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

FORM 10-K

(Mark One)

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

For the fiscal year ended November 30, 2019
or

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

For the transition period from_______to_______.
Commission File Number: **0-19417**

PROGRESS SOFTWARE CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**04-2746201**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

14 Oak Park
Bedford, Massachusetts 01730
(Address of principal executive offices) (Zip code)

(781) 280-4000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value per share	**PRGS**	**The Nasdaq Stock Market LLC**

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

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

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

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

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

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

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

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

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

As of May 31, 2019 (the last business day of the registrant's most recently completed second fiscal quarter), the aggregate market value of voting stock held by non-affiliates of the registrant was approximately $1,812,000,000.

As of January 20, 2020, there were 45,100,838 common shares outstanding.

Documents Incorporated By Reference

Certain information required in Items 10, 11, 12, 13 and 14 of Part III of this Annual Report on Form 10-K is incorporated by reference to our definitive Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed pursuant to Regulation 14A (our "definitive Proxy Statement").

PROGRESS SOFTWARE CORPORATION

FORM 10-K

FOR THE FISCAL YEAR ENDED NOVEMBER 30, 2019

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CAUTIONARY STATEMENTS

This Form 10-K, and other information provided by us or statements made by our directors, officers or employees from time to time, may contain statements that constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and other securities laws. Whenever we use words such as “believe,” “may,” “could,” “would,” “might,” “should,” “expect,” “intend,” “plan,” “estimate,” “target,” “anticipate” and negatives and derivatives of these or similar expressions, or when we make statements concerning future financial results, product offerings or other events that have not yet occurred, we are making forward-looking statements. These forward-looking statements are based upon our present intent, beliefs or expectations, but forward-looking statements are not guaranteed to occur and may not occur. Actual future results may differ materially from those contained in or implied by our forward-looking statements as a result of various factors. Such factors are more fully described in Item 1A of this Form 10-K under the heading “Risk Factors.” Although we have sought to identify the most significant risks to our business, we cannot predict whether, or to what extent, any of such risks may be realized. We also cannot assure you that we have identified all possible issues which we might face. We undertake no obligation to update any forward-looking statements that we make.

PART I

Item 1. Business

Overview

Progress Software Corporation ("Progress," the "Company," "we," "us," or "our") offers the leading platform for developing and deploying strategic business applications. We enable customers and partners to deliver modern, high-impact digital experiences with a fraction of the effort, time and cost. Progress offers powerful tools for easily building adaptive user experiences across any type of device or touchpoint, the flexibility of a cloud-native app dev platform to deliver modern apps, leading data connectivity technology, web content management, business rules, secure file transfer and network monitoring. Over 1,700 independent software vendors ("ISVs"), 100,000 enterprise customers, and two million developers rely on Progress to power their applications. We operate as three distinct segments: OpenEdge, Data Connectivity and Integration, and Application Development and Deployment.

Our products are generally sold as perpetual licenses, but certain products also use term licensing models and our cloud-based offerings use a subscription-based model. More than half of our worldwide license revenue is realized through relationships with indirect channel partners, principally application partners, original equipment manufacturers ("OEMs"), distributors and value-added resellers. These partners develop and market applications using our technology and resell our products in conjunction with sales of their own products that incorporate our technology.

We operate in North America and Latin America (the "Americas"); Europe, the Middle East and Africa ("EMEA"); and the Asia Pacific region, through local subsidiaries as well as independent distributors.

The key tenets of our strategic plan and operating model are as follows:

Align Resources to Drive Profitability. Our organizational philosophy and operating principles focus primarily on customer and partner retention and success for our core products and a streamlined operating approach in order to more efficiently drive financial results.

Protect and Strengthen Our Core Business. A key element of our strategy is centered on providing the products and tools enterprises need to build modern, strategic business applications. We offer these products and tools to both new customers and partners as well as our existing partner and customer ecosystems. This strategy builds on our inherent DNA and our vast experience in application development that we've acquired over the past 35+ years.

Our offerings enable developers to build the most modern applications quickly and easily, and include:

- our OpenEdge software, which provides a unified development environment consisting of development tools, application servers, application management tools, an embedded relational database management system and the capability to connect and integrate with other applications and data sources;
- our leading UI development tools, which enable organizations to easily build engaging user interfaces for any device or front end;
- our data connectivity and integration capabilities;
- our business logic and rules capabilities;

- our secure file transfer solutions, which provide secure collaboration and automated file transfers of sensitive data and advanced workflow automation capabilities;
- our network management capabilities, which enable small and medium-sized businesses to monitor and manage their IT infrastructure and applications; and
- web content management for delivering personalized and engaging digital experiences.

Acquire Accretive Businesses. We are pursuing acquisitions of businesses within the software infrastructure space, with products that appeal to both IT organizations and individual developers. These acquisitions must meet strict financial criteria, which will enable us to drive significant stockholder returns by providing scale and increased cash flows. As described below, in April 2019, we acquired Ipswitch in a transaction that met these strict financial criteria.

Holistic Capital Allocation Approach. We have adopted a shareholder friendly capital allocation policy that utilizes dividends and share repurchases to return capital to shareholders. Pursuant to our capital allocation strategy that we initially announced in September 2017, we have targeted to return approximately 25% of our annual cash flows from operations to stockholders in the form of dividends. We also intend to repurchase our shares sufficient to offset dilution from our equity plans.

In fiscal year 2019, we repurchased and retired 0.7 million shares of our common stock for $25.0 million. In connection with the acquisition of Ipswitch, Inc. ("Ipswitch") in April 2019, we suspended our stock repurchase program for the remainder of fiscal 2019. We expect to resume share repurchases in fiscal 2020, at a level consistent with our publicly stated capital allocation policy. The timing and amount of any shares repurchased will be determined by management based on its evaluation of market conditions and other factors, and the Board of Directors may choose to suspend, expand or discontinue the repurchase program at any time. As of November 30, 2019, there was $75.0 million remaining under share repurchase authorization. In January 2020, our Board of Directors increased the total share repurchase authorization to $250.0 million.

We began paying quarterly cash dividends of $0.125 per share of common stock to Progress stockholders in December 2016 and increased the quarterly cash dividend to $0.14 per share in September 2017. In September 2018, the quarterly cash dividend was increased to $0.155 per share of common stock. On September 24, 2019, our Board of Directors approved an additional increase to our quarterly cash dividend from $0.155 to $0.165 per share of common stock. We have declared aggregate per share quarterly cash dividends totaling $0.630, $0.575 and $0.515 for the years ended November 30, 2019, November 30, 2018 and November 30, 2017, respectively. We paid aggregate cash dividends totaling $27.8 million, $25.8 million and $24.1 million for the years ended November 30, 2019, November 30, 2018 and November 30, 2017, respectively. We expect to continue paying quarterly cash dividends in subsequent quarters consistent with our capital allocation strategy.

On April 30, 2019, in furtherance of our acquisition strategy, we acquired all of the outstanding equity interests of Ipswitch, a provider of award-winning and easy-to-use secure data file transfer and network management software, for an aggregate purchase price of approximately $225.0 million.

On September 26, 2019, we announced that we are reducing our current and ongoing investment levels within our cognitive application product lines, which consist primarily of our DataRPM and Kinvey products. Accordingly, our fiscal fourth quarter results include a restructuring charge of $2.5 million. This restructuring charge relates to employee costs, including severance, health benefits and outplacement services (but excluding stock-based compensation) incurred as part of the reduction in investment. In connection with this restructuring action, during the fiscal fourth quarter, we evaluated the ongoing value of the intangible assets primarily associated with the technologies and trade names obtained in the acquisitions of DataRPM and Kinvey. As a result of this evaluation, we wrote down these assets to fair value, which resulted in a $22.7 million asset impairment charge.

Our Business Segments

OpenEdge Business Segment

The OpenEdge business segment drives growth within OpenEdge's large, diverse partner base by providing the technology enhancements and marketing support these partners need to sell more of their existing solutions to their customers. The OpenEdge business segment is also focused on providing partners and direct end users with a clear path to develop and integrate cloud-based applications. Our professional services organization helps partners and customers leverage their core assets and develop strategies that protect current investments, while addressing changing business requirements.

The solutions within the OpenEdge business segment include:

Progress OpenEdge

Progress OpenEdge is development software for building dynamic multi-language applications for secure deployment across any platform, any device, and any cloud. OpenEdge provides a unified environment comprising development tools, application servers, application management tools, an embedded relational database management system, and the capability to connect and integrate with other applications and data sources independently or with other Progress products.

Progress Corticon

Progress Corticon is a market-leading Business Rules Management System that provides applications with decision automation, decision change process and decision-related insight capabilities. Corticon helps both business and IT users to quickly create or reuse business rules as well as create, improve, collaborate on, and maintain decision logic.

MOVEit

MOVEit provides secure collaboration and automated file transfers of critical business information between users, locations and partners in compliance with data security regulations such as HIPAA, PCI DSS and the EU’s GDPR, and advanced workflow automation capabilities without the need for scripting.

WhatsUp Gold

WhatsUp Gold is an award-winning network monitoring solution, which enables small and medium-sized businesses and enterprises to continuously monitor and manage their IT infrastructure and applications, assuring high levels of performance and availability.

Progress Kinvey

Progress Kinvey is a modern platform for rapidly building complex enterprise applications and scalable consumer applications experiences. from mission-critical consumer and business experiences for global insurance, manufacturing and media companies, to HIPAA-compliant and life-critical apps for healthcare, health implant manufacturers and pharma.

Data Connectivity and Integration Business Segment

The Data Connectivity and Integration ("DCI") business segment is focused on the growth of our data assets, including the data integration components of our cloud offerings. Data is at the core of every application, and with the exponential growth in the number and volume of data sources, this business segment addresses the increasingly complex challenges that organizations have in accessing and integrating that data.

The solutions within the DCI business segment include:

Progress DataDirect Connect

Progress DataDirect Connect provides data connectivity using industry-standard interfaces to connect applications running on various platforms to any major database, for both corporate IT organizations and software vendors. With software components embedded in the products of over 350 software companies and in the applications of thousands of large enterprises, DataDirect Connect is a global leader in the data connectivity market. The primary products, in addition to other drivers we have developed, are ODBC drivers, JDBC drivers and ADO.NET providers. They provide the capability to connect and integrate with other applications and data sources independently or with our cloud-based offerings.

Progress DataDirect Hybrid Data Pipeline

Progress DataDirect Hybrid Data Pipeline is a data access service that provides simple, secure access to organizations' cloud and on-premises data sources for hybrid cloud applications, such as CRM, data management platforms or hosted analytics. It enables developers to integrate applications and data quickly, no matter whether that data lives-on-site, in the cloud or both.

Application Development and Deployment Business Segment

The Application Development and Deployment ("AD&D") business segment is focused on serving the evolving needs of our substantial developer community in creating modern and engaging applications and digital experiences. This business segment is agile and digitally-driven in its go-to-market, able to react quickly to changes in this rapidly-evolving market. Products in this segment focus on user interface development and content-driven digital experiences.

The solutions within the AD&D business segment include:

Developer Tools

Our Developer Tools (DevTools) business offers a leading set of components for user interface (UI) development for Web, Mobile, Desktop, Chat and AR/VR apps, plus automated application testing and reporting tools. These products make development of modern, engaging application UIs fast and easy for .NET and JavaScript developers. Product lines include Telerik, Kendo UI, Fiddler, and Test Studio.

Sitefinity

Sitefinity is a next-generation web content management and customer analytics platform for managing and optimizing digital experiences. Sitefinity combines superior end user experience with a high level of customization capabilities for developers.

Product Development

Most of our products have been developed by our internal product development staff or the internal staffs of acquired companies. We believe that the features and performance of our products are competitive with those of other available development and deployment tools and that none of the current versions of our products are approaching obsolescence. However, we have invested, and expect to continue to invest in new product development and enhancements of our current products to maintain our competitive position.

As of November 30, 2019, we have five development offices in North America, two primary development offices in India and two primary development offices in EMEA.

Customers

We market our products globally through several channels: directly to end users and indirectly to application partners (or ISVs), OEMs, and system integrators. Sales of our solutions and products through our direct sales force have historically been to business managers or IT managers in corporations and governmental agencies. We also target developers who create business applications, from individuals to teams, within enterprises of all sizes.

