services and cost of license fees.

Revenue from support services and product updates, referred to as maintenance revenue, is recognized ratably over the term of the maintenance period, which in most instances is one year. Software license updates provide customers with rights to unspecified software product updates, maintenance releases and patches released during the term of the support period on a when-and-if available basis. Product support includes Internet access to technical content, as well as Internet and telephone access to technical support personnel. Customers generally purchase both product support and license updates when they acquire new software licenses. In addition, a majority of customers renew their support services contracts annually.

The Company occasionally resells third party systems as part of an end-to-end solution requested by customers. Hardware revenue is recognized on a gross basis in accordance with the guidance contained in ASC 605-45, *Revenue Recognition – Principal Agent Considerations*. Delivery is considered to occur when the product is shipped and title and risk of loss have passed to the customer.

The Company executes arrangements through indirect sales channels via sales agents and distributors in which the indirect sales channels are authorized to market the Company's software products to end users. In arrangements with sales agents, revenue is recognized on a sell-through basis once an order is received from the end user, collectability from the end user is probable, a signed license agreement from the end user has been received, delivery has been made to the end user and all other revenue recognition criteria have been satisfied. Sales agents are compensated on a commission basis. Distributor arrangements are those in which the resellers are authorized to market and distribute our software products to end users in specified territories and the distributor bears the risk of collection from the end user customer. The Company recognizes revenue from transactions with distributors when the distributor submits a written purchase commitment, collectability from the distributor is probable, a signed license agreement is received from the distributor and delivery has occurred to the distributor, provided that all other revenue recognition criteria have been satisfied. Revenue from distributor transactions is recorded on a net basis (the amount actually received by the Company from the distributor). The Company does not offer rights of return, product rotation or price protection to any distributors.

#### *Subscription Revenue Recognition*

The Company recognizes the following fees in subscription revenue: i) subscription fees from customers accessing the Company's cloud and other subscription offerings, ii) transition fees for services such as set up, configuration, database conversion and migration, and iii) support fees on hosted products. Subscription arrangements do not generally provide customers with the right to take possession of the subscribed software.

Subscription revenue is recognized ratably over the initial subscription period committed to by the customer commencing when the customer has been given access to the cloud environment. Transition fees are recognized over the estimated life of the customer relationship once the customer has gone live. The initial subscription period is typically 12 to 60 months. Subscription services are non-cancelable, though customers typically have the right to terminate their contracts if we materially fail to perform. The Company generally invoices customers in advance in quarterly or annual installments and typical payment terms provide that customers pay the Company within 30 days of invoice.

The Company may enter into multiple-element arrangements that may include a combination of subscription offering and other professional services or arrangements that may include both software and non-software elements. The Company allocates revenue to each element in an arrangement based on a selling price hierarchy in accordance with ASC 605-25, *Revenue Recognition - Multiple Deliverable Revenue Arrangements*. In order to treat deliverables in a multiple-deliverable arrangement as separate units of accounting, the deliverables must have standalone value upon delivery. The Company evaluates each element in a multiple-element arrangement to determine whether it represents a separate unit of accounting. An element constitutes a separate unit of accounting when the item has standalone value and delivery of any undelivered elements is probable and within the Company's control. Subscription and support services have standalone value because they are routinely sold separately. Consulting services and other services have standalone value because the Company has sold consulting services separately and there are several third party vendors that routinely provide similar consulting services to the Company's customers on a standalone basis. Relative selling price for a deliverable is based on its VSOE, if available, or Estimated Selling Price ("ESP"), if VSOE is not available. The Company has determined that third-party evidence ("TPE") is not a practical alternative due to differences in the Company's service offerings compared to other parties and the availability of relevant third-party pricing information. The determination for ESP is made through consultation with and approval by management taking into consideration the go-to-market strategy. As the Company's go-to-market strategies evolve, there may be modifications of pricing practices in the future, which could result in changes in both VSOE and ESP.

For multiple-element arrangements that may include a combination of our subscription offerings and other professional services, the total arrangement fee is allocated to each element based on the VSOE / ESP value of each element. After allocation, the revenue associated with the subscription offering and other professional services are recognized as described above.

#### *Professional Services*

Revenue from consulting services, which the Company calls professional services in the Consolidated Statements of Income and Comprehensive Income, are typically comprised of implementation, development, training or other consulting services sold along with on-premise and cloud Consulting services are generally sold on a time-and-materials basis and can include services ranging from software installation to data conversion and building non-complex interfaces to allow the software to operate in integrated environments. The Company recognizes revenue for time-and-materials as the services are performed or upon written acceptance from customers, if applicable, assuming all other conditions for revenue recognition have been met. Consulting engagements can range anywhere from one day to many months and are based strictly on the customer's requirements and complexities and are independent of the functionality of our software. The Company's software, as delivered, can generally be used by the customer for the customer's purpose upon installation. Further, implementation and integration services provided are generally not essential to the functionality of the software, as delivered, and do not result in any material changes to the underlying software code. On occasion, the Company enters into fixed fee arrangements in which customer payments are tied to achievement of specific milestones. In fixed fee arrangements, revenue is recognized as services are performed as measured by costs incurred to date, as compared to total estimated costs to be incurred to complete the work. In milestone achievement arrangements, revenue is recognized as the respective milestones are achieved.

#### **ADVERTISING EXPENSES**

Advertising costs are expensed as incurred. Advertising expenses were \$0.7 million, \$1.1 million and \$0.9 million for fiscal years 2018, 2017 and 2016.

#### **RESEARCH AND DEVELOPMENT**

All costs incurred to establish the technological feasibility of the Company's software products are expensed to research and development ("R&D") as incurred. R&D expenses totaled \$47.7 million, \$43.6 million and \$41.2 million in fiscal years 2018, 2017 and 2016, respectively.

#### **OTHER (INCOME) EXPENSE, NET**

The components of other (income) expense, net for fiscal 2018, 2017 and 2016 were as follows:

	<b>Years Ended January 31,</b>		
	<b>2018</b>	<b>2017</b>	<b>2016</b>
	<b>(in thousands)</b>		
Interest income	\$ (1,547)	\$ (696)	\$ (320)
Interest expense	669	670	712
Foreign exchange losses (gains)	2,466	180	(503)
Change in fair value of interest rate swap	(377)	(485)	48
Other income, net	(77)	(131)	(302)
Total other expense (income), net	<u>\$ 1,134</u>	<u>\$ (462)</u>	<u>\$ (365)</u>



## COMPUTATION OF NET (LOSS) INCOME PER SHARE

Net (loss) income per share of Class A common stock and Class B common stock is computed using the two-class method. Holders of Class A common stock are entitled to cash or stock dividends equal to 120% of the amount of such dividend payable with respect to a share of Class B Common Stock.

The following table sets forth the computation of basic and diluted net (loss) income per share:

	Years Ended January 31,		
	2018	2017	2016
	(in thousands, except per share data)		
Net (loss) income	\$ (9,065)	\$ (15,450)	\$ 8,912
Less: dividends declared	(5,367)	(5,301)	(5,235)
Undistributed net (loss) income	<u>\$ (14,432)</u>	<u>\$ (20,751)</u>	<u>\$ 3,677</u>
<b>Net (loss) income per share – Class A Common Stock</b>			
Dividends declared	\$ 4,596	\$ 4,531	\$ 4,466
Allocation of undistributed net (loss) income	(12,358)	(17,742)	3,140
Net (loss) income attributable to Class A common stock	<u>\$ (7,762)</u>	<u>\$ (13,211)</u>	<u>\$ 7,606</u>
Weighted average shares of Class A common stock outstanding— <i>basic</i>	15,942	15,715	15,466
Weighted average potential shares of Class A common stock	—	—	758
Weighted average shares of Class A common stock and potential common shares outstanding— <i>diluted</i>	<u>15,942</u>	<u>15,715</u>	<u>16,224</u>
Basic net (loss) income per Class A common share	<u>\$ (0.49)</u>	<u>\$ (0.84)</u>	<u>\$ 0.49</u>
Diluted net (loss) income per Class A common share	<u>\$ (0.49)</u>	<u>\$ (0.84)</u>	<u>\$ 0.47</u>
<b>Net (loss) income per share – Class B Common Stock</b>			
Dividends declared	\$ 771	\$ 770	\$ 769
Allocation of undistributed net (loss) income	(2,074)	(3,009)	537
Net (loss) income attributable to Class B common stock	<u>\$ (1,303)</u>	<u>\$ (2,239)</u>	<u>\$ 1,306</u>
Weighted average shares of Class B common stock outstanding— <i>basic</i>	3,213	3,206	3,201
Weighted average potential shares of Class B common stock	—	—	82
Weighted average shares of Class B common stock and potential common shares outstanding— <i>diluted</i>	<u>3,213</u>	<u>3,206</u>	<u>3,283</u>
Basic net (loss) income per Class B common share	<u>\$ (0.41)</u>	<u>\$ (0.70)</u>	<u>\$ 0.41</u>
Diluted net (loss) income per Class B common share	<u>\$ (0.41)</u>	<u>\$ (0.70)</u>	<u>\$ 0.40</u>

Potential common shares consist of the shares issuable upon the release of restricted stock units (“RSUs”) and the exercise of stock options and stock appreciation rights (“SARs”). The Company’s unvested RSUs, unexercised stock options and unexercised SARs are not considered participating securities as they do not have rights to dividends or dividend equivalents prior to release or exercise.

The following table sets forth the number of potential common shares not included in the calculation of diluted earnings per share because their effects were anti-dilutive:

	Years Ended January 31,		
	2018	2017	2016
	(in thousands)		
Class A	3,236	2,985	528
Class B	380	378	99

## RECENT ACCOUNTING PRONOUNCEMENTS

With the exception of those discussed below, there have been no recent changes in accounting pronouncements issued by the Financial Accounting Standards Board (“FASB”) or adopted by the Company during the fiscal year ended January 31, 2018, that are of significance, or potential significance, to the Company.

## *Accounting Standards Adopted*

In March 2016, the FASB issued ASU 2016-09 regarding ASC Topic 718, *Improvements to Employee Share-Based Payment Accounting*. The new guidance requires excess tax benefits and tax deficiencies to be recorded in the income statement when the awards vest or are settled. In addition, cash flows related to excess tax benefits will no longer be separately classified as a financing activity apart from other income tax cash flows. The standard also increases the amount of shares an employer can withhold for tax purposes without triggering liability accounting, clarifies that all cash payments made on an employee's behalf for withheld shares should be presented as a financing activity in the statements of cash flows, and provides an entity-wide accounting policy election to account for forfeitures as they occur.

The Company elected to early adopt the new guidance in the third quarter of fiscal year 2017 which required the Company to reflect any adjustments as of February 1, 2016, the beginning of the annual period that includes the interim period of adoption. The primary impact of adoption was the recognition of excess tax benefits in the Company's provision for income taxes rather than paid-in capital for all periods in fiscal year 2017. Additional amendments to the accounting for income taxes resulted in the recognition of prior year unrealized excess tax benefits. This recognition resulted in an increase to the Company's deferred tax assets of \$2.2 million, an increase to valuation allowance \$1.2 million and an offset to opening accumulated deficit of \$1.0 million.

The Company elected to account for forfeitures as they occur using a modified retrospective transition method, which resulted in a cumulative-effect adjustment of \$0.4 million to increase the February 1, 2016 opening accumulated deficit. Additional amendments to the accounting for minimum statutory withholding tax requirements had no impact to opening accumulated deficit as of February 1, 2016 as the Company does not withhold more than the minimum statutory requirements.

The Company elected to apply the presentation requirements for cash flows related to excess tax benefits retrospectively to all periods presented which resulted in an increase to net cash provided by operating activities and a decrease to net cash used in financing of \$0.8 million for fiscal 2016. The presentation requirements for cash flows related to employee taxes paid for withheld shares had no impact to any of the periods presented in the Company's consolidated cash flows statements since such cash flows have historically been presented as a financing activity.

In April 2015, the FASB issued ASU 2015-03 - *Interest - Imputation of Interest (Subtopic 2015-03): Simplifying the Presentation of Debt Issuance Costs*, which requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of the related debt liability instead of being presented as an asset, consistent with debt discounts. The recognition and measurement guidance for debt issuance costs are not affected by ASU 2015-03. This ASU is effective for fiscal years beginning after December 15, 2015, and interim periods within those fiscal years and is to be implemented retrospectively. The Company adopted the provisions of this ASU in the first quarter of fiscal 2017. Adoption of this ASU did not have a material impact on the Company's consolidated financial statements.

In August 2015, the FASB issued ASU 2015-15, *Interest-Imputation of Interest (Subtopic 835-30): Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line of Credit Arrangements*, given that the authoritative guidance within ASU 2015-03 for debt issuance costs does not address presentation or subsequent measurement of debt issuance costs related to line-of-credit arrangements. The SEC staff would not object to an entity deferring and presenting debt issuance costs as an asset and subsequently amortizing the deferred debt issuance costs ratably over the term of the line-of-credit arrangement, regardless of whether there are any outstanding borrowings on the line-of-credit arrangement. The Company adopted the provisions of this ASU in the first quarter of fiscal 2017. Adoption of this ASU did not have an impact on the Company's consolidated financial statements.

In November 2015, the FASB issued ASU 2015-17, *Balance Sheet Classification of Deferred Taxes*, which requires deferred tax liabilities and assets be presented as noncurrent on the statement of financial position. ASU 2015-17 will be effective for the Company's fiscal year beginning February 1, 2017. The standard permits the use of either prospective or retrospective application to all periods presented. The Company adopted the provisions of this standard in the fourth quarter of fiscal 2017 with prospective application. Adoption of this ASU did not have a material impact on the Company's consolidated financial statements.

## *Accounting Standards Not Yet Adopted*

In January 2017, the FASB issued ASU 2017-01, *Business Combinations: Clarifying the Definition of a Business*, which provides a more robust framework to use in determining when a set of assets and activities is a business. The amendments will be effective for the Company's fiscal year beginning February 1, 2018. Early adoption is permitted. The new guidance is required to be applied on a prospective basis. The effect of adoption of ASU 2017-01 will depend upon the nature of the Company's future acquisitions, if any.

In January 2017, the FASB issued ASU 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*, which simplifies the subsequent measurement of goodwill to eliminate Step 2 from the goodwill impairment test. In addition, it eliminates the requirements for any reporting unit with a zero or negative carrying amount to perform a qualitative assessment and, if that fails that qualitative test, to perform Step 2 of the goodwill impairment test. Therefore, the same impairment assessment applies to all reporting units. The amendments will be effective for the Company's fiscal year beginning February 1, 2020. Early adoption is permitted. The new guidance is required to be applied on a prospective basis. The Company does not believe adoption of ASU 2017-04 will have a material impact on its consolidated financial statements.

In October 2016, the FASB issued ASU 2016-16, *Income Taxes: Intra-Entity Transfers of Assets Other than Inventory* which requires that entities recognize the income tax consequences of an intra-entity transfer of an asset, other than inventory, when the transfer occurs. ASU 2016-16 will be effective for the Company's fiscal year beginning February 1, 2018. The standard is required to be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The Company is currently evaluating the accounting, transition, and disclosure requirements of the standard.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. ASU 2016-02 requires companies to generally recognize on the balance sheet operating and financing lease liabilities and corresponding right-of-use assets. ASU 2016-02 is effective for the Company in its first quarter of fiscal 2020 on a modified retrospective basis and earlier adoption is permitted. The Company is currently evaluating the impact of the pending adoption of ASU 2016-02 on its consolidated financial statements and currently expects that most of its operating lease commitments will be subject to the new standard and recognized as operating lease liabilities and right-of-use assets upon adoption of ASU 2016-02.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* ("ASC Topic 606"), which replaces the existing revenue recognition guidance. The new guidance creates a single, principle-based model for revenue recognition that expands and improves disclosures about revenue. The standard also provides guidance on the recognition of costs related to obtaining customer contracts. The Company does not expect the adoption of ASC Topic 606 to have any impact on its total cash flows from operating, investing or financing activities.