We also market our products through indirect channels, primarily application partners. OEMs, and value-added resellers, who embed or add features to our products as part of an integrated solution. We use distributors, both internationally and domestically, in certain locations where we do not have a direct presence or where it is more economically feasible for us to do so. More than half of our license revenues are derived from these indirect channels.

Application Partners

Our application partners cover a broad range of markets, offer an extensive library of business applications and are a source of recurring revenue. We have kept entry costs, consisting primarily of the initial purchase of development licenses, low to encourage a wide variety of application partners to build applications. If an application partner succeeds in marketing its applications, we obtain recurring revenue as the application partner licenses our deployment products to allow its application to be installed and used by customers. In recent years, a significantly increasing amount of our revenue from application partners has been generated from application partners who have chosen to enable their business applications under a software-as-a-service ("SaaS") platform.

Original Equipment Manufacturers

We enter into arrangements with OEMs in which the OEM embeds our products into its solutions, typically either software or technology devices. OEMs typically license the right to embed our products into their solutions and distribute those solutions for initial terms ranging from one to three years. Historically, most of our OEMs have renewed their agreements upon the

expiration of the initial term. However, there is no assurance that they will continue to renew in the future. If any of our largest OEM customers were not to renew their agreements in the future, this could materially impact our DCI segment.

Value Added Resellers

We enter into arrangements with value-added resellers (VARs) in which the VARadds features or services to our products, then resell those products as an integrated product or complete "turn-key" solution.

No single customer or partner has accounted for more than 10% of our total revenue in any of our last three fiscal years.

Sales and Marketing

We sell our products and solutions through our direct sales force and indirect channel partners. We have sold our products and solutions to enterprises in over 180 countries. Our sales and field marketing groups are organized primarily by region. We operate by region in the Americas, EMEA and Asia Pacific. We believe this structure allows us to maintain direct contact with our customers and support their diverse market requirements. Our international operations provide focused local sales, support and marketing efforts and are able to respond directly to changes in local conditions.

In addition to our direct sales efforts, we distribute our products through systems integrators, resellers, distributors, and OEM partners in the United States and internationally. Systems integrators typically have expertise in vertical or functional markets. In some cases, they resell our products, bundling them with their broader service offerings. In other cases, they refer sales opportunities for our products to our direct sales force. Distributors sublicense our products and provide service and support within their territories. OEMs embed portions of our technology in their product offerings.

Sales personnel are responsible for developing new direct end user accounts, recruiting new indirect channel partners and new independent distributors, managing existing channel partner relationships and servicing existing customers. We actively seek to avoid conflict between the sales efforts of our application partners and our own direct sales efforts. We use our inside sales teams to enhance our direct sales efforts and to generate new business and follow-on business from existing customers.

Our marketing personnel conduct a variety of marketing engagement programs designed to create demand for our products, enhance the market readiness of our products, raise the general awareness of our company and our products and solutions, generate leads for the sales organization and promote our various products. These programs include press relations, analyst relations, investor relations, digital/web marketing, marketing communications, participation in trade shows and industry conferences, and production of sales and marketing literature. We also hold and participate in global events, as well as regional user events in various locations throughout the world.

Our sales and marketing efforts with respect to certain of our products, including DevTools, differ from our traditional sales and marketing efforts because the target markets are different. For these products, we have designed our marketing and sales model to be efficient for high volumes of lower-price transactions. Our marketing efforts focus on driving traffic to our websites and on generating high quality sales leads, in many cases, consisting of developer end users who download a free evaluation of our software. Our sales efforts then focus on converting these leads into paying customers through a high volume, short duration, sales process. Of particular importance to our target market, we enable our customers to buy our products in a manner convenient to them, whether by purchase order, online with a credit card or through our channel partners.

Customer Support

Our customer support staff provides telephone and Web-based support to end users, application developers and OEMs. Customers may purchase maintenance services entitling them to software updates, technical support and technical bulletins. Maintenance is generally not required with our products and is purchased at the customer's option. We provide support to customers primarily through our main regional customer support centers in Bedford, Massachusetts; Morrisville, North Carolina; Alpharetta, Georgia; Madison, Wisconsin; Galway, Ireland; Rotterdam, The Netherlands; Hyderabad, India; Melbourne, Australia; and Sofia, Bulgaria. Local technical support for specific products is provided in certain other countries as well.

Professional Services

Our global professional services organization delivers business solutions for customers through a combination of products, consulting and education. Our consulting organization offers project management, implementation services, custom development, programming and other services. Our consulting organization also provides services to Web-enable existing applications or to take advantage of the capabilities of new product releases. Our education organization offers numerous training options, from traditional instructor-led courses to advanced learning modules available via the web or on digital media.

Our services offerings include: application modernization; data management, managed database services; performance enhancements and tuning; and analytics/business intelligence.

Competition

The computer software industry is intensely competitive. We experience significant competition from a variety of sources with respect to all of our products. Factors affecting competition in the markets we serve include product performance in complex applications, breadth of application solutions, vendor experience, ease of integration, price, training and support.

We compete in various markets with a number of entities, such as salesforce.com, Inc., Amazon.com, Inc., Software AG, Pivotal Software, Inc., IBM Corporation, Microsoft Corporation, Oracle Corporation and other smaller firms. Many of these vendors offer platform-as-a-service, application development, data integration and other tools in conjunction with their CRM, web services, operating systems and relational database management systems. We believe that IBM Corporation, Microsoft Corporation and Oracle Corporation currently dominate the relational database market. We do not believe that there is a dominant vendor in the other infrastructure software markets, including application development. Some of our competitors have greater financial, marketing or technical resources than we have and/or may have experience in, or be able to adapt more quickly to new or emerging technologies and changes in customer requirements or to devote greater resources to the development, promotion and sale of their products than we can. Increased competition could make it more difficult for us to maintain our revenue and market presence.

Copyrights, Trademarks, Patents and Licenses

We rely on a combination of contractual provisions and copyright, patent, trademark and trade secret laws to protect our proprietary rights in our products. We generally distribute our products under software license agreements that grant customers a perpetual nonexclusive license to use our products and contain terms and conditions prohibiting the unauthorized reproduction or transfer of our products. We also distribute our products through various channel partners, including application partners, OEMs and system integrators. We also license our products under term or subscription arrangements. In addition, we attempt to protect our trade secrets and other proprietary information through agreements with employees, consultants and channel partners. Although we intend to protect our rights vigorously, there is no assurance that these measures will be successful.

We seek to protect the source code of our products as trade secrets and as unpublished copyrighted works. We hold numerous patents covering portions of our products. We also have several patent applications for some of our other product technologies. Where possible, we seek to obtain protection of our product names and service offerings through trademark registration and other similar procedures throughout the world.

We believe that due to the rapid pace of innovation within our industry, factors such as the technological and creative skills of our personnel are as important in establishing and maintaining a leadership position within the industry as are the various legal protections of our technology. In addition, we believe that the nature of our customers, the importance of our products to them and their need for continuing product support may reduce the risk of unauthorized reproduction, although no assurances can be made in this regard.

Business Segment and Geographical Information

We operate and report as three distinct business segments: OpenEdge, Data Connectivity and Integration, and Application Development and Deployment. For additional information on our business segments as well as our geographical financial information, see Note 16 to our Consolidated Financial Statements in Item 8 of this Form 10-K.

Employees

As of November 30, 2019, we had 1,538 employees worldwide, including 461 in sales and marketing, 273 in customer support and services, 626 in product development and 178 in administration.

None of our U.S. employees are subject to a collective bargaining agreement. Employees in certain foreign jurisdictions are represented by local workers' councils and/or collective bargaining agreements as may be customary or required in those jurisdictions. We have experienced no work stoppages and believe our relations with employees are good.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge on our website at www.progress.com as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the SEC at www.sec.gov. The information posted on our website is not incorporated into this Annual Report.

Our Code of Conduct is also available on our website. Additional information about this code and amendments and waivers thereto can be found below in Part III, Item 10 of this Form 10-K.

Item 1A. Risk Factors

We operate in a rapidly changing environment that involves certain risks and uncertainties, some of which are beyond our control. The risks described below are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also materially adversely affect our business, financial condition and/or operating results.

Our revenue and quarterly results may fluctuate, which could adversely affect our stock price. We have experienced, and may in the future experience, significant fluctuations in our quarterly operating results that may be caused by many factors. These factors include:

- changes in demand for our products;
- introduction, enhancement or announcement of products by us or our competitors;
- market acceptance of our new products;
- the growth rates of certain market segments in which we compete;
- size and timing of significant orders;
- a high percentage of our revenue is generated in the third month of each fiscal quarter and any failure to receive, complete or process orders at the end of any quarter could cause us to fall short of our revenue targets;
- budgeting cycles of customers;
- mix of distribution channels;
- mix of products and services sold;
- mix of international and North American revenues;
- fluctuations in currency exchange rates;
- changes in the level of operating expenses;
- changes in management;
- restructuring programs;
- changes in our sales force;
- completion or announcement of acquisitions by us or our competitors;
- integration of acquired businesses;
- customer order deferrals in anticipation of new products announced by us or our competitors; and
- general economic conditions in regions in which we conduct business.

Revenue forecasting is uncertain, and the failure to meet our forecasts could result in a decline in our stock price. Our revenues, particularly new software license revenues, are difficult to forecast. We use a pipeline system to forecast revenues and trends in our business. Our pipeline estimates may prove to be unreliable either in a particular quarter or over a longer period of time, in part because the conversion rate of the pipeline into contracts can be difficult to estimate and requires management judgment. A variation in the conversion rate could cause us to plan or budget incorrectly and result in a material adverse impact on our business or our planned results of operations. Furthermore, most of our expenses are relatively fixed, including costs of personnel and facilities. Thus, an unexpected reduction in our revenue, or failure to achieve the anticipated rate of growth, would have a material adverse effect on our profitability. If our operating results do not meet our publicly stated guidance or the expectations of investors, our stock price may decline.

We recognize a substantial portion of our revenue from sales made through third parties, including our application partners, distributors/resellers, and OEMs, and adverse developments in the businesses of these third parties or in our relationships with them could harm our revenues and results of operations. Our future results depend in large part upon our continued successful distribution of our products through our application partner, distributor/reseller, and OEM channels. The activities of these third parties are not within our direct control. Our failure to manage our relationships with these third parties effectively could impair the success of our sales, marketing and support activities. A reduction in the sales efforts, technical capabilities or financial viability of these parties, a misalignment of interest between us and them, or a termination of our relationship with a major application partner, distributor/reseller, or OEM could have a negative effect on our sales and financial results. Any adverse effect on any of our application partners', distributors'/resellers', or OEMs' businesses related to competition, pricing and other factors could also have a material adverse effect on our business, financial condition and operating results.

Changes in accounting principles and guidance, or their interpretation or implementation, may materially adversely affect our reported results of operations or financial position. We prepare our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America ("GAAP") These principles are subject to interpretation by the SEC and various bodies formed to create and interpret appropriate accounting principles and guidance. A

change in these principles or guidance, or in their interpretations, may have a significant effect on our reported results, as well as our processes and related controls.

A failure of our information technology systems could have a material adverse effect on our business. A failure or prolonged interruption in our information technology systems, or any difficulty encountered in upgrading our systems or implementing new systems, that compromises our ability to meet our customers' needs, or impairs our ability to record, process and report accurate information could have a material adverse effect on our financial condition.

Weakness in the U.S. and international economies may result in fewer sales of our products and may otherwise harm our business.We are subject to risks arising from adverse changes in global economic conditions, especially those in the U.S., Europe and Latin America. If global economic conditions weaken, credit markets tighten and/or financial markets become unstable, customers may delay, reduce or forego technology purchases, both directly and through our application partners, resellers/distributors and OEMs. This could result in reductions in sales of our products, longer sales cycles, slower adoption of new technologies and increased price competition. Further, deteriorating economic conditions could adversely affect our customers and their ability to pay amounts owed to us. Any of these events would likely harm our business, results of operations, financial condition or cash flows.