The Company is continuing to assess the impact of adopting ASC Topic 606 on its financial position, results of operations and related disclosures. The Company believes the most significant impacts are as follows:

- Removal of vendor specific objective evidence under current software revenue recognition will result in earlier recognition of license revenues in those instances where the Company sold a multi-element deal where services and/or maintenance did not have vendor specific objective evidence;
- Removal of the current limitation on contingent revenue will result in revenue being recognized earlier for certain contracts;
- Commission expense related to new cloud and first year maintenance contracts will no longer be expensed as incurred; rather these incremental commission costs and other associated fringe benefits will be capitalized and amortized over the associated term of economic benefit which the Company has determined to be five years;
- Sales agent fees to obtain new cloud and first year maintenance contracts will no longer be expensed as incurred; rather these costs will be capitalized and amortized over the associated term of economic benefit which the Company has determined to be five years; and
- Cloud environment set up costs will no longer be expensed as incurred; rather these costs will be capitalized and amortized over the associated term of economic benefit which the Company has determined to be five years.

The Company has identified changes to its accounting policies and practices and controls to support the new revenue recognition standard. Implementation of the policy and control changes are in progress along with the Company's continued assessment of potential changes to its disclosures under the new guidance. The Company is currently assessing the tax impact from adoption.

The two permitted transition methods under the new standard are the full retrospective method, under which ASC Topic 606 would be applied to each prior reporting period presented and the cumulative effect of applying the standard would be recognized at the earliest period shown; or the modified retrospective method, under which the cumulative effect of applying ASC Topic 606 would be recognized at the date of initial application. ASC Topic 606 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. The Company adopted ASC Topic 606 starting on February 1, 2018 and elected the modified retrospective transition approach.

The adoption of ASC Topic 606 will impact the opening consolidated balance sheet on February 1, 2018, for contingent revenue and license revenue, by decreasing accumulated deficit with a corresponding increase to contract assets and a decrease in deferred revenue. In addition, the impact to commissions, sales agent fees and set up costs will result in a decrease to accumulated deficit, offset by an increase in current and other assets. The Company is currently finalizing these opening balance sheet adjustments including completing the transition internal controls review. The Company expects the largest opening balance sheet adjustment will be the capitalization of commission expense.

## 2. FAIR VALUE MEASUREMENTS

When determining fair value, the Company uses a three-tier value hierarchy which prioritizes the inputs used in measuring fair value. Whenever possible, the Company uses observable market data. The Company relies on unobservable inputs only when observable market data is not available. Classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement. The assessment of the significance of a particular item to the fair value measurement in its entirety requires judgment, including the consideration of inputs specific to the asset or liability.

- Level 1 - Money market mutual funds are recorded at fair value based upon quoted market prices.
- Level 2 - The asset or liability related to the interest rate swap is recorded at fair value based upon a valuation model that uses relevant observable market inputs at quoted intervals, such as forward yield curves.

The following table sets forth the financial assets and liabilities, measured at fair value, as of January 31, 2018 and January 31, 2017:

	Fair value measurement at reporting date using		
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(in thousands)		
Money market mutual funds as of January 31, 2018	\$ 115,416		
Money market mutual funds as of January 31, 2017	\$ 116,043		
Asset related to the interest rate swap as of January 31, 2018		\$ 187	
Liability related to the interest rate swap as of January 31, 2017		\$ (190)	

Money market mutual funds are classified as part of “Cash and equivalents” in the accompanying Consolidated Balance Sheets. The amount of cash and equivalents deposited with commercial banks was \$32 million and \$29 million as of January 31, 2018 and January 31, 2017, respectively.

The Company’s note payable bears a variable market interest rate commensurate with the Company’s credit standing. Therefore, the carrying amount outstanding under the note payable reasonably approximates fair value based on Level 2 inputs.

There have been no transfers between fair value measurements levels during the 12 months ended January 31, 2018.

### Derivative Instruments

The Company entered into an interest rate swap in May 2012 to mitigate the exposure to the variability of one month LIBOR for its floating rate debt described in Note 8 “Debt” within these Notes to Consolidated Financial Statements. The fair value of the interest rate swap is reflected as an asset or liability in the Consolidated Balance Sheets and the change in fair value is reported in “Other (income) expense, net” in the Consolidated Statements of Operations and Comprehensive (Loss) Income. The fair value of the interest rate swap is estimated as the net present value of projected cash flows based upon forward interest rates at the balance sheet date.

The fair values of the derivative instrument at January 31, 2018 and January 31, 2017 were as follows (in thousands):

	Balance Sheet Location	Asset (Liability)	
		Fair Value	
		January 31, 2018	January 31, 2017
Derivative instrument:			
Interest rate swap	Other assets (liabilities) net	\$ 187	\$ (190)
Total		\$ 187	\$ (190)

The change in fair value of the interest rate swap recognized in the Consolidated Statement of Operations and Comprehensive (Loss) Income for the twelve months ended January 31, 2018, 2017 and 2016 was \$377,000, \$485,000 and \$(48,000), respectively.

## 3. INCOME TAXES

On December 22, 2017, the United States signed into law The Tax Cuts and Job Act, (the “Tax Act”), which imposes a repatriation tax on accumulated earnings of foreign subsidiaries, implements a territorial tax system together with a current tax on accumulated foreign earnings and lowers the general corporate income tax rate to 21%. The Tax Act requires the Company to pay a one-time deemed repatriation income tax on the net accumulated earnings of its foreign subsidiaries at a tax rate of 15.5%.

The Tax Act significantly changes how the U.S. taxes corporations. The Tax Act requires complex computations to be performed that were not previously required, significant judgments to be made and significant estimates in calculations. The U.S. Treasury Department, the IRS, and other standard-setting bodies could interpret or issue guidance on how provisions of the Tax Act will be applied or otherwise administered that is different from the Company's interpretation. Staff Accounting Bulletin No. 118 *Income Tax Accounting Implications of the Tax Cuts and Jobs Act* ("SAB 118"), allows companies to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. The Company's accounting for the Tax Act will be completed within the measurement period provided by SAB 118.

The Company recorded an estimated one-time deemed repatriation tax of \$10 million on its foreign subsidiaries estimated net accumulated earnings of \$64 million. This additional income tax expense was partially offset by net operating losses of \$5.6 million, R&D tax credits of \$1.6 million, and foreign tax credits of \$4.1 million that were generated by the deemed repatriation. The Tax Act increased the Company's U.S. estimated tax liability by \$2.0 million. This estimated tax liability may be paid over eight years in interest free installments or the Company may elect to pay the entire net tax liability in fiscal 2019. Management has not determined which payment method to use.

Consolidated net (loss)/income before income taxes is summarized as follows:

	Years Ended January 31,		
	2018	2017	2016
	(in thousands)		
Domestic net (loss) income before income taxes	\$ (4,793)	\$ (3,774)	\$ (7,835)
Foreign net (loss) income before income taxes	585	7,600	18,371
Consolidated net (loss) income before income taxes	<u>\$ (4,208)</u>	<u>\$ 3,826</u>	<u>\$ 10,536</u>

Income tax expense (benefit) is summarized as follows:

	Years Ended January 31,		
	2018	2017	2016
	(in thousands)		
Current:			
U.S. federal	\$ 2,862	\$ 437	\$ (1,656)
State	38	30	26
Foreign	2,433	3,894	2,591
Subtotal	<u>5,333</u>	<u>4,361</u>	<u>961</u>
Deferred:			
U.S. federal	(519)	11,564	(956)
State	19	3,610	303
Foreign	24	(348)	63
Subtotal	<u>(476)</u>	<u>14,826</u>	<u>(590)</u>
Equity adjustment	<u>—</u>	<u>89</u>	<u>1,253</u>
Total	<u>\$ 4,857</u>	<u>\$ 19,276</u>	<u>\$ 1,624</u>

Actual income tax expense differs from that obtained by applying the statutory federal income tax rate of 34% to income before income taxes as follows:

	Years Ended January 31,		
	2018	2017	2016
	(in thousands)		
Computed expected tax expense (benefit)	\$ (1,431)	\$ 1,301	\$ 3,582
State income taxes, net of federal income tax expense	(157)	(54)	252
Incremental tax expense (benefit) from foreign operations	923	137	(2,548)
Non-deductible equity compensation	(1,004)	(29)	254
Foreign withholding taxes	794	676	968
Net change in valuation allowance	5,448	16,861	2,564
Net change in contingency reserve	(81)	198	(379)
Non-deductible expenses	(407)	660	621
Benefit of tax credits	(1,766)	(1,243)	(3,186)
Subpart F income	302	345	254
Rate change impact	187	19	193
Benefit from liquidation utilized	—	—	(1,321)
U.S. Tax Reform (the "Tax Act")	1,951	—	—
Other	98	405	370
Total	<u>\$ 4,857</u>	<u>\$ 19,276</u>	<u>\$ 1,624</u>

The Company files U.S. federal, state, and foreign tax returns that are subject to audit by various tax authorities. The Company is currently under audit in:

- India for fiscal years ended March 31, 2010, 2011, 2013, and 2014
- Iowa for fiscal year ended January 31, 2014
- Kentucky for fiscal year ended January 31, 2016
- Netherlands for fiscal year ended January 31, 2016

During fiscal 2018, the Company closed the following audits with small or no adjustment:

- India for fiscal years ended March 31, 1998, 1999 and 2015
- China for calendar years ended December 31, 2015 and 2016

As of January 31, 2018, with the mandatory deemed repatriation and the understanding that most of the Company's overseas cash is maintained by QAD Ireland, the Company continues to maintain its permanently reinvestment assertion under APB 23 for all of its foreign subsidiaries as it relates to withholding taxes, state taxes and currency gains and losses. These permanently reinvested earnings are approximately \$81 million at January 31, 2018. It is not practicable for the Company to determine the amount of the related unrecognized deferred income tax liability.

Deferred income taxes reflect the net effects of the temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The Tax Act reduces the U.S. statutory tax rate from 35% to 21% for years after 2017. Accordingly, the Company has remeasured its deferred taxes as of January 31, 2018 to reflect the reduced rate.

Significant components of the Company's deferred tax assets and liabilities are as follows:

	January 31,	
	2018	2017
	(in thousands)	
<b>Deferred tax assets:</b>		
Allowance for doubtful accounts and sales adjustments	\$ 367	\$ 356
Accrued vacation	1,590	2,033
Tax credits	18,583	13,116
Deferred revenue	3,493	3,465
Net operating loss carry forwards	10,337	10,255
Accrued expenses - other	1,849	1,695
Other comprehensive income	1,164	—
Section 263(a) interest capitalization	206	322
Equity compensation	4,380	5,399
Other	1,243	2,039
Total deferred tax assets	43,212	38,680
Less valuation allowance	(33,665)	(29,868)
Less netting of unrecognized tax benefits against deferred tax assets	(930)	(954)
Deferred tax assets, net of valuation allowance	<u>\$ 8,617</u>	<u>\$ 7,858</u>
<b>Deferred tax liabilities:</b>		
Depreciation and amortization	(442)	(630)
Other comprehensive income	—	(1,009)
Other	(231)	(53)
Total deferred tax liabilities	(673)	(1,692)
Total net deferred tax assets	<u>\$ 7,944</u>	<u>\$ 6,166</u>

The Company reviews its net deferred tax assets by jurisdiction on a quarterly basis to determine whether a valuation allowance is necessary based on the more-likely-than-not standard. Management assessed historic, current and future financial projections by jurisdiction to draw its conclusion. During fiscal 2017, a valuation allowance for U.S. federal and state deferred income tax assets was established due to a U.S. three-year cumulative loss, a projected loss, future earmarked investment necessary to transition the business to cloud, and a significant drop in the California apportionment percentage. In fiscal 2018, Management continued to conclude the Company's U.S. federal and state deferred income tax assets are not likely to be realized. If and when the Company's operating performance improves on a sustained basis, the conclusion regarding the need for a valuation allowance could change, resulting in the reversal of some or all of the valuation allowance in the future. At January 31, 2018 and 2017, the valuation allowance attributable to deferred tax assets was \$33.7 million and \$29.9 million, respectively.

The Company has gross net operating loss carryforwards of \$36.7 million and tax credit carryforwards of \$20.2 million as of January 31, 2018. The majority of the Company's net operating loss carryforwards do not expire. The Company's tax credits are comprised of foreign tax credits that will begin to expire in fiscal year 2028, U.S. R&D credits that will begin to expire in 2038 and Australian and California R&D tax credits that do not expire.

During the fiscal year ended January 31, 2018, the Company decreased its reserves for uncertain tax positions by \$0.1 million. Interest and penalties on accrued but unpaid taxes are classified in the Consolidated Statements of Operations and Comprehensive (Loss) Income as income tax expense. The liability for unrecognized tax benefits that may be recognized in the next twelve months is classified as short-term in the Company's Consolidated Balance Sheet while the remainder is classified as long-term.

The following table reconciles the gross amounts of unrecognized tax benefits at the beginning and end of the period:

	<b>Years Ended January 31,</b>	
	<b>2018</b>	<b>2017</b>
	<b>(in thousands)</b>	
Unrecognized tax benefits at beginning of the year	\$ 1,743	\$ 1,545
Decreases as a result of tax positions taken in a prior period	(115)	(79)
Increases as a result of tax positions taken in the prior period	58	365
Reduction as a result of a lapse of the statute of limitations	(24)	(88)
Unrecognized tax benefit at end of year	<u>\$ 1,662</u>	<u>\$ 1,743</u>

All of the unrecognized tax benefits included in the balance sheet at January 31, 2018 would impact the effective tax rate on income from continuing operations, if recognized.

The total amount of interest recognized in the Consolidated Statement of Operations and Comprehensive (Loss) Income for unpaid taxes was \$39,000 for the year ended January 31, 2018. The total amount of interest and penalties recognized in the Consolidated Balance Sheet at January 31, 2018 was \$0.3 million.

The Company files U.S. federal, state, and foreign income tax returns in jurisdictions with varying statute of limitations. The years that may be subject to examination will vary by jurisdiction. Below is a list of our material jurisdictions and the years open for audit as of fiscal 2018:

<b>Jurisdiction</b>	<b>Years Open for Audit</b>
U.S. Federal	FY15 and beyond
California	FY14 and beyond
Michigan	FY14 and beyond
New Jersey	FY14 and beyond
Australia	FY14 and beyond
France	FY15 and beyond
India	FY10, FY11, FY13, and FY14
Ireland	FY14 and beyond
United Kingdom	FY17 and beyond

#### 4. STOCKHOLDERS' EQUITY

##### *Common Stock*

The Company has two classes of common stock. Each share of Class B Common Stock entitles the holder to one vote and each share of Class A Common Stock entitles the holder to 1/20th of one vote. On all matters, the Class A Common Stock and the Class B Common Stock will vote as a single class, except as otherwise required by applicable law or the articles of incorporation. Neither the Class A Common Stock nor the Class B Common Stock are convertible into the other, unless either or both classes becomes subject to exclusion from the principal national securities exchange on which such securities are traded, in which case all outstanding shares of Class A Common Stock may be converted into shares of Class B Common Stock on a share-for-share basis by resolution of the Board of Directors. There are no restrictions on the transferability of either class.

The amount of any dividend payable in cash or non-cash property of the Company (other than a dividend payable solely in the Company's capital stock) with respect to each share of Class A Common Stock is equal to 120% of the value of any such dividend payable with respect to a share of Class B Common Stock, except for dividends declared for the purpose of distributing all or some of the proceeds received by the Company from any transaction determined by the Board to be a material transaction not in the ordinary course of business or for the purpose of effecting a spin-off of a subsidiary of the Company (in either case, such dividend will be paid ratably, on a per share basis, to all holders of Common Stock).

##### *Dividends*

The following table sets forth the dividends declared and paid by the Company during fiscal 2018:

<b>Declaration Date</b>	<b>Record Date</b>	<b>Payable</b>	<b>Dividend Class A</b>	<b>Dividend Class B</b>	<b>(in thousands)</b>
12/12/2017	12/26/2017	1/4/2018	\$ 0.072	\$ 0.06	\$ 1,346
9/12/2017	9/26/2017	10/3/2017	\$ 0.072	\$ 0.06	\$ 1,346
6/13/2017	6/27/2017	7/6/2017	\$ 0.072	\$ 0.06	\$ 1,344
4/11/2017	4/25/2017	5/2/2017	\$ 0.072	\$ 0.06	\$ 1,331

#### 5. STOCK-BASED COMPENSATION

##### *Stock Plans*

On June 14, 2016, the stockholders approved the QAD Inc. 2016 Stock Incentive Program ("2016 Program"). The 2016 Program allows for equity awards in the form of incentive stock options, non-statutory stock options, restricted shares, rights to purchase stock, stock appreciation rights ("SARs") and other stock rights. The stockholders authorized a maximum of 4,000,000 shares to be issued under the 2016 Program. Prior to July 1, 2016, stock awards were issued under the QAD Inc. 2006 Stock Incentive Program. As of January 31, 2018, 3,321,000 Class A Common Shares were available for issuance.