Our international operations expose us to additional risks, and changes in global economic and political conditions could adversely affect our international operations, our revenue and our net income. Approximately 45% of our total revenue is generated from sales outside North America. Political and/or financial instability, oil price shocks and armed conflict in various regions of the world can lead to economic uncertainty and may adversely impact our business. For example, the announcement of the Referendum of the United Kingdom's (the "U.K.") Membership of the European Union ("E.U.") (referred to as "Brexit"), advising for the exit of the U.K. from the E.U., has led to significant, continuing volatility in global stock markets and currency exchange rate fluctuations. If customers' buying patterns, decision-making processes, timing of expected deliveries and timing of new projects unfavorably change due to economic or political conditions, there would be a material adverse effect on our business, financial condition and operating results.

Other potential risks inherent in our international business include:

- longer payment cycles;
- credit risk and higher levels of payment fraud;
- greater difficulties in accounts receivable collection;
- varying regulatory and legal requirements;
- compliance with international and local trade, labor and export control laws;
- compliance with U.S. laws such as the Foreign Corrupt Practices Act, and local laws prohibiting bribery and corrupt payments to government officials;
- restrictions on the transfer of funds;
- difficulties in developing, staffing, and simultaneously managing a large number of varying foreign operations as a result of distance, legal impediments and language and cultural differences;
- reduced or minimal protection of intellectual property rights in some countries;
- laws and business practices that favor local competitors or prohibit foreign ownership of certain businesses;
- changes in U.S. or foreign trade policies or practices that increase costs or restrict the distribution of products;
- seasonal reductions in business activity during the summer months in Europe and certain other parts of the world;
- economic instability in emerging markets; and
- potentially adverse tax consequences.

Any one or more of these factors could have a material adverse effect on our international operations, and, consequently, on our business, financial condition and operating results.

Fluctuations in foreign currency exchange rates could have an adverse impact on our financial condition and results of operations. Changes in the value of foreign currencies relative to the U.S. dollar could adversely affect our results of operations and financial position. For example, during periods in which the value of the U.S. dollar strengthens in comparison to certain foreign currencies, particularly in Europe, Brazil and Australia, our reported international revenue is reduced because foreign currencies translate into fewer U.S. dollars. As approximately one-third of our revenue is denominated in foreign currencies, our revenue results have been impacted, and we expect will continue to be impacted, by fluctuations in foreign currency exchange rates.

We seek to reduce our exposure to fluctuations in exchange rates by entering into foreign exchange forward contracts to hedge certain actual and forecasted transactions of selected currencies (mainly in Europe, Brazil, India and Australia). Our currency hedging transactions may not be effective in reducing any adverse impact of fluctuations in foreign currency exchange rates. Further, the imposition of exchange or price controls or other restrictions on the conversion of foreign currencies could have a material adverse effect on our business.

Technology and customer requirements evolve rapidly in our industry, and if we do not continue to develop new products and enhance our existing products in response to these changes, our business could be harmed. Ongoing enhancements to our product sets will be required to enable us to maintain our competitive position and the competitive position of our application partners, distributors/resellers, and OEMs. We may not be successful in developing and marketing enhancements to our products on a timely basis, and any enhancements we develop may not adequately address the changing needs of the marketplace. Overlaying the risks associated with our existing products and enhancements are ongoing technological developments and rapid changes in customer and partner requirements. Our future success will depend upon our ability to develop and introduce in a timely manner new products that take advantage of technological advances and respond to new customer and partner requirements. We may not be successful in developing new products incorporating new technology on a timely basis, and any new products we develop may not adequately address the changing needs of the marketplace or may not be accepted by the market. Failure to develop new products and product enhancements that meet market needs in a timely manner could have a material adverse effect on our business, financial condition and operating results.

We are substantially dependent on our Progress OpenEdge products. We derive a significant portion of our revenue from software license and maintenance revenue attributable to our Progress OpenEdge product set. Accordingly, our future results depend on continued market acceptance of OpenEdge. If consumer demand declines, or new technologies emerge that are superior to, or are more responsive to customer requirements than, OpenEdge such that we are unable to maintain OpenEdge's competitive position within its marketplace, our business, financial condition and operating results may be materially adversely affected.

If our goodwill or amortizable intangible assets become impaired, we may be required to record a significant charge to earnings. We acquire other companies and intangible assets and may not realize all the economic benefit from those acquisitions, which could cause an impairment of goodwill or intangibles. We review our amortizable intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. We test goodwill for impairment at least annually. Factors that may cause a change in circumstances, indicating that the carrying value of our goodwill or amortizable intangible assets may not be recoverable, include a decline in our stock price and market capitalization, reduced future cash flow estimates, and slower growth rates in industry segments in which we participate. We may be required to record a significant charge in our consolidated financial statements during the period in which any impairment of our goodwill or amortizable intangible assets is determined, negatively affecting our results of operations.

During the fiscal fourth quarter, we evaluated the ongoing value of the intangible assets associated with the technologies and trade names obtained in the acquisitions of DataRPM and Kinvey. In accordance with ASC 360-10, we record impairment losses on long-lived assets used in operations when events and circumstances indicate that long-lived assets might be impaired and the undiscounted cash flows estimated to be generated by those assets are less than the carrying amounts of those assets. As a result of our decision to reduce our current and ongoing spending levels within our cognitive application product lines, which consist primarily of our DataRPM and Kinvey products, we determined that the intangible assets were fully impaired. As a result, we incurred an impairment charge of $22.7 million in the fourth quarter of fiscal year 2019 (Note 4).

We may make additional acquisitions of businesses, products or technologies that involve additional risks, which could disrupt our business or harm our financial condition, results of operations or cash flows. A key element of our strategy includes the acquisition of businesses that offer complementary products, services and technologies, augment our revenues and cash flows, and meet our strict financial criteria, such as our recent acquisition of Ipswitch. We may not be able to identify suitable acquisition opportunities, or to consummate any such transactions. Any acquisitions that we do complete and their integration involve a number of risks, the occurrence of which could have a material adverse effect on our business, financial condition, operating results or cash flows, including:

- unexpected delays, challenges and related expenses, and the disruption of our business;
- difficulties of assimilating the operations and personnel of acquired companies;
- our potential inability to realize the value of the acquired assets relative to the price paid;
- distraction of management from our ongoing businesses;
- potential product disruptions associated with the sale of the acquired business's products;
- the potential that an acquisition may not further our business strategy as we expected, may not result in revenue and cash flow growth to the degree we expected or at all, or may not achieve expected synergies;
- the possibility of incurring significant restructuring charges and amortization expense;
- risks related to the assumption of the acquired business's liabilities or any ongoing lawsuits;
- potential impairment to assets that we recorded as a part of an acquisition, including intangible assets and goodwill; and
- to the extent that we issue stock to pay for an acquisition, dilution to existing stockholders and decreased earnings per share.

Difficulties associated with any acquisitions we may pursue and their integration may be complicated by factors such as:

- the size of the business or entity acquired;
- geographic and cultural differences;
- lack of experience operating in the industry or geographic markets of the acquired business;
- potential loss of key employees and customers;
- the potential for deficiencies in internal controls at the acquired or combined business;
- performance problems with the acquired business’s technology;
- exposure to unanticipated liabilities of the acquired business;
- insufficient revenue to offset increased expenses associated with the acquisition; and
- adverse tax consequences.

If we fail to complete an announced acquisition, our stock price could fall to the extent the price reflects an assumption that such acquisition will be completed, and we may incur significant unrecoverable costs. Further, the failure to consummate an acquisition may result in negative publicity and adversely impact our relationships with our customers, vendors and employees. We may become subject to legal proceedings relating to the acquisition and the integration of acquired businesses may not be successful. Failure to manage and successfully integrate acquired businesses, achieve anticipated levels of profitability of the acquired business, improve margins of the acquired businesses and products, or realize other anticipated benefits of an acquisition could materially harm our business, operating results and margins.

The segments of the software industry in which we participate are intensely competitive, and our inability to compete effectively could harm our business.We experience significant competition from a variety of sources with respect to the marketing and distribution of our products. Many of our competitors have greater financial, marketing or technical resources than we do and may be able to adapt more quickly to new or emerging technologies and changes in customer requirements or to devote greater resources to the promotion and sale of their products than we can. Increased competition could make it more difficult for us to maintain our market presence or lead to downward pricing pressure.

In addition, the marketplace for new products is intensely competitive and characterized by low barriers to entry. For example, an increase in market acceptance of open source software may cause downward pricing pressures. As a result, new competitors possessing technological, marketing or other competitive advantages may emerge and rapidly acquire market share. In addition, current and potential competitors may make strategic acquisitions or establish cooperative relationships among themselves or with third parties, thereby increasing their ability to deliver products that better address the needs of our prospective customers. Current and potential competitors may also be more successful than we are in having their products or technologies widely accepted. We may be unable to compete successfully against current and future competitors, and our failure to do so could have a material adverse effect on our business, prospects, financial condition and operating results.

We rely on the experience and expertise of our skilled employees, and must continue to attract and retain qualified technical, marketing and managerial personnel in order to succeed. Our future success will depend in large part upon our ability to attract and retain highly skilled technical, managerial, sales and marketing personnel. There is significant competition for such personnel in the software industry. We may not continue to be successful in attracting and retaining the personnel we require to develop new and enhanced products and to continue to grow and operate profitably.

Our periodic workforce restructurings can be disruptive. We have in the past restructured or made other adjustments to our workforce in response to management changes, product changes, performance issues, changes in strategy, acquisitions and other internal and external considerations. In the past, these restructurings have resulted in increased restructuring costs and have temporarily reduced productivity. These effects could recur in connection with any future restructurings or we may not

achieve or sustain the expected growth or cost savings benefits of any such restructurings, or do so within the expected timeframe. As a result, our revenues and other results of operations could be negatively affected.

Our business practices with respect to the collection, use and management of personal information could give rise to operational interruption, liabilities or reputational harm as a result of governmental regulation, legal requirements or industry standards relating to consumer privacy and data protection. As regulatory focus on privacy issues continues to increase and worldwide laws and regulations concerning the handling of personal information expand and become more complex, potential risks related to data collection and use within our business will intensify. For example, the E.U. and the United States ("U.S.") formally entered into a framework in July 2016 that provides a mechanism for companies to transfer data from E.U. member states to the U.S. This framework, called the Privacy Shield, is intended to address shortcomings identified by the Court of Justice of the E.U. in the previous E.U.-U.S. Safe Harbor Framework, which the Court of Justice invalidated in October 2015. 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 any court blocks transfers to or from a particular jurisdiction on the basis that no transfer mechanisms are legally adequate, this could give rise to operational interruption in the performance of services for customers and internal processing of employee information, regulatory liabilities or reputational harm. In addition, U.S. and foreign governments have enacted or are considering enacting legislation or regulations, or may in the near future interpret existing legislation or regulations, in a manner that could significantly impact our ability and the ability of our customers and data partners to collect, augment, analyze, use, transfer and share personal and other information that is integral to certain services we provide.

Regulators globally are also imposing greater monetary fines for privacy violations. For example, in 2016, the E.U. adopted a law governing data practices and privacy called the General Data Protection Regulation (GDPR), which became effective in May 2018. The law establishes new requirements regarding the handling of personal data. Non-compliance with the GDPR may result in monetary penalties of up to 4% of worldwide revenue. The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information, could greatly increase our cost of providing our products and services or even prevent us from offering certain services in jurisdictions that we operate.

Additionally, public perception and standards related to the privacy of personal information can shift rapidly, in ways that may affect our reputation or influence regulators to enact regulations and laws that may limit our ability to provide certain products. Any failure, or perceived failure, by us to comply with U.S. federal, state, or foreign laws and regulations, including laws and regulations regulating privacy, data security, or consumer protection, or other policies, public perception, standards, self-regulatory requirements or legal obligations, could result in lost or restricted business, proceedings, actions or fines brought against us or levied by governmental entities or others, or could adversely affect our business and harm our reputation.

If our products contain software defects or security flaws, it could harm our revenues and expose us to litigation.Our products, despite extensive testing and quality control, may contain defects or security flaws, especially when we first introduce them or when new versions are released. We may need to issue corrective releases of our software products to fix any defects or errors. The detection and correction of any security flaws can be time consuming and costly. Errors in our software products could affect the ability of our products to work with other hardware or software products, delay the development or release of new products or new versions of products, adversely affect market acceptance of our products and expose us to potential litigation. If we experience errors or delays in releasing new products or new versions of products, such errors or delays could have a material adverse effect on our revenue.