The Company issues restricted stock units ("RSUs") to employees with the exception of the CEO and President of the Company. RSUs granted to employees under the 2016 Program and 2006 Program are generally released 25% after each year of service for four years and are contingent upon employment with the Company on the release date. Stock-based compensation is typically issued out of treasury shares. At January 31, 2018, there were 281,000 RSUs of Class A Common Stock outstanding under the 2016 Program and 372,000 RSUs of Class A Common Stock outstanding under the 2006 Program.



The Company also issues equity awards in the form of stock-settled SARs to the CEO and President of the Company. A SAR is a contractual right to receive value tied to the post-grant appreciation of the underlying stock. Although the Company has the ability to grant stock-settled or cash-settled SARs, the Company has only granted stock-settled SARs. Upon vesting, a holder of a stock-settled SAR receives shares in the Company's common stock equal to the intrinsic value of the SAR at time of exercise. Under the 2006 Program, SARs have generally been granted for a term of eight years, they generally vest 25% after each year of service for four years and are contingent upon employment with the Company on the vesting date. Economically, a stock-settled SAR provides the same compensation value as a stock option, but the employee is not required to pay an exercise price upon exercise of the SAR. Stock compensation expense, as required under ASC 718, is the same for stock-settled SARs and stock options. At January 31, 2018, there were 380,000 SARs to purchase Class A Common Stock under the 2016 Program. At January 31, 2018, there were 2,276,000 and 368,000 SARs to purchase Class A Common Stock and Class B Common Stock, under the 2006 Program, respectively.

Equity compensation is also issued to non-employee Board members that are newly-appointed or reelected at the Annual Meeting of Stockholders. They are granted Class A shares as stock payments that are fully vested on the date of grant. Equity awards to non-employee Board members are limited to \$250,000 per year, as determined for the Company's financial accounting purposes as of the date of grant.

Under the 2016 Program, officers, directors, employees, consultants and other independent contractors or agents of the Company or subsidiaries of the Company who are responsible for or contribute to the management, growth or profitability of its business are eligible for selection by the program administrators to participate. However, incentive stock options granted under the 2016 Program may only be granted to a person who is an employee of the Company or one of its subsidiaries.

#### *Stock-Based Compensation*

The following table sets forth reported stock compensation expense included in the Company's Consolidated Statements of Operations and Comprehensive (Loss) Income for the fiscal years ended January 31, 2018, 2017 and 2016:

	Years Ended January 31,		
	2018	2017	2016
	(in thousands)		
Stock-based compensation expense:			
Cost of subscription	\$ 161	\$ 113	\$ 76
Cost of maintenance and other revenue	384	299	271
Cost of professional services	1,085	848	739
Sales and marketing	1,510	1,200	1,377
Research and development	1,226	1,009	900
General and administrative	4,558	3,854	4,077
Total stock-based compensation expense	<u>\$ 8,924</u>	<u>\$ 7,323</u>	<u>\$ 7,440</u>

#### *RSU Information*

The following table summarizes the activity for RSUs for the fiscal years ended January 31, 2018, 2017 and 2016:

	RSUs (in thousands)	Weighted Average Grant Date Fair Value
Restricted stock at January 31, 2015	503	\$ 16.27
Granted	326	24.75
Released (1)	(192)	15.58
Forfeited	(20)	18.93
Restricted stock at January 31, 2016	617	\$ 20.91
Granted	307	18.54
Released (1)	(259)	18.96
Forfeited	(42)	20.69
Restricted stock at January 31, 2017	623	\$ 20.56
Granted	295	30.69
Released (1)	(245)	20.48
Forfeited	(20)	22.36
Restricted stock at January 31, 2018	<u>653</u>	<u>\$ 25.10</u>

- (1) The number of RSUs released includes shares withheld on behalf of employees to satisfy minimum statutory tax withholding requirements. During the fiscal years ended January 31, 2018, 2017 and 2016, the Company withheld 74,000 shares, 75,000 shares and 52,000 shares, respectively, for payment of these taxes. The value of the withheld shares for the fiscal years ended January 31, 2018, 2017 and 2016 were \$2.4 million, \$1.5 million and \$1.4 million, respectively.

Total unrecognized compensation cost related to RSUs was approximately \$12.5 million as of January 31, 2018. This cost is expected to be recognized over a period of approximately 2.7 years.

#### *SAR Information*

The weighted average assumptions used to value SARs are shown in the following table.

	Years Ended January 31,		
	2018	2017	2016
Expected life in years	5.50	5.25	5.00
Risk free interest rate	1.82%	1.16%	1.64%
Volatility	33%	36%	41%
Dividend rate	0.91%	1.51%	1.10%

The following table summarizes the activity for outstanding SARs for the fiscal years ended January 31, 2018, 2017 and 2016:

	Options/ SARs (in thousands)	Weighted Average Exercise Price per Share	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (in thousands)
Outstanding at January 31, 2015	2,499	\$ 12.69		
Granted	380	25.34		
Exercised	(266)	10.69		
Expired	(12)	14.22		
Forfeited	(5)	12.05		
Outstanding at January 31, 2016	2,596	\$ 14.74		
Granted	380	18.64		
Exercised	(158)	10.94		
Expired	(17)	12.56		
Forfeited	(8)	12.09		
Outstanding at January 31, 2017	2,793	\$ 15.51		
Granted	380	31.65		
Exercised	(139)	10.52		
Expired	(10)	9.74		
Outstanding at January 31, 2018	3,024	\$ 17.78	4.0	\$ 72,901
Vested and exercisable at January 31, 2018	2,073	\$ 14.25	2.9	\$ 57,045

The aggregate intrinsic value in the table above represents the total pretax intrinsic value (the aggregate difference between the closing stock price of the Company's common stock based on the last trading day as of January 31, 2018 and the exercise price for in-the-money SARs) that would have been received by the holders if all SARs had been exercised on January 31, 2018. The total intrinsic value of SARs exercised in the years ended January 31, 2018, 2017 and 2016 was \$3.0 million, \$2.1 million and \$3.7 million, respectively. The weighted average grant date fair value per share of SARs granted in the years ended January 31, 2018, 2017 and 2016 was \$9.59, \$5.43 and \$8.70, respectively.

The number of SARs exercised includes shares withheld on behalf of employees to satisfy minimum statutory tax withholding requirements. During the fiscal years ended January 31, 2018, 2017 and 2016, the Company withheld shares 31,000, 25,000 and 44,000 shares for payment of these taxes. The value of the withheld shares for the fiscal years ended January 31, 2018, 2017 and 2016 were \$1.0 million, \$0.6 million and \$1.1 million, respectively.

At January 31, 2018, there was approximately \$5.7 million of total unrecognized compensation cost related to unvested SARs. This cost is expected to be recognized over a weighted average period of approximately 2.6 years.

## 6. DEFERRED REVENUES

Deferred revenues consisted of the following:

	January 31,	
	2018	2017
	(in thousands)	
Deferred maintenance	\$ 80,811	\$ 78,923
Deferred subscription	31,034	20,389
Deferred professional services	3,523	2,550
Deferred license	756	1,740
Deferred other revenue	569	523
Deferred revenues, current	116,693	104,125
Deferred revenues, non-current (in Other liabilities)	2,156	2,353
Total deferred revenues	<u>\$ 118,849</u>	<u>\$ 106,478</u>

Deferred maintenance and subscription represent billings and customer payments made in advance for support and subscription contracts. Support and subscription are billed in advance with corresponding revenues being recognized ratably over the support and subscription periods. Support is typically billed annually while subscription is billed quarterly or annually. Deferred license results from undelivered products or specified enhancements, customer specific acceptance provisions and software license transactions that cannot be segmented from undelivered consulting or other services. Deferred professional services revenues represent both prepayments for our professional services where revenues for these services are generally recognized as the Company completes the performance obligations for the prepaid services and services already provided but deferred due to software revenue recognition rules.

## 7. OTHER BALANCE SHEET ACCOUNTS

	January 31,	
	2018	2017
	(in thousands)	
Other current assets		
Deferred cost of revenues	\$ 8,330	\$ 8,194
Prepaid expenses	5,847	4,879
Income tax receivable, net of payables	213	928
Other	1,466	1,350
	<u>\$ 15,856</u>	<u>\$ 15,351</u>
Other assets, net		
Other intangibles, net	\$ —	\$ 415
Long-term deposits and prepaid expenses	2,463	1,323
Fair value of interest rate swap	187	—
Other long-term assets	405	950
	<u>\$ 3,055</u>	<u>\$ 2,688</u>
Accounts payable		
Trade payables	\$ 9,346	\$ 7,392
VAT payable	5,472	3,924
	<u>\$ 14,818</u>	<u>\$ 11,316</u>
Other current liabilities		
Accrued commissions and bonus	\$ 18,039	\$ 13,449
Accrued compensated absences	9,177	8,346
Other accrued payroll	6,038	4,477
Accrued professional fees	1,884	1,709
Accrued travel	1,839	1,304
Accrued contract labor	2,655	812
Other current liabilities	3,828	3,539
	<u>\$ 43,460</u>	<u>\$ 33,636</u>
Other liabilities		
Long-term deferred revenue	\$ 2,156	\$ 2,353
Fair value of interest rate swap	—	190
Long-term tax contingency reserve	688	764
Lease restoration obligations	859	736
Other	1,736	871
	<u>\$ 5,439</u>	<u>\$ 4,914</u>

## 8. DEBT

	January 31,	
	2018	2017
	(in thousands)	
Note payable	\$ 13,825	\$ 14,269
Less current maturities	(466)	(446)
Less loan origination costs, net	(46)	(56)
Long-term debt	<u>\$ 13,313</u>	<u>\$ 13,767</u>

### Note Payable

Effective May 30, 2012, QAD Ortega Hill, LLC entered into a variable rate credit agreement (the “2012 Mortgage”) with Rabobank, N.A., to refinance a pre-existing mortgage. The 2012 Mortgage has an original principal balance of \$16.1 million and bears interest at the one month LIBOR rate plus 2.25%. One month LIBOR was 1.56 % at January 31, 2018. The 2012 Mortgage matures in June 2022 and is secured by the Company’s headquarters located in Santa Barbara, California. In conjunction with the 2012 Mortgage, QAD Ortega Hill, LLC entered into an interest rate swap with Rabobank, N.A. The swap agreement has an initial notional amount of \$16.1 million and a schedule matching that of the underlying loan that synthetically fixes the interest rate on the debt at 4.31% for the entire term of the 2012 Mortgage. The terms of the 2012 Mortgage provide for QAD Ortega Hill, LLC to make net monthly payments of \$88,100 consisting of principal and interest and one final payment of \$11.7 million. The unpaid balance as of January 31, 2018 was \$13.8 million.

The Company had a U.S. line of credit facility with Rabobank that permitted unsecured short-term borrowings of up to \$20 million. The Company did not draw on the line of credit during any of the last three fiscal years. The line of credit expired in July, 2017 and was not renewed.

## 9. ACCUMULATED OTHER COMPREHENSIVE LOSS

The components of accumulated other comprehensive loss, net of taxes, were as follows:

	Foreign Currency Translation Adjustments (in thousands)
Balance as of January 31, 2017	\$ (8,631)
Other comprehensive loss before reclassifications	1,803
Amounts reclassified from accumulated other comprehensive loss	—
Net current period other comprehensive loss	1,803
Balance as of January 31, 2018	<u>\$ (6,828)</u>

During fiscal 2018 there were no reclassifications from accumulated other comprehensive loss.

## 10. EMPLOYEE BENEFIT PLANS

The Company has a defined contribution 401(k) plan which is available to U.S. employees after 30 days of employment. Employees may contribute up to the maximum allowable by the Internal Revenue Code. The Company voluntarily matches 75% of the employees’ contributions up to the first four percent of the employee’s eligible compensation. In addition, the Company can make additional contributions at the discretion of the board of directors. Participants are immediately vested in their employee contributions. Employer contributions vest over a five-year period. The Company’s contributions for fiscal years 2018, 2017 and 2016 were \$2.2 million, \$2.1 million and \$1.8 million, respectively.

Various QAD foreign subsidiaries also contribute to defined contribution pension plans. Employer contributions in these plans are generally based on employee salary and range from 3% to 20%. These plans are funded at various times throughout the year according to plan provisions, with aggregate employer contributions of \$5.3 million for fiscal 2018 and \$4.8 million for each of the fiscal years 2017 and 2016.

## 11. COMMITMENTS AND CONTINGENCIES

### Lease Obligations

The Company leases certain office facilities, office equipment and automobiles under operating lease agreements. The leases generally provide that the Company pays taxes, insurance and maintenance expenses related to the leased assets. Total rent expense for fiscal years 2018, 2017 and 2016 was \$4.9 million, \$4.9 million and \$5.0 million, respectively. Future minimum rental payments under non-cancelable operating lease commitments with terms of more than one year as of January 31, 2018 are as follows (in millions):

2019	\$ 6.0
2020	4.3
2021	2.5
2022	0.8
2023	0.5
Thereafter	0.2
	<u>\$ 14.3</u>



### Purchase Obligations

At January 31, 2018, the Company had \$13.0 million of other non-cancelable contractual obligations, related to the purchase of goods and services not included in the table above.

### Indemnifications

The Company sells software licenses and services to its customers under written agreements. Each agreement contains the relevant terms of the contractual arrangement with the customer and generally includes certain provisions for indemnifying the customer against losses, expenses and liabilities from damages that may be awarded against the customer in the event the Company's software is found to infringe upon certain intellectual property rights of a third party. The agreements generally limit the scope of and remedies for such indemnification obligations in a variety of industry-standard respects.

The Company believes its internal development processes and other policies and practices limit its exposure related to the indemnification provisions of the agreements. For several reasons, including the lack of prior indemnification claims and the lack of a monetary liability limit for certain infringement cases under the agreements, the Company cannot determine the maximum amount of potential future payments, if any, related to such indemnification provisions.

### Legal Actions

The Company is subject to various legal proceedings and claims, either asserted or unasserted, which arise in the ordinary course of business. While the outcome of these claims cannot be predicted with certainty, management does not believe that the outcome of any of these legal matters will have a material adverse effect on the Company's consolidated results of operations, financial position or liquidity.

## 12. BUSINESS SEGMENT INFORMATION

The Company markets its products and services worldwide, primarily to companies in the manufacturing industry, including automotive, consumer products, food and beverage, high technology, industrial products and life sciences industries. The Company sells and licenses its products through its direct sales force in four geographic regions: North America; Europe, the Middle East and Africa ("EMEA"); Asia Pacific; and Latin America and through distributors where third parties can extend sales reach more effectively or efficiently. The North America region includes the United States and Canada. The EMEA region includes Europe, the Middle East and Africa. The Asia Pacific region includes Asia and Australia. The Latin America region includes South America, Central America and Mexico. The Company's Chief Operating Decision Maker, the Chief Executive Officer, reviews the consolidated results within one operating segment.

Subscription, license and maintenance revenues are generally assigned to the region where a majority of the end users are located. Services revenue is assigned based on the region where the services are delivered.

Property and equipment, net are assigned by geographic region based on the location of each legal entity.

	Years Ended January 31,		
	2018	2017	2016
	(in thousands)		
Revenue:			
North America (1)	\$ 141,614	\$ 129,436	\$ 127,776
EMEA	89,693	81,765	84,268
Asia Pacific	50,689	47,742	46,457
Latin America	23,022	19,030	19,351
	<u>\$ 305,018</u>	<u>\$ 277,973</u>	<u>\$ 277,852</u>
	January 31,		
	2018	2017	
	(in thousands)		
Property and equipment, net:			
North America	\$ 25,546	\$ 26,601	
EMEA	3,444	2,861	
Asia Pacific	1,141	1,075	
Latin America	277	335	
	<u>\$ 30,408</u>	<u>\$ 30,872</u>	

(1) Sales into Canada accounted for 2% of North America total revenue for each of the fiscal years 2018, 2017 and 2016.