We could incur substantial cost in protecting our proprietary software technology or if we fail to protect our technology, which would harm our business.We rely principally on a combination of contract provisions and copyright, trademark, patent and trade secret laws to protect our proprietary technology. Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy aspects of our products or to obtain and use information that we regard as proprietary. Policing unauthorized use of our products is difficult. Litigation may be necessary in the future to enforce our intellectual property rights, to protect our trade secrets or to determine the validity and scope of the proprietary rights of others. This litigation could result in substantial costs and diversion of resources, whether or not we ultimately prevail on the merits. The steps we take to protect our proprietary rights may be inadequate to prevent misappropriation of our technology; moreover, others could independently develop similar technology.

We could be subject to claims that we infringe intellectual property rights of others, which could harm our business, financial condition, results of operations or cash flows. Third parties could assert infringement claims in the future with respect to our products and technology, and such claims might be successful. Litigation relating to any such claims could result in substantial costs and diversion of resources, whether or not we ultimately prevail on the merits. Any such litigation could also result in our being prohibited from selling one or more of our products, unanticipated royalty payments, reluctance by potential customers to purchase our products, or liability to our customers and could have a material adverse effect on our business, financial condition, operating results and cash flows.

If our security measures are breached, our products and services may be perceived as not being secure, customers may curtail or stop using our products and services, and we may incur significant legal and financial exposure. Our products and services involve the storage and transmission of our customers' proprietary information and may be vulnerable to unauthorized access, computer viruses, cyber-attacks, distributed denial of service attacks and other disruptive problems Due to the actions of outside parties, employee error, malfeasance, or otherwise, an unauthorized party may obtain access to our data or our customers' data, which could result in its theft, destruction or misappropriation. Security risks in recent years have increased significantly given the increased sophistication and activities of hackers, organized crime, including state-sponsored organizations and nation-states, and other outside parties. Cyber threats are continuously evolving, increasing the difficulty of defending against them. While we have implemented security procedures and controls to address these threats, our security measures could be compromised or could fail. Any security breach or unauthorized access could result in significant legal and financial exposure, increased costs to defend litigation, indemnity and other contractual obligations, government fines and penalties, damage to our reputation and our brand, and a loss of confidence in the security of our products and services that could potentially have an adverse effect on our business and results of operations. Breaches of our network could disrupt our internal systems and business applications, including services provided to our customers. Additionally, data breaches could compromise technical and proprietary information, harming our competitive position. We may need to spend significant capital or allocate significant resources to ensure effective ongoing protection against the threat of security breaches or to address security related concerns. If an actual or perceived breach of our security occurs, the market perception of the effectiveness of our security measures could be harmed and we could lose customers. In addition, our insurance coverage may not be adequate to cover all costs related to cybersecurity incidents and the disruptions resulting from such events.

We may have exposure to additional tax liabilities As a multinational corporation, we are subject to income taxes in the U.S. and various foreign jurisdictions. Significant judgment is required in determining our global provision for income taxes and other tax liabilities. In the ordinary course of a global business, there are many intercompany transactions and calculations where the ultimate tax determination is uncertain. Our income tax returns are routinely subject to audits by tax authorities. Although we regularly assess the likelihood of adverse outcomes resulting from these examinations to determine our tax estimates, a final determination of tax audits that is inconsistent with such assessments or tax disputes could have an adverse effect on our financial condition, results of operations and cash flows.

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 U.S. and various foreign jurisdictions. We are regularly under audit by tax authorities with respect to these non-income taxes and may have exposure to additional non-income tax liabilities, which could have an adverse effect on our results of operations, financial condition and cash flows.

In addition, our future effective tax rates could be favorably or unfavorably affected by changes in tax rates, changes in the valuation of our deferred tax assets or liabilities, or changes in tax laws or their interpretation. Such changes could have a material adverse impact on our financial results.

We are required to comply with certain financial and operating covenants under our credit facility and to make scheduled debt payments as they become due; any failure to comply with those covenants or to make scheduled payments could cause amounts borrowed under the facility to become immediately due and payable or prevent us from borrowing under the facility. In April 2019, we entered into an amended and restated credit agreement, which consists of a $301.0 million term loan and a $100.0 million revolving loan (which may be increased by an additional $125.0 million if the existing or additional lenders are willing to make such increased commitments). This facility matures in April 2024, at which time any amounts outstanding will be due and payable in full. We may wish to borrow additional amounts under the facility in the future to support our operations, including for strategic acquisitions and share repurchases.

We are required to comply with specified financial and operating covenants and to make scheduled repayments of our term loan, which may limit our ability to operate our business as we otherwise might operate it. Our failure to comply with any of these covenants or to meet any payment obligations under the facility could result in an event of default which, if not cured or waived, would result in any amounts outstanding, including any accrued interest and unpaid fees, becoming immediately due and payable. We might not have sufficient working capital or liquidity to satisfy any repayment obligations in the event of an

acceleration of those obligations. In addition, if we are not in compliance with the financial and operating covenants at the time we wish to borrow funds, we will be unable to borrow funds.

Our common stock price may continue to be volatile, which could result in losses for investors. The market price of our common stock, like that of other technology companies, is volatile and is subject to wide fluctuations in response to quarterly variations in operating results, announcements of technological innovations or new products by us or our competitors, changes in financial estimates by securities analysts or other events or factors. Our stock price may also be affected by broader market trends unrelated to our performance. As a result, purchasers of our common stock may be unable at any given time to sell their shares at or above the price they paid for them.

Item 1B. Unresolved Staff Comments

As of the date of this report, we do not have any open comments from the SEC related to our financial statements or periodic filings with the SEC.

Item 2. Properties

We own our principal administrative, sales, support, marketing, product development and distribution facilities, which are located in one building totaling approximately 165,000 square feet in Bedford, Massachusetts.

We also maintain offices for administrative, sales, support, marketing, product development and/or distribution purposes in leased facilities in various other locations in North America, including Burlington, Massachusetts and Morrisville, North Carolina, and outside North America, including Sofia, Bulgaria, Hyderabad, India, and Rotterdam, the Netherlands. The terms of our leases generally range from one to fifteen years. We believe that our facilities are adequate for our current needs and that suitable additional space will be available as needed.

Item 3. Legal Proceedings

We are 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 effect on our consolidated financial position, results of operations or cash flows.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Our common stock trades on the NASDAQ Global Select Market under the symbol "PRGS".

As of December 31, 2019, our common stock was held by approximately 149 stockholders of record.

In fiscal years 2019 and 2018, we repurchased and retired 0.7 million shares of our common stock for $25.0 million and 2.9 million shares of our common stock for $120.0 million, respectively. In connection with the acquisition of Ipswitch in April 2019, we suspended our stock repurchase program for the remainder of fiscal 2019.

We expect to resume share repurchases in fiscal 2020, at a level consistent with our publicly stated capital allocation policy. The timing and amount of any shares repurchased will be determined by management based on its evaluation of market conditions and other factors, and the Board of Directors may choose to suspend, expand or discontinue the repurchase program at any time. As of November 30, 2019, there was $75.0 million remaining under the share repurchase authorization. In January 2020, our Board of Directors increased the total share repurchase authorization to $250.0 million.

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Stock Repurchases

Information related to the repurchases of our common stock by month in the fourth quarter of fiscal year 2019 is as follows (in thousands, except per share and share data):

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet be Purchased Under the Plans or Programs[1]
September 2019	—	$ —	—	$ 75,000
October 2019	—	—	—	75,000
November 2019	—	—	—	75,000
Total	—	$ —	—	$ 75,000

(1) As of November 30, 2019, there was $75.0 million remaining under the current authorization of $250.0 million. In January 2020, our Board of Directors increased the total share repurchase authorization from $75.0 million to $250.0 million.

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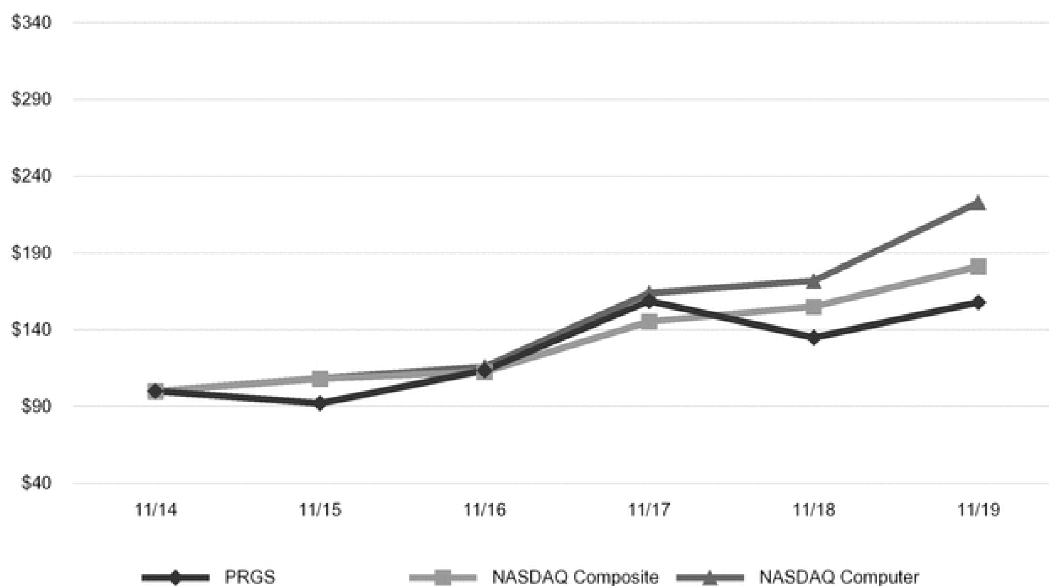
Stock Performance Graph and Cumulative Total Return

The graph below compares the cumulative total stockholder return on our common stock with the cumulative total return on the NASDAQ Composite Index and the NASDAQ Computer Index for each of the last five fiscal years ended November 30, 2019, assuming an investment of $100 at the beginning of such period and the reinvestment of any dividends.

Comparison of 5 Year Cumulative Total Return [1]
Among Progress Software Corporation, the NASDAQ Composite Index and the NASDAQ Computer Index



[1] $100 invested on November 30, 2014 in stock or index, including reinvestment of dividends.

November 30,	2014	2015	2016	2017	2018	2019
Progress Software Corporation	$ 100.00	$ 92.06	$ 113.47	$ 158.63	$ 134.92	$ 157.83
NASDAQ Composite	100.00	108.07	112.61	145.41	155.07	181.24
NASDAQ Computer	100.00	108.14	115.99	164.04	171.76	223.01

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Item 6. Selected Financial Data

The following table sets forth selected financial data for the last five fiscal years (in thousands, except per share data):

Year Ended November 30,	2019	2018	2017	2016	2015
		As Adjusted[1]	As Adjusted[1]	As Reported[1]	As Reported[1]
Revenue	$ 413,298	$ 378,981	$ 389,154	$ 405,341	$ 377,554
Income (loss) from operations	40,084	67,814	57,490	(29,709)	14,754
Net income (loss)	26,400	49,670	29,021	(55,726)	(8,801)
Basic earnings (loss) per share	0.59	1.09	0.60	(1.13)	(0.17)
Diluted earnings (loss) per share	0.58	1.08	0.60	(1.13)	(0.17)
Cash dividends declared per common share	0.630	0.575	0.515	0.125	—
Cash, cash equivalents and short-term investments	173,685	139,513	183,609	249,754	241,279
Total assets	881,271	644,150	718,718	754,827	877,123
Long-term debt, net, including current portion	294,719	116,089	121,909	135,000	144,375
Shareholders' equity	330,282	324,002	404,381	406,629	522,464

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. As a result, we have adjusted balances for 2018 and 2017. We have not adjusted 2016 and 2015 for ASC 606. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

Fiscal year 2016 amounts were impacted by a $92.0 million impairment charge related to the goodwill of the Application Development and Deployment reporting unit.

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

Forward-Looking Statements

Certain statements below about anticipated results and our products and markets are forward-looking statements that are based on our current plans and assumptions. Important information about the bases for these plans and assumptions and factors that may cause our actual results to differ materially from these statements is contained below and in Item 1A. "Risk Factors" of this Annual Report on Form 10-K.

Use of Constant Currency

Revenue from our international operations has historically represented a substantial portion of our total revenue. As a result, our revenue results have been impacted, and we expect will continue to be impacted, by fluctuations in foreign currency exchange rates. For example, if the local currencies of our foreign subsidiaries strengthen, our consolidated results stated in U.S. dollars are positively impacted.

As exchange rates are an important factor in understanding period to period comparisons, we believe the presentation of revenue growth rates on a constant currency basis enhances the understanding of our revenue results and evaluation of our performance in comparison to prior periods. The constant currency information presented is calculated by translating current period results using prior period weighted average foreign currency exchange rates. These results should be considered in addition to, not as a substitute for, results reported in accordance with GAAP.

Overview

Progress Software Corporation ("Progress," the "Company," "we," "us," or "our") offers the leading platform for developing and deploying strategic business applications. We enable customers and partners to deliver modern, high-impact digital experiences with a fraction of the effort, time and cost. Progress offers powerful tools for easily building adaptive user experiences across any type of device or touchpoint, the flexibility of a cloud-native app dev platform to deliver modern apps, leading data connectivity technology, web content management, business rules, secure file transfer, and network monitoring. Over 1,700 independent software vendors, 100,000 enterprise customers, and two million developers rely on Progress to power their applications. We operate as three distinct segments: OpenEdge, Data Connectivity and Integration, and Application Development and Deployment.

The key tenets of our strategic plan and operating model are as follows:

Align Resources to Drive Profitability. Our organizational philosophy and operating principles focus primarily on customer and partner retention and success for our core products and a streamlined operating approach in order to more efficiently drive financial results.

Protect and Strengthen Our Core Business. A key element of our strategy is centered on providing the platform and tools enterprises need to build modern, strategic business applications. We offer these products and tools to both new customers and partners as well as our existing partner and customer ecosystems. This strategy builds on our inherent DNA and our vast experience in application development that we've acquired over the past 35+ years.

Our offerings enable developers to build the most modern applications quickly and easily, and include:

- our OpenEdge software, which provides a unified development environment consisting of development tools, application servers, application management tools, an embedded relational database management system and the capability to connect and integrate with other applications and data sources;
- our leading UI development tools, which enable organizations to easily build engaging user interfaces for any device or front end;
- our data connectivity and integration capabilities;
- our business logic and rules capabilities;
- our secure file transfer solutions, which provide secure collaboration and automated file transfers of sensitive data and advanced workflow automation capabilities;
- our network management capabilities, which enable small and medium-sized businesses to monitor and manage their IT infrastructure and applications; and
- web content management for delivering personalized and engaging digital experiences.

Acquire Accretive Businesses. We are pursuing acquisitions of businesses within the software infrastructure space, with products that appeal to both IT organizations and individual developers. These acquisitions must meet strict financial criteria, which will enable us to drive significant stockholder returns by providing scale and increased cash flows. As described below, in April 2019, we acquired Ipswitch in a transaction that met these strict financial criteria.

Holistic Capital Allocation Approach. We have adopted a shareholder friendly capital allocation policy that utilizes dividends and share repurchases to return capital to shareholders. Pursuant to our capital allocation strategy that we initially announced in September 2017, we have targeted to return approximately 25% of our annual cash flows from operations to stockholders in the form of dividends. We also intend to repurchase our shares sufficient to offset dilution from our equity plans.

In fiscal year 2019, we repurchased and retired 0.7 million shares of our common stock for $25.0 million. In connection with the acquisition of Ipswitch in April 2019, we suspended our stock repurchase program for the remainder of fiscal 2019.

We expect to resume share repurchases in fiscal 2020, at a level consistent with our publicly stated capital allocation policy. The timing and amount of any shares repurchased will be determined by management based on its evaluation of market conditions and other factors, and the Board of Directors may choose to suspend, expand or discontinue the repurchase program at any time. As of November 30, 2019, there was $75.0 million remaining under the share repurchase authorization. In January 2020, our Board of Directors increased the total share repurchase authorization to $250.0 million.

We began paying quarterly cash dividends of $0.125 per share of common stock to Progress stockholders in December 2016 and increased the quarterly cash dividend to $0.14 per share in September 2017. In September 2018, the quarterly cash dividend was increased to $0.155 per share of common stock. On September 24, 2019, our Board of Directors approved an additional increase to our quarterly cash dividend from $0.155 to $0.165 per share of common stock. On January 8, 2020, our Board of Directors declared a quarterly dividend of $0.165 per share of common stock that will be paid on March 16, 2020 to stockholders of record as of the close of business on March 2, 2020. We expect to continue paying quarterly cash dividends in subsequent quarters consistent with our capital allocation strategy.

In furtherance of our acquisition strategy, on April 30, 2019, we acquired all of the outstanding equity interests of Ipswitch, a provider of award-winning and easy-to-use secure data file transfer and network management software, for an aggregate purchase price of approximately $225.0 million.

We expect to continue to evaluate possible acquisitions and other strategic transactions designed to expand our business. As a result, our expected uses of cash could change, our cash position could be reduced and we may incur additional debt

obligations to the extent we complete additional acquisitions. However, we believe that existing cash balances, together with funds generated from operations and amounts available under our credit facility, will be sufficient to finance our operations and meet our foreseeable cash requirements, including quarterly cash dividends and stock repurchases to Progress stockholders, as applicable, through at least the next twelve months.

We derive a significant portion of our revenue from international operations, which are primarily conducted in foreign currencies. The impact of foreign exchange rates had a material impact on revenue in fiscal year 2019. Since approximately one-third of our revenue is denominated in foreign currency, future fluctuations in foreign currency rates may also significantly impact our results.

On September 26, 2019, we announced that we are reducing our current and ongoing investment levels within our cognitive application product lines, which consist primarily of our DataRPM and Kinvey products. Accordingly, our fiscal fourth quarter results include a restructuring charge of $2.5 million. This restructuring charge relates to employee costs, including severance, health benefits and outplacement services (but excluding stock-based compensation) incurred as a part of the reduction in the investment. In connection with this restructuring action, during the fiscal fourth quarter, we evaluated the ongoing value of the intangible assets primarily associated with the technologies and trade names obtained in the acquisitions of DataRPM and Kinvey. As a result of this evaluation, we wrote down these assets to fair value, which resulted in a $22.7 million asset impairment charge.

Results of Operations

Adoption of New Accounting Standard

We adopted the new accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018, using the full retrospective method, which required us to restate prior comparable periods. See *Note 1. Nature of Business and Summary of Significant Accounting Policies* for further information. *Management's Discussion and Analysis of Financial Condition and Results of Operations* has also been adjusted to reflect the full retrospective adoption of ASC 606.

Fiscal Year 2019 Compared to Fiscal Year 2018

Revenue

	Fiscal Year Ended		Percentage Change	
(In thousands)	November 30, 2019	November 30, 2018	As Reported	Constant Currency
Revenue	$ 413,298	$ 378,981	9%	11%

Total revenue increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to the acquisition of Ipswitch during the second quarter of fiscal year 2019, and an increase in license sales in our Data Connectivity and Integration segment. Ipswitch contributed $28.2 million in revenue in fiscal year 2019. The increase in total revenue was partially offset by an unfavorable impact from currency exchange rates in fiscal year 2019 as compared to last year. Changes in prices from fiscal year 2018 to 2019 did not have a significant impact on our revenue.

License Revenue

	Fiscal Year Ended		Percentage Change	
(In thousands)	November 30, 2019	November 30, 2018	As Reported	Constant Currency
License	$ 122,552	$ 99,800	23%	25%
As a percentage of total revenue	*30%*	*26%*		

Software license revenue increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to the acquisition of Ipswitch and an increase in license sales in our Data Connectivity and Integration segment. The increase in license revenue was partially offset by an unfavorable impact from currency exchange rates in fiscal year 2019 as compared to last year.

Maintenance and Services Revenue

	Fiscal Year Ended		Percentage Change	
(In thousands)	November 30, 2019	November 30, 2018	As Reported	Constant Currency
Maintenance	$ 259,006	$ 249,171	4%	6%
As a percentage of total revenue	*63%*	*66%*		
Professional services	$ 31,740	$ 30,010	6%	7%
As a percentage of total revenue	*7%*	*8%*		
Total maintenance and services revenue	$ 290,746	$ 279,181	4%	6%
As a percentage of total revenue	*70%*	*74%*		

Maintenance revenue increased in fiscal year 2019 as compared fiscal year 2018 due to the acquisition of Ipswitch and a slight increase in maintenance revenue in our Application Development and Deployment segment. This increase was offset by an unfavorable impact from currency exchange rates on our OpenEdge segment maintenance revenue in fiscal year 2019 compared to fiscal year 2018. Professional services revenue increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to an increase in OpenEdge professional services revenue, partially offset by lower professional services revenue generated by our Application Development and Deployment segment.

Revenue by Region

	Fiscal Year Ended		Percentage Change	
(In thousands)	November 30, 2019	November 30, 2018	As Reported	Constant Currency
North America	$ 233,911	$ 204,257	15%	15%
As a percentage of total revenue	*57%*	*54%*		
EMEA	$ 137,301	$ 135,055	2%	6%
As a percentage of total revenue	*33%*	*35%*		
Latin America	$ 19,665	$ 18,046	9%	16%
As a percentage of total revenue	*5%*	*5%*		
Asia Pacific	$ 22,421	$ 21,623	4%	7%
As a percentage of total revenue	*5%*	*6%*		

Total revenue generated in North America increased $29.7 million, and total revenue generated outside North America increased $4.7 million, in fiscal year 2019 as compared to fiscal year 2018. The increase in North America was primarily due to the acquisition of Ipswitch and higher license revenue generated by our Data Connectivity and Integration segment. The increase in revenue generated in EMEA in fiscal year 2019 as compared to fiscal year 2018 was also due to the acquisition of Ipswitch and higher license revenue generated by our Data Connectivity and Integration segment, partially offset by the unfavorable effect of foreign exchange rates. Revenue generated in Latin America increased in fiscal year 2019 as compared to fiscal year 2018 due to an increase in license sales in our OpenEdge segment. The revenue generated in Asia Pacific increased slightly in fiscal year 2019 as compared to fiscal year 2018 primarily due to the acquisition of Ipswitch.

Total revenue generated in markets outside North America represented 43% of total revenue in fiscal year 2019 compared to 46% of total revenue in the same period last year. If exchange rates had remained constant in fiscal year 2019 as compared to the exchange rates in effect in fiscal year 2018, total revenue generated in markets outside North America would have been 44% of total revenue.

Revenue by Segment

(In thousands)	Fiscal Year Ended November 30, 2019	November 30, 2018	Percentage Change
OpenEdge segment	$ 296,929	$ 277,806	7 %
Data Connectivity and Integration segment	39,903	23,129	73 %
Application Development and Deployment segment	76,466	78,046	(2)%
Total revenue	$ 413,298	$ 378,981	9 %

Revenue in the OpenEdge segment increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to the acquisition of Ipswitch, partially offset by an unfavorable impact from currency exchange rates in fiscal year 2019 as compared to last year. Data Connectivity and Integration segment revenue increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to the timing of certain renewals by OEMs. Application Development and Deployment segment revenue decreased in fiscal year 2019 as compared to fiscal year 2018, primarily due to lower license and professional services revenue, partially offset by an increase in maintenance revenue.

Cost of Software Licenses

(In thousands)	Fiscal Year Ended November 30, 2019	November 30, 2018	Percentage Change
Cost of software licenses	$ 4,894	$ 4,769	3%
As a percentage of software license revenue	*4%*	*5%*	
As a percentage of total revenue	*1%*	*1%*	

Cost of software licenses consists primarily of costs of royalties, electronic software distribution, duplication, and packaging. Cost of software licenses as a percentage of software license revenue varies from period to period depending upon the relative product mix. During the periods presented above, cost of software licenses remained relatively flat as a percentage of revenue.