### 13. QUARTERLY INFORMATION (Unaudited)

	Quarters Ended			
	April 30	July 31	Oct. 31	Jan. 31
(in thousands, except per share data)				
<b>Fiscal 2018</b>				
Total revenue	\$ 71,382	\$ 75,958	\$ 76,925	\$ 80,753
Total costs and expenses	72,741	75,415	76,495	83,441
Gross margin	36,516	39,264	38,879	40,934
Operating (loss) income	(1,359)	543	430	(2,688)
Net loss	(2,571)	(1,161)	(161)	(5,172)
Basic net loss per share				
Class A	\$ (0.14)	\$ (0.06)	\$ (0.01)	\$ (0.28)
Class B	(0.12)	(0.05)	(0.01)	(0.23)
Diluted net loss per share				
Class A	\$ (0.14)	\$ (0.06)	\$ (0.01)	\$ (0.28)
Class B	(0.12)	(0.05)	(0.01)	(0.23)
<b>Fiscal 2017</b>				
Total revenue	\$ 65,397	\$ 69,778	\$ 69,534	\$ 73,264
Total costs and expenses	68,390	69,816	67,275	69,128
Gross margin	33,259	36,974	36,477	40,412
Operating (loss) income	(2,993)	(38)	2,259	4,136
Net (loss) income	(2,792)	968	1,533	(15,159)
Basic net (loss) income per share				
Class A	\$ (0.15)	\$ 0.05	\$ 0.08	\$ (0.82)
Class B	(0.13)	0.04	0.07	(0.68)
Diluted net (loss) income per share				
Class A	\$ (0.15)	\$ 0.05	\$ 0.08	\$ (0.82)
Class B	(0.13)	0.04	0.07	(0.68)

**SCHEDULE II**  
**SCHEDULE OF VALUATION AND QUALIFYING ACCOUNTS**  
(in thousands)

	<b>Balance at Beginning of Period</b>	<b>Charged to Statements of Income</b>	<b>Write-Offs, Net of Recoveries</b>	<b>Impact of Foreign Currency Translation</b>	<b>Balance at End of Period</b>
<b>Year ended January 31, 2016</b>					
Allowance for bad debt	1,194	78	(5)	(25)	1,242
Allowance for sales adjustments	1,330	696	(555)	(71)	1,400
Total allowance for doubtful accounts	<u>\$ 2,524</u>	<u>\$ 774</u>	<u>\$ (560)</u>	<u>\$ (96)</u>	<u>\$ 2,642</u>
<b>Year ended January 31, 2017</b>					
Allowance for bad debt	1,242	40	(184)	(8)	1,090
Allowance for sales adjustments	1,400	197	(472)	(10)	1,115
Total allowance for doubtful accounts	<u>\$ 2,642</u>	<u>\$ 237</u>	<u>\$ (656)</u>	<u>\$ (18)</u>	<u>\$ 2,205</u>
<b>Year ended January 31, 2018</b>					
Allowance for bad debt	1,090	98	(834)	42	396
Allowance for sales adjustments	1,115	923	(733)	62	1,367
Total allowance for doubtful accounts	<u>\$ 2,205</u>	<u>\$ 1,021</u>	<u>\$ (1,567)</u>	<u>\$ 104</u>	<u>\$ 1,763</u>

See accompanying report of independent registered public accounting firm.



## 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, on April 13, 2018.

QAD Inc.

By: /s/ Daniel Lender  
Daniel Lender  
Chief Financial Officer

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ PAMELA M. LOPKER</u> Pamela M. Lopker	Chairman of the Board, President	April 13, 2018
<u>/s/ KARL F. LOPKER</u> Karl F. Lopker	Director, Chief Executive Officer (Principal Executive Officer)	April 13, 2018
<u>/s/ DANIEL LENDER</u> Daniel Lender	Executive Vice President, Chief Financial Officer (Principal Financial Officer)	April 13, 2018
<u>/s/ KARA BELLAMY</u> Kara Bellamy	Sr. Vice President, Corporate Controller (Chief Accounting Officer)	April 13, 2018
<u>/s/ SCOTT ADELSON</u> Scott Adelson	Director	April 13, 2018
<u>/s/ PETER R. VAN CUYLENBURG</u> Peter R. van Cuylenburg	Director	April 13, 2018
<u>/s/ LEE ROBERTS</u> Lee Roberts	Director	April 13, 2018

## INDEX OF EXHIBITS

EXHIBIT NUMBER	EXHIBIT TITLE
3.1	<a href="#"><u>Amended and Restated Certificate of Incorporation of the Registrant, filed with the Delaware Secretary of State on December 15, 2010 (Incorporated by reference to Exhibit 3.1 of the Registrant's Annual Report on Form 10-K for the fiscal year ended January 31, 2011)</u></a>
3.2	<a href="#"><u>Revised Bylaws of the Registrant (Incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-K filed on December 13, 2013)</u></a>
4.1	<a href="#"><u>Specimen Class A and Class B Common Stock Certificate (Incorporated by reference to Exhibit 4.1 of the Registrant's Annual Report on Form 10-K for the fiscal year ended January 31, 2011)</u></a>
10.1	<a href="#"><u>OAD Inc. 2006 Stock Incentive Program (Incorporated by reference to Exhibit 4.4 of the Registrant's Registration Statement on Form S-8 (Commission File No. 333-137417))</u></a>
10.1(a)	<a href="#"><u>Forms of Agreement for OAD Inc. 2006 Stock Incentive Program (Incorporated by reference to Exhibit 10.2(a) of the Registrant's Annual Report on Form 10-K for the fiscal year ended January 31, 2009)</u></a>
10.2	<a href="#"><u>Form of Indemnification Agreement with Directors and Executive Officers (Incorporated by reference to Exhibit 10.3 of the Registrant's Registration Statement on Form S-1 (Commission File No. 333- 28441))†</u></a>
10.3	<a href="#"><u>Executive Termination Policy (Incorporated by reference to Exhibit 10.2 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended April 30, 2011)†</u></a>
10.4	<a href="#"><u>Change in Control Policy (Incorporated by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended April 30, 2011)†</u></a>
10.4(a)	<a href="#"><u>Change in Control Agreement for Karl Lopker (Incorporated by reference to Exhibit 10.5 of the Registrant's Annual Report on Form 10-K for the fiscal year ended January 31, 2009)†</u></a>
10.4(b)	<a href="#"><u>Change in Control Agreement for Pam Lopker (Incorporated by reference to Exhibit 10.6 of the Registrant's Annual Report on Form 10-K for the fiscal year ended January 31, 2009)†</u></a>
10.4(c)	<a href="#"><u>Change in Control Agreement for Daniel Lender (Incorporated by reference to Exhibit 10.7(a) of the Registrant's Annual Report on Form 10-K for the fiscal year ended January 31, 2009)†</u></a>
10.5	<a href="#"><u>Offer letter between the Registrant and Daniel Lender dated October 10, 2008 (Incorporated by reference to Exhibit 10.72 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended October 31, 2008)†</u></a>
10.6	<a href="#"><u>Acknowledgement between the Registrant and Daniel Lender dated October 10, 2008 (Incorporated by reference to Exhibit 10.3 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended April 30, 2011)†</u></a>
10.7	<a href="#"><u>Credit Agreement between the Registrant and Rabobank, N.A. effective as of July 8, 2011 (Incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on July 14, 2011)</u></a>
10.7(a)	<a href="#"><u>Promissory Note between the Registrant and Rabobank, N.A. effective as of July 8, 2011 (Incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on July 14, 2011)</u></a>
10.7(b)	<a href="#"><u>Disbursement Request and Authorization between the Registrant and Rabobank, N.A. effective as of July 8, 2011 (Incorporated by reference to Exhibit 10.3 of the Registrant's Form 8-K filed on July 14, 2011)</u></a>
10.7(c)	<a href="#"><u>First Amendment to Credit Agreement between the Registrant and Rabobank, N.A. effective as of July 13, 2012 (Incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on July 17, 2012)</u></a>
10.7(d)	<a href="#"><u>Second Amendment to Credit Agreement between the Registrant and Rabobank N.A. effective as of July 11, 2014 (Incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on July 17, 2014)</u></a>
10.8	<a href="#"><u>Credit Agreement between the Registrant and Rabobank, N.A. effective as of May 30, 2012 (Incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on June 5, 2012)</u></a>
10.8(a)	<a href="#"><u>Real Estate Term Loan Note between the Registrant and Rabobank, N.A. effective as of May 30, 2012 (Incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on June 5, 2012)</u></a>
10.8(b)	<a href="#"><u>Deed of Trust between the Registrant and Rabobank, N.A. effective as of May 30, 2012 (Incorporated by reference to Exhibit 10.3 of the Registrant's Form 8-K filed on June 5, 2012)</u></a>