Cost of Maintenance and Services

(In thousands)	Fiscal Year Ended November 30, 2019	November 30, 2018	Percentage Change
Cost of maintenance and services	$ 44,463	$ 39,470	13%
As a percentage of maintenance and services revenue	*15%*	*14%*	
As a percentage of total revenue	*11%*	*10%*	

Cost of maintenance and services consists primarily of costs of providing customer support, consulting, and education. Cost of maintenance and services increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to higher compensation-related costs resulting from an increase in headcount as a result of the acquisition of Ipswitch.

Amortization of Acquired Intangibles

(In thousands)	Fiscal Year Ended November 30, 2019	November 30, 2018	Percentage Change
Amortization of acquired intangibles	$ 25,884	$ 22,734	14%
As a percentage of total revenue	*6%*	*6%*	

Amortization of acquired intangibles included in costs of revenue primarily represents the amortization of the value assigned to technology-related intangible assets obtained in business combinations. Amortization of acquired intangibles increased in fiscal year 2019 as compared to fiscal year 2018, primarily due to the addition of intangible assets associated with the technologies obtained in connection with the acquisition of Ipswitch.

Gross Profit

	Fiscal Year Ended		
(In thousands)	November 30, 2019	November 30, 2018	Percentage Change
Gross profit	$ 338,057	$ 312,008	8%
As a percentage of total revenue	*82%*	*82%*	

Our gross profit increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to the increases of license and maintenance revenue, offset slightly by the increase of cost of maintenance and services and the amortization of acquired intangibles, each as described above.

Sales and Marketing

	Fiscal Year Ended		
(In thousands)	November 30, 2019	November 30, 2018	Percentage Change
Sales and marketing	$ 101,701	$ 93,036	9%
As a percentage of total revenue	*25%*	*25%*	

Sales and marketing expenses increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to increased compensation-related expenses as a result of increased headcount from the acquisition of Ipswitch.

Product Development

	Fiscal Year Ended		
(In thousands)	November 30, 2019	November 30, 2018	Percentage Change
Product development	$ 88,572	$ 79,739	11%
As a percentage of total revenue	*21%*	*21%*	

Product development expenses increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to increased compensation-related expenses as a result of increased headcount from the acquisition of Ipswitch.

General and Administrative

	Fiscal Year Ended		
(In thousands)	November 30, 2019	November 30, 2018	Percentage Change
General and administrative	$ 53,360	$ 49,050	9%
As a percentage of total revenue	*13%*	*13%*	

General and administrative expenses include the costs of our finance, human resources, legal, information systems and administrative departments. General and administrative expenses increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to increased stock-based compensation expense.

Amortization of Acquired Intangibles

(In thousands)	Fiscal Year Ended November 30, 2019	Fiscal Year Ended November 30, 2018	Percentage Change
Amortization of acquired intangibles	$ 22,255	$ 13,241	68%
As a percentage of total revenue	*5%*	*3%*	

Amortization of acquired intangibles included in operating expenses primarily represents the amortization of value assigned to intangible assets obtained in business combinations other than assets identified as purchased technology. Amortization of acquired intangibles increased in fiscal year 2019 as compared to fiscal year 2018 due to the addition of intangible assets obtained in connection with the acquisition of Ipswitch.

Impairment of Intangible and Long-Lived Assets

(In thousands)	Fiscal Year Ended November 30, 2019	Fiscal Year Ended November 30, 2018	Percentage Change
Impairment of intangible and long-lived assets	$ 24,096	$ —	*
As a percentage of total revenue	*6%*	*—%*	

*Not meaningful

In the fourth quarter of fiscal year 2019 we determined that the intangible assets associated with the technology obtained in connection with the acquisitions of DataRPM and Kinvey were fully impaired, resulting from our decision to reduce our current and ongoing investment levels within our cognitive application product lines. As a result, we incurred an impairment charge of $22.7 million in the fourth quarter of fiscal year 2019. See Note 6 to our Consolidated Financial Statements in Item 8 of this Form 10-K for additional details. In addition, during the fourth quarter of fiscal year 2019, we incurred an additional asset impairment charge of $1.4 million related to the abandonment of certain long-lived assets associated with a sale of corporate land and buildings. See Note 5 to our Consolidated Financial Statements in Item 8 of this Form 10-K for additional details.

Restructuring Expenses

(In thousands)	Fiscal Year Ended November 30, 2019	Fiscal Year Ended November 30, 2018	Percentage Change
Restructuring expenses	$ 6,331	$ 2,251	181%
As a percentage of total revenue	*2%*	*1%*	

Restructuring expenses recorded in fiscal year 2019 relate to the restructuring activities that occurred in fiscal years 2019 and 2017. See Note 13 to our Consolidated Financial Statements in Item 8 of this Form 10-K for additional details, including types of expenses incurred and the timing of future expenses and cash payments. See also the Liquidity and Capital Resources section of this Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations.

Acquisition-Related Expenses

(In thousands)	Fiscal Year Ended November 30, 2019	Fiscal Year Ended November 30, 2018	Percentage Change
Acquisition-related expenses	$ 1,658	$ 258	*
As a percentage of total revenue	*—%*	*—%*	

*Not meaningful

Acquisition-related costs are expensed as incurred and include those costs incurred as a result of a business combination. These costs consist of professional services fees, including third-party legal and valuation-related fees, as well as retention fees, and earn-out payments treated as compensation expense. Acquisition-related expenses in fiscal year 2019 were related to the acquisition of Ipswitch. Acquisition-related expenses in fiscal year 2018 were minimal.

Loss on Assets Held for Sale

	Fiscal Year Ended		
(In thousands)	November 30, 2019	November 30, 2018	Percentage Change
Loss on assets held for sale	$ —	$ 5,147	*
As a percentage of total revenue	*—%*	*1%*	

*Not meaningful

In the fourth quarter of fiscal year 2018, we reclassified certain corporate land and building assets previously reported as property and equipment to assets held for sale on our consolidated balance sheets as we were actively marketing them and expected to sell them within one year. As a result, we recognized an impairment charge of $5.1 million, which represented the difference between the fair value less cost to sell and the carrying value of the assets. The impairment charge was recorded to loss on assets held for sale within operating expenses on our fiscal year 2018 consolidated statement of operations. See Note 5 to our Consolidated Financial Statements in Item 8 of this Form 10-K for additional details.

Fees Related to Shareholder Activist

	Fiscal Year Ended		
(In thousands)	November 30, 2019	November 30, 2018	Percentage Change
Fees related to shareholder activist	$ —	$ 1,472	(100)%
As a percentage of total revenue	*—%*	*—%*	

In September 2017, Praesidium Investment Management, then one of our largest stockholders, publicly announced its disagreement with our strategy in a Schedule 13D filed with the SEC and stated that it was seeking changes in the composition of our Board of Directors. In fiscal year 2018, we incurred professional and other fees relating to Praesidium's actions.

Income from Operations

	Fiscal Year Ended		
(In thousands)	November 30, 2019	November 30, 2018	Percentage Change
Income from operations	$ 40,084	$ 67,814	(41)%
As a percentage of total revenue	*10%*	*18%*	

Income from operations decreased in fiscal year 2019 as compared to fiscal year 2018. As described above, the decrease was primarily driven by the impairment of intangible and long-lived assets in the fourth quarter of fiscal year 2019, as well as increases in operating expenses, amortization of acquired intangible assets, restructuring expenses and acquisition expenses recorded in fiscal year 2019 as a result of the acquisition of Ipswitch. This decrease was partially offset by increased revenue in fiscal year 2019 and the loss on assets held for sale recorded in fiscal year 2018, as described above.

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Income from Operations by Segment

(In thousands)	Fiscal Year Ended November 30, 2019	Fiscal Year Ended November 30, 2018	Percentage Change
OpenEdge segment	$ 211,720	$ 209,986	1 %
Data Connectivity and Integration segment	31,930	15,495	106 %
Application Development and Deployment segment	52,473	50,959	3 %
Other unallocated expenses	(256,039)	(208,626)	(23)%
Total income from operations	$ 40,084	$ 67,814	(41)%

Note that the following expenses are not allocated to our segments as we manage and report our business in these functional areas on a consolidated basis only: certain product development and corporate sales and marketing expenses, customer support, administration, amortization of acquired intangibles, loss on assets held for sale, stock-based compensation, fees related to shareholder activist, restructuring, and acquisition-related expenses.

Other (Expense) Income

(In thousands)	Fiscal Year Ended November 30, 2019	Fiscal Year Ended November 30, 2018	Percentage Change
Interest expense	$ (9,913)	$ (5,149)	93 %
Interest income and other, net	1,143	1,220	(6)%
Foreign currency loss, net	(2,819)	(3,089)	(9)%
Total other expense, net	$ (11,589)	$ (7,018)	(65)%
As a percentage of total revenue	*(3)%*	*(2)%*	

Other expense, net, increased in fiscal year 2019 as compared to fiscal year 2018 primarily due to an increase in interest expense. The change in interest expense is a result of an increase in the principal balance of our debt, which was used to fund the Ipswitch acquisition.

Provision for Income Taxes

(In thousands)	Fiscal Year Ended November 30, 2019	Fiscal Year Ended November 30, 2018	Percentage Change
Provision for income taxes	$ 2,095	$ 11,126	(81)%
As a percentage of total revenue	*<1%*	*3%*	

Our effective income tax rate was 7% in fiscal year 2019 and 18% in fiscal year 2018. The primary reason for the decrease in the effective rate was due to the loss incurred by our US operations in fiscal year 2019 resulting from the amortization and impairment of intangibles. In addition, the majority of our international profits were earned in a jurisdiction with a statutory tax rate of 10%.

Net Income

(In thousands)	Fiscal Year Ended November 30, 2019	Fiscal Year Ended November 30, 2018	Percentage Change
Net income	$ 26,400	$ 49,670	(47)%
As a percentage of total revenue	*6%*	*13%*	

Fiscal 2018 Compared to Fiscal 2017

Revenue

	Fiscal Year Ended		Percentage Change	
(In thousands)	November 30, 2018	November 30, 2017	As Reported	Constant Currency
Revenue	$ 378,981	$ 389,154	(3)%	(3)%

Total revenue decreased in fiscal year 2018 as compared to fiscal year 2017 primarily due to a decline in license and professional services revenue, partially offset by an increase in maintenance revenue and a favorable impact from foreign currency exchange rates as further described below. Changes in prices from fiscal year 2017 to 2018 did not have a significant impact on our revenue.

License Revenue

	Fiscal Year Ended		Percentage Change	
(In thousands)	November 30, 2018	November 30, 2017	As Reported	Constant Currency
License	$ 99,800	$ 113,643	(12)%	(13)%
As a percentage of total revenue	*26%*	*29%*		

Software license revenue decreased in fiscal year 2018 as compared to fiscal year 2017 due to a decrease in software license revenue in our Data Connectivity and Integration and OpenEdge segments.

Maintenance and Services Revenue

	Fiscal Year Ended		Percentage Change	
(In thousands)	November 30, 2018	November 30, 2017	As Reported	Constant Currency
Maintenance	$ 249,171	$ 243,508	2 %	1 %
As a percentage of total revenue	*66%*	*63%*		
Professional services	$ 30,010	$ 32,003	(6)%	(7)%
As a percentage of total revenue	*8%*	*8%*		
Total maintenance and services revenue	$ 279,181	$ 275,511	1 %	— %
As a percentage of total revenue	*74%*	*71%*		

Maintenance revenue increased in fiscal year 2018 as compared to fiscal year 2017 due to an increase in maintenance revenue in our OpenEdge and Application Development and Deployment segments and a favorable impact from currency exchange rates, partially offset by a decline in our Data Connectivity and Integration segment. Professional services revenue decreased in fiscal year 2018 as compared to fiscal year 2017 primarily due to lower professional services revenue from our OpenEdge and Application Development and Deployment segments.

Revenue by Region

(In thousands)	Fiscal Year Ended November 30, 2018	Fiscal Year Ended November 30, 2017	Percentage Change As Reported	Percentage Change Constant Currency
North America	$ 204,257	$ 235,815	(13)%	(13)%
As a percentage of total revenue	*54%*	*61%*		
EMEA	$ 135,055	$ 117,509	15 %	11 %
As a percentage of total revenue	*35%*	*30%*		
Latin America	$ 18,046	$ 16,002	13 %	22 %
As a percentage of total revenue	*5%*	*4%*		
Asia Pacific	$ 21,623	$ 19,828	9 %	10 %
As a percentage of total revenue	*6%*	*5%*		

Total revenue generated in North America decreased $31.6 million, and total revenue generated outside North America increased $21.4 million, in fiscal year 2018 as compared to fiscal year 2017. The decrease in North America was primarily due to a decrease in license revenue in our Data Connectivity and Integration and OpenEdge segments as well as a decrease in maintenance revenue in our OpenEdge and Application Development and Deployment segments. The increase in revenue generated in EMEA in fiscal year 2018 as compared to fiscal year 2017 was primarily due to an increase in maintenance revenue in our OpenEdge and Application Development and Deployment segments, as well as a favorable impact from currency exchange rates. Revenue generated in Latin America and Asia Pacific increased in fiscal year 2018 as compared to fiscal year 2017 due to an increase in maintenance revenue.

Total revenue generated in markets outside North America represented 46% of total revenue in fiscal year 2018 compared to 39% of total revenue in the same period last year. If exchange rates had remained constant in fiscal year 2018 as compared to the exchange rates in effect in fiscal year 2017, total revenue generated in markets outside North America would have been 46% of total revenue.

Revenue by Segment

(In thousands)	Fiscal Year Ended November 30, 2018	Fiscal Year Ended November 30, 2017	Percentage Change
OpenEdge segment	$ 277,806	$ 279,823	(1)%
Data Connectivity and Integration segment	23,129	29,434	(21)%
Application Development and Deployment segment	78,046	79,897	(2)%
Total revenue	$ 378,981	$ 389,154	(3)%

Revenue in the OpenEdge segment decreased in fiscal year 2018 as compared to fiscal year 2017, largely due to the decrease in license and professional services revenue. Data Connectivity and Integration segment revenue decreased in fiscal year 2018 as compared to fiscal year 2017 primarily due to the timing of certain renewals by OEMs. Application Development and Deployment segment revenue decreased in fiscal year 2018 as compared to fiscal year 2017, primarily due to lower license and professional services revenue, partially offset by an increase in maintenance revenue.

Cost of Software Licenses

(In thousands)	Fiscal Year Ended November 30, 2018	Fiscal Year Ended November 30, 2017	Percentage Change
Cost of software licenses	$ 4,769	$ 5,752	(17)%
As a percentage of software license revenue	*5%*	*5%*	
As a percentage of total revenue	*1%*	*1%*	

Cost of software licenses consists primarily of costs of royalties, electronic software distribution, duplication, and packaging. Cost of software licenses as a percentage of software license revenue varies from period to period depending upon the relative product mix. The decrease in cost of software licenses in fiscal year 2018 was a result of lower payments of royalties to third parties as compared to fiscal year 2017.

Cost of Maintenance and Services

	Fiscal Year Ended		
(In thousands)	November 30, 2018	November 30, 2017	Percentage Change
Cost of maintenance and services	$ 39,470	$ 43,299	(9)%
As a percentage of maintenance and services revenue	*14%*	*16%*	
As a percentage of total revenue	*10%*	*11%*	

Cost of maintenance and services consists primarily of costs of providing customer support, consulting, and education. Cost of maintenance and services decreased in fiscal year 2018 as compared to fiscal year 2017 primarily due to lower compensation-related costs resulting from a decrease in headcount, partially offset by higher third-party professional services expense.

Amortization of Acquired Intangibles

	Fiscal Year Ended		
(In thousands)	November 30, 2018	November 30, 2017	Percentage Change
Amortization of acquired intangibles	$ 22,734	$ 20,108	13%
As a percentage of total revenue	*6%*	*5%*	

Amortization of acquired intangibles included in costs of revenue primarily represents the amortization of the value assigned to technology-related intangible assets obtained in business combinations. Amortization of acquired intangibles increased in fiscal year 2018 as compared to fiscal year 2017. The increase was primarily due to the addition of intangible assets associated with the technologies obtained in connection with the acquisitions of DataRPM in the second quarter of fiscal year 2017 and Kinvey in the third quarter of fiscal year 2017, partially offset by the completion of amortization of certain intangible assets acquired in prior years.

Gross Profit

	Fiscal Year Ended		
(In thousands)	November 30, 2018	November 30, 2017	Percentage Change
Gross profit	$ 312,008	$ 319,995	(2)%
As a percentage of total revenue	*82%*	*82%*	

Our gross profit decreased in fiscal year 2018 as compared to fiscal year 2017 primarily due to the decrease in license and professional services revenue as well as the increase of amortization of acquired intangibles, offset slightly by the decrease in cost of maintenance and services and cost of software licenses as described above.

Sales and Marketing

	Fiscal Year Ended		
(In thousands)	November 30, 2018	November 30, 2017	Percentage Change
Sales and marketing	$ 93,036	$ 101,051	(8)%
As a percentage of total revenue	*25%*	*26%*	

Sales and marketing expenses decreased in fiscal year 2018 as compared to fiscal year 2017 primarily due to lower compensation-related and professional service expenses as a result of the headcount reduction actions which occurred in the first quarter of fiscal year 2017. The decrease was partially offset by higher marketing programs costs related to the go-to-market efforts for Kinvey and DataRPM.

Product Development

	Fiscal Year Ended		
(In thousands)	November 30, 2018	November 30, 2017	Percentage Change
Product development	$ 79,739	$ 76,988	4%
As a percentage of total revenue	*21%*	*20%*	

Product development expenses increased in fiscal year 2018 as compared to fiscal year 2017 primarily due to higher stock-based compensation expenses, partially offset by lower compensation-related costs. During the first quarter of fiscal year 2017, there were significant forfeitures due to our restructuring action, which significantly reduced stock-based compensation expense in fiscal year 2017 as compared to fiscal year 2018.

General and Administrative

	Fiscal Year Ended		
(In thousands)	November 30, 2018	November 30, 2017	Percentage Change
General and administrative	$ 49,050	$ 45,739	7%
As a percentage of total revenue	*13%*	*12%*	

General and administrative expenses include the costs of our finance, human resources, legal, information systems and administrative departments. General and administrative expenses increased in fiscal year 2018 as compared to fiscal year 2017 primarily due to increased stock-based compensation expense, as well as higher professional services expense, partially offset by lower compensation-related expenses. During the first quarter of fiscal year 2017, there were significant forfeitures due to our restructuring action, which significantly reduced stock-based compensation expense in fiscal year 2017 as compared to fiscal year 2018.

Amortization of Acquired Intangibles

	Fiscal Year Ended		
(In thousands)	November 30, 2018	November 30, 2017	Percentage Change
Amortization of acquired intangibles	$ 13,241	$ 13,039	2%
As a percentage of total revenue	*3%*	*3%*	

Amortization of acquired intangibles included in operating expenses primarily represents the amortization of value assigned to intangible assets obtained in business combinations other than assets identified as purchased technology. Amortization of acquired intangibles increased in fiscal year 2018 as compared to fiscal year 2017 due to the addition of intangible assets obtained in connection with the acquisitions of DataRPM and Kinvey, which occurred in the second and third quarters of fiscal year 2017, respectively.

Restructuring Expenses

(In thousands)	Fiscal Year Ended November 30, 2018	Fiscal Year Ended November 30, 2017	Percentage Change
Restructuring expenses	$ 2,251	$ 22,210	(90)%
As a percentage of total revenue	*1%*	*6%*	

Restructuring expenses recorded in fiscal year 2018 relate to the restructuring activities that occurred in fiscal year 2017. See Note 13 to our Consolidated Financial Statements in Item 8 of this Form 10-K for additional details, including types of expenses incurred and the timing of future expenses and cash payments. See also the Liquidity and Capital Resources section of this Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations.

Acquisition-Related Expenses

(In thousands)	Fiscal Year Ended November 30, 2018	Fiscal Year Ended November 30, 2017	Percentage Change
Acquisition-related expenses	$ 258	$ 1,458	(82)%
As a percentage of total revenue	*—%*	*—%*	

Acquisition-related costs are expensed as incurred and include those costs incurred as a result of a business combination. These costs consist of professional services fees, including third-party legal and valuation-related fees, as well as retention fees, and earn-out payments treated as compensation expense. Acquisition-related expenses in fiscal year 2018 were minimal. Acquisition-related expenses in fiscal year 2017 resulted primarily from expense related to the acquisitions of DataRPM and Kinvey, which occurred in the second and third quarters of fiscal year 2017, respectively.

Loss on Assets Held for Sale

(In thousands)	Fiscal Year Ended November 30, 2018	Fiscal Year Ended November 30, 2017	Percentage Change
Loss on assets held for sale	$ 5,147	$ —	*
As a percentage of total revenue	*1%*	*—%*	

In the fourth quarter of fiscal year 2018, we reclassified certain corporate land and building assets previously reported as property and equipment to assets held for sale on our consolidated balance sheets as we are actively marketing them and expect to sell them within one year. As a result, we recognized an impairment charge of $5.1 million, which represents the difference between the fair value less cost to sell and the carrying value of the assets. The impairment charge was recorded to loss on assets held for sale within operating expenses on our fiscal year 2018 consolidated statement of operations. See Note 5 to our Consolidated Financial Statements in Item 8 of this Form 10-K for additional details.

Fees Related to Shareholder Activist

(In thousands)	Fiscal Year Ended November 30, 2018	Fiscal Year Ended November 30, 2017	Percentage Change
Fees related to shareholder activist	$ 1,472	$ 2,020	(27)%
As a percentage of total revenue	*—%*	*1%*	

In September 2017, Praesidium Investment Management, then one of our largest stockholders, publicly announced its disagreement with our strategy in a Schedule 13D filed with the SEC and stated that it was seeking changes in the composition of our Board of Directors. In fiscal years 2017 and 2018, we incurred professional and other fees relating to Praesidium's actions.

Income from Operations

(In thousands)	Fiscal Year Ended November 30, 2018	November 30, 2017	Percentage Change
Income from operations	$ 67,814	$ 57,490	18%
As a percentage of total revenue	*18%*	*15%*	

Income from operations increased in fiscal year 2018 as compared to fiscal year 2017. As described above, the increase was primarily driven by lower restructuring expenses, sales and marketing expenses, and acquisition expenses. This increase was partially offset by the loss on assets held for sale recorded in fiscal year 2018, higher general and administrative expenses, higher product development expenses, and lower gross margin, as described above.

Income from Operations by Segment

(In thousands)	Fiscal Year Ended November 30, 2018	November 30, 2017	Percentage Change
OpenEdge segment	$ 209,986	$ 204,032	3 %
Data Connectivity and Integration segment	15,495	19,164	(19)%
Application Development and Deployment segment	50,959	52,781	(3)%
Other unallocated expenses	(208,626)	(218,487)	5 %
Total income from operations	$ 67,814	$ 57,490	18 %

Note that the following expenses are not allocated to our segments as we manage and report our business in these functional areas on a consolidated basis only: certain product development and corporate sales and marketing expenses, customer support, administration, amortization of acquired intangibles, loss on assets held for sale, stock-based compensation, fees related to shareholder activist, restructuring, and acquisition-related expenses.

Other (Expense) Income

(In thousands)	Fiscal Year Ended November 30, 2018	November 30, 2017	Percentage Change
Interest expense	$ (5,149)	$ (4,631)	11 %
Interest income and other, net	1,220	921	32 %
Foreign currency loss	(3,089)	(1,317)	135 %
Total other expense, net	$ (7,018)	$ (5,027)	(40)%
As a percentage of total revenue	*(2)%*	*(1)%*	

Other (expense) income, net decreased in fiscal year 2018 as compared to fiscal year 2017 primarily due to an increase in foreign currency losses and higher interest expense. The increase in foreign currency losses is a result of an increase in the cost of forward points relating to our hedging activities, as well as movements in exchange rates and changes in our intercompany receivables and payables denominated in currencies other than local currencies during fiscal year 2018.