EXHIBIT NUMBER	EXHIBIT TITLE
10.8(c)	<a href="#"><u>ISDA 2002 Master Agreement between the Registrant and Rabobank, N.A. effective as of May 30, 2012 (Incorporated by reference to Exhibit 10.4 of the Registrant's Form 8-K filed on June 5, 2012)</u></a>
10.8(d)	<a href="#"><u>ISDA Schedule to the 2002 Master Agreement between the Registrant and Rabobank, N.A. effective as of May 30, 2012 (Incorporated by reference to Exhibit 10.5 of the Registrant's Form 8-K filed on June 5, 2012)</u></a>
10.8(e)	<a href="#"><u>Confirmation of a Swap Transaction between the Registrant and Rabobank, N.A. effective as of June 4, 2012 (Incorporated by reference to Exhibit 10.6 of the Registrant's Form 8-K filed on June 5, 2012)</u></a>
10.9	<a href="#"><u>2016 Stock Incentive Program (Incorporated by reference to Exhibit A of the Company's Definitive Proxy Statement for the Registrant's 2016 Annual Meeting of Stockholders filed on Schedule 14A on April 29, 2016). †</u></a>
10.9(a)	<a href="#"><u>Form of Stock Rights Agreement under the 2016 Stock Incentive Program (Incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on June 17, 2016). †</u></a>
10.9(b)	<a href="#"><u>Form of Restricted Stock Unit Agreement under the 2016 Stock Incentive Program (Incorporated by reference to Exhibit 10.3 of the Registrant's Form 8-K filed on June 17, 2016). †</u></a>
10.9(c)	<a href="#"><u>Form of Stock Appreciation Rights Agreement under the 2016 Stock Incentive Program (Incorporated by reference to Exhibit 10.4 of the Registrant's Form 8-K filed on June 17, 2016). †</u></a>
10.10	<a href="#"><u>Offer letter between the Registrant and Anton Chilton, dated March 7, 2017 (Incorporated by reference to Exhibit 10.10 of the Registrant's Annual Report on Form 10-K for the fiscal year ended January 31, 2017)†</u></a>
10.11	<a href="#"><u>Partner Agreement between the Registrant and Progress Software Corporation dated February 1, 2007, as amended by First Amendment to Partner Agreement dated October 30, 2007, Second Amendment to Partner Agreement dated January 30, 2008, SaaS Amendment to Partner Agreement dated May 6, 2008, Third Amendment to Partner Agreement dated July 31, 2008, Savvion Amendment to Partner Agreement dated February 15, 2011, Sixth Amendment to Partner Agreement dated May 16, 2014, Seventh Amendment to Partner Agreement dated July 29, 2014, Eighth Amendment to Partner Agreement dated January 11, 2016, and Ninth Amendment to Partner Agreement dated January 22, 2016 (Incorporated by reference to Exhibit 10.11 of the Registrant's Form 10-K/A filed on June 30, 2017. Filed in redacted form as confidential treatment as to certain portions of such exhibit has been granted by the Securities and Exchange Commission and was separately filed with the SEC.).</u></a>
21.1	<a href="#"><u>Subsidiaries of the Registrant*</u></a>
23.1	<a href="#"><u>Consent of Independent Registered Public Accounting Firm*</u></a>
31.1	<a href="#"><u>Certification by the Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*</u></a>
31.2	<a href="#"><u>Certification by the Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*</u></a>
32.1	<a href="#"><u>Certification by the Chief Executive Officer and the Chief Financial Officer furnished pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*</u></a>
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

(\*) Indicates the document is filed herewith.

(†) Indicates a management contract or compensatory plan or arrangement required to be filed as an exhibit.

**Exhibit 21.1****QAD Inc.****LIST OF REGISTRANT'S SUBSIDIARIES  
(all 100% owned)**

<b><u>Subsidiary Name.</u></b>	<b><u>Country of Organization</u></b>
QAD Australia Pty. Limited	Australia
QAD Europe NV/SA	Belgium
QAD (Bermuda) Ltd.	Bermuda
QAD Brasil Ltda.	Brazil
QAD Canada ULC	Canada
QAD China Ltd.	China
QAD Europe s.r.o.	Czech Republic
QAD Europe S.A.S.	France
DynaSys S.A.S.	France
QAD Europe GmbH	Germany
QAD Asia Limited	Hong Kong
QAD India Private Limited	India
Precision Software Limited	Ireland
QAD Ireland Limited	Ireland
QAD Europe (Ireland) Limited	Ireland
QAD Italy S.r.l.	Italy
QAD Korea Limited	Korea
QAD Mexicana, S.A. de C.V.	Mexico
QAD Sistemas Integrados Servicios de Consultoria, S.A. de C.V.	Mexico
QAD EMEA Holdings B.V.	Netherlands
QAD Europe B.V.	Netherlands
QAD Netherlands B.V.	Netherlands
QAD Polska Sp. z o.o.	Poland
QAD Lusitana Europe — Software e Servicos, Unipessoal, Limitada	Portugal
QAD Singapore Private Limited	Singapore
QAD Software South Africa (Proprietary) Limited	South Africa
QAD Europe S.L.	Spain
QAD Europe SA/AG	Switzerland
QAD (Thailand) Ltd.	Thailand
QAD Europe Limited	United Kingdom
QAD United Kingdom Limited	United Kingdom
QAD Brazil, Inc.	USA
QAD Holdings Inc.	USA
QAD Japan Inc.	USA
QAD Ortega Hill, LLC	USA

**Consent of Independent Registered Public Accounting Firm**

The Board of Directors  
QAD Inc.:

We consent to the incorporation by reference in the registration statements (Nos. 333-212435, 333-160125, and 333-137417) on Form S-8 and (No. 333-198779) on Form S-3 of QAD Inc. of our report dated April 13, 2018, with respect to the consolidated balance sheets of QAD Inc. and subsidiaries as of January 31, 2018 and 2017, and the related consolidated statements of operations and comprehensive (loss) income, stockholders' equity, and cash flows for each of the years in the three-year period ended January 31, 2018, and the related notes and financial statement schedule II (collectively, the consolidated financial statements), and the effectiveness of internal control over financial reporting as of January 31, 2018, which report appears in the January 31, 2018 annual report on Form 10-K of QAD Inc.

 (signed) KPMG LLP

Los Angeles, California  
April 13, 2018

**CERTIFICATIONS UNDER  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Karl F. Lopker, certify that:

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

Date: April 13, 2018

/s/ KARL F. LOPKER  
Karl F. Lopker  
Chief Executive Officer  
QAD Inc.

**CERTIFICATIONS UNDER  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Daniel Lender, certify that:

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

Date: April 13, 2018

/s/ DANIEL LENDER  
Daniel Lender  
Chief Financial Officer  
QAD Inc.

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

In connection with the Annual Report of QAD Inc. (the "Company") on Form 10-K for the period ending January 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Karl F. Lopker, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

Date: April 13, 2018

/s/ KARL F. LOPKER

Karl F. Lopker  
Chief Executive Officer  
QAD Inc.

In connection with the Annual Report of QAD Inc. (the "Company") on Form 10-K for the period ending January 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Daniel Lender, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

Date: April 13, 2018

/s/ DANIEL LENDER

Daniel Lender  
Chief Financial Officer  
QAD Inc.