Provision for Income Taxes

(In thousands)	Fiscal Year Ended November 30, 2018	Fiscal Year Ended November 30, 2017	Percentage Change
Provision for income taxes	$ 11,126	$ 23,442	(53)%
As a percentage of total revenue	*3%*	*6%*	

Our effective income tax rate was 18% in fiscal year 2018 and 45% in fiscal year 2017. The primary reason for the decrease in the effective rate was due to enactment of tax reform in the United States that lowered our federal tax rate in fiscal year 2018 to a blended rate of 22.2% as compared to 35.0% in fiscal year 2017. In addition, during fiscal year 2018 we recorded a $1.7 million income tax benefit for the re-measurement of our U.S. deferred tax balances.

Net Income

(In thousands)	Fiscal Year Ended November 30, 2018	Fiscal Year Ended November 30, 2017	Percentage Change
Net income	$ 49,670	$ 29,021	71%
As a percentage of total revenue	*13%*	*7%*	

Liquidity and Capital Resources

Cash, Cash Equivalents and Short-Term Investments

(In thousands)	November 30, 2019	November 30, 2018
Cash and cash equivalents	$ 154,259	$ 105,126
Short-term investments	19,426	34,387
Total cash, cash equivalents and short-term investments	$ 173,685	$ 139,513

The increase in cash, cash equivalents and short-term investments of$34.2 million from the end of fiscal year 2018 was primarily due to proceeds from the issuance of long term debt of $185.0 million, cash inflows from operations of $128.5 million, proceeds from sale of property and equipment of $6.1 million, and $5.0 million in cash received from the issuance of common stock. These cash inflows were offset by payments for acquisitions, net of cash acquired, of $225.3 million, dividend payments of $27.8 million, repurchases of common stock of $25.0 million, payments of debt obligations in the amount of $6.9 million, the effect of exchange rates on cash of $1.3 million and purchases of property and equipment of $4.0 million. Except as described below, there are no limitations on our ability to access our cash, cash equivalents and short-term investments.

Cash, cash equivalents and short-term investments held by our foreign subsidiaries was $23.1 million and $35.6 million at November 30, 2019 and 2018, respectively. Foreign cash includes unremitted foreign earnings, which are invested indefinitely outside of the U.S. As such, they are not available to fund our domestic operations. If we were to repatriate these earnings, we may be subject to income tax withholding in certain tax jurisdictions and a portion of the repatriated earnings may be subject to U.S. income tax. However, we do not anticipate that the repatriation of earnings would have a material adverse impact on our liquidity.

Share Repurchases

In fiscal years 2019 and 2018, we repurchased and retired 0.7 million shares of our common stock for$25.0 million and 2.9 million shares of our common stock for $120.0 million, respectively, under this current authorization. In fiscal year 2017, we repurchased and retired 2.2 million shares of our common stock for $73.9 million. As of November 30, 2019, there was $75.0 million remaining under the share repurchase authorization. In January 2020, our Board of Directors increased the total share repurchase authorization to $250.0 million.

Dividends

We began paying quarterly cash dividends of $0.125 per share of common stock to Progress stockholders in December 2016 and increased the quarterly cash dividend to $0.14 per share in September 2017. In September 2018, the quarterly cash dividend was increased to $0.155 per share of common stock. On September 24, 2019, our Board of Directors approved an additional increase to our quarterly cash dividend from $0.155 to $0.165 per share of common stock. We have paid aggregate cash dividends totaling $27.8 million, $25.8 million and $24.1 million for the years ended November 30, 2019, November 30, 2018 and November 30, 2017, respectively. We expect to continue paying quarterly cash dividends in subsequent quarters consistent with our capital allocation strategy.

Restructuring Activities

During the first quarter of fiscal year 2017, we announced certain operational restructuring initiatives intended to significantly reduce annual costs. As part of this action, management committed to a new strategic plan highlighted by a new product strategy and a streamlined operating approach. To execute these operational restructuring initiatives, we reduced our global workforce by over 20%. These workforce reductions occurred in substantially all functional units and across all geographies in which we then operated. During the fourth quarter of fiscal year 2017, we incurred additional costs with respect to this restructuring, including the reduction in redundant positions primarily within the product development and sales functions. We also consolidated offices in various locations. As part of this fiscal year 2017 restructuring, for the fiscal years ended November 30, 2019 and 2018, we incurred expenses of $0.7 million and $2.3 million, respectively, which are recorded as restructuring expenses on the consolidated statements of operations. We do not expect to incur additional material costs with respect to this restructuring.

During the second quarter of fiscal year 2019, we restructured our operations in connection with the acquisition of Ipswitch. This restructuring resulted in a reduction in redundant positions, primarily within administrative functions of Ipswitch. We expect to incur additional expenses as part of this action related to employee costs and facility closures as we consolidate offices in various locations during fiscal year 2020, but we do not expect theses costs to be material. For the fiscal year ended November 30, 2019, we incurred expenses of $3.1 million in connection with the restructuring, which are recorded as restructuring expenses in the consolidated statements of operations. Cash disbursements for expenses incurred to date under this restructuring are expected to be made through fiscal year 2020.

During the fourth quarter of fiscal year 2019, we announced the reduction of our current and ongoing investment level within our cognitive application product lines, which consist primarily of our DataRPM and Kinvey products. This restructuring resulted in a reduction in positions primarily within the sales and product development functions. For the fiscal year ended November 30, 2019, we incurred expenses of $2.5 million, in connection with the restructuring, which are recorded as restructuring expenses in the consolidated statements of operations. Cash disbursements for expenses incurred to date under this restructuring are expected to be made through fiscal year 2020. We do not expect to incur additional material costs with respect to this restructuring.

In connection with this restructuring action, during the fourth quarter of fiscal year 2019, we evaluated the ongoing value of the intangible assets primarily associated with the technologies and trade names obtained in the acquisitions of DataRPM and Kinvey. As a result, we wrote down these assets to fair value, which resulted in a $22.7 million asset impairment charge.

Credit Facility

Our credit agreement provides for a $301.0 million secured term loan and a $100.0 million secured revolving credit facility. The revolving credit facility may be made available in U.S. Dollars and certain other currencies and may be increased by up to an additional $125.0 million if the existing or additional lenders are willing to make such increased commitments. The revolving credit facility has sublimits for swing line loans up to $25.0 million and for the issuance of standby letters of credit in a face amount up to $25.0 million. We expect to use the revolving credit facility for general corporate purposes, including acquisitions of other businesses, and may also use it for working capital.

The credit facility matures on April 30, 2024, when all amounts outstanding will be due and payable in full. The revolving credit facility does not require amortization of principal. The outstanding balance of the term loan as of November 30, 2019 was $297.2 million, with $11.3 million due in the next 12 months. The term loan requires repayment of principal at the end of each fiscal quarter, beginning with the fiscal quarter ended August 31, 2019. The principal repayment amounts are in accordance with the following schedule: (i) four payments of $1.9 million each, (ii) four payments of $3.8 million each, (iii) four payments of $5.6 million each, (iv) four payments of $7.5 million each, (v) three payments of $9.4 million each, and (vi)

the last payment is of the remaining principal amount. Any amounts outstanding under the term loan thereafter would be due on the maturity date.

The term loan may be prepaid before maturity in whole or in part at our option without penalty or premium. The average interest rate of the credit facility during the fiscal year ended November 30, 2019 was 3.90% and the interest rate as of November 30, 2019 was 3.38%.

Revolving loans may be borrowed, repaid, and reborrowed until April 30, 2024, at which time all amounts outstanding must be repaid. As of November 30, 2019, there were no amounts outstanding under the revolving line and $1.8 million of letters of credit.

The credit facility contains customary affirmative and negative covenants, including covenants that limit or restrict our ability to, among other things, grant liens, make investments, make acquisitions, incur indebtedness, merge or consolidate, dispose of assets, pay dividends or make distributions, repurchase stock, change the nature of the business, enter into certain transactions with affiliates and enter into burdensome agreements, in each case subject to customary exceptions for a credit facility of this size and type. We are also required to maintain compliance with a consolidated fixed charge coverage ratio, a consolidated total leverage ratio and a consolidated senior secured leverage ratio. We are in compliance with these financial covenants as of November 30, 2019.

Cash Flows from Operating Activities

	Fiscal Year Ended		
(In thousands)	November 30, 2019	November 30, 2018	November 30, 2017
Net income	$ 26,400	$ 49,670	$ 29,021
Non-cash reconciling items included in net income	90,139	68,542	52,353
Changes in operating assets and liabilities	11,945	3,140	24,312
Net cash flows from operating activities	$ 128,484	$ 121,352	$ 105,686

The increase in cash generated from operations in fiscal year 2019 as compared to fiscal year 2018 was primarily due to lower tax payments in fiscal year 2019 compared to fiscal year 2018. The most significant non-cash reconciling item included in net income in fiscal year 2019 was a $22.7 million intangible asset impairment charge (see Note 4 to the Consolidated Financial Statements in Item 8 of this Form 10-K for further information on the impairment charge).

Cash flows in fiscal year 2019 were particularly strong due to increased collections resulting from the acquisition of Ipswitch, partially offset by increased personnel related expenditures. Our gross accounts receivable as of November 30, 2019 increased by $13.1 million from the end of fiscal year 2018, which is primarily due to the acquisition of Ipswitch. Days sales outstanding ("DSO") in accounts receivable increased to 56 days at the end of fiscal year 2019 compared to 47 days at the end of fiscal year 2018, with the increase due to the timing of billings. In addition, our total deferred revenue as of November 30, 2019 increased by $41.3 million from the end of fiscal year 2018.

The significant changes in operating assets and liabilities in fiscal year 2018 as compared to fiscal year 2017 were primarily due to a decrease in personnel related expenditures. The most significant non-cash reconciling item included in net income in fiscal year 2018 was a $5.1 million loss on assets held for sale (see Note 5 to the Consolidated Financial Statements in Item 8 of this Form 10-K for further information on the impairment charge). In addition, our gross accounts receivable as of November 30, 2018 decreased by $1.5 million from the end of fiscal year 2017. DSO in accounts receivable was 47 days at the end of fiscal year 2018 and at the end of fiscal year 2017.

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Cash Flows (used in) from Investing Activities

	Fiscal Year Ended		
(In thousands)	November 30, 2019	November 30, 2018	November 30, 2017
Net investment activity	$ 14,770	$ 14,843	$ (8,821)
Purchases of property and equipment	(3,998)	(7,250)	(3,377)
Proceeds from sale of property, plant and equipment, net	6,146	—	1,557
Payments for acquisitions, net of cash acquired	(225,298)	—	(77,150)
Net cash flows (used in) from investing activities	$ (208,380)	$ 7,593	$ (87,791)

Net cash outflows and inflows of our net investment activity are generally a result of the timing of our purchases and maturities of securities, which are classified as cash equivalents or short-term securities, as well as the timing of acquisitions and divestitures. Cash used in investing activities increased in fiscal year 2019 as compared to fiscal year 2018. Most significantly, we acquired Ipswitch for a net cash amount of $225.3 million. We did not complete any acquisitions during fiscal year 2018, and we acquired DataRPM and Kinvey for a net cash amount of $77.2 million in fiscal year 2017. In addition, we purchased $4.0 million of property and equipment in fiscal year 2019, as compared to $7.3 million in fiscal year 2018 and $3.4 million in fiscal year 2017. We also sold $6.1 million of certain corporate land and building assets in the second quarter of fiscal year 2019.

Cash Flows from (used in) Financing Activities

	Fiscal Year Ended		
(In thousands)	November 30, 2019	November 30, 2018	November 30, 2017
Proceeds from stock-based compensation plans	$ 9,265	$ 9,205	$ 10,025
Repurchases of common stock	(25,000)	(120,000)	(73,936)
Dividend payment to shareholders	(27,760)	(25,789)	(24,127)
Proceeds from the issuance of debt, net of payments of principal and debt issuance costs	178,065	(6,188)	(12,424)
Other financing activities	(4,278)	(3,999)	(2,852)
Net cash flows from (used in) financing activities	$ 130,292	$ (146,771)	$ (103,314)

During fiscal year 2019, we received $9.3 million from the exercise of stock options and the issuance of shares under our employee stock purchase plan as compared to $9.2 million in fiscal year 2018 and $10.0 million in fiscal year 2017. In addition, we made dividend payments of $27.8 million to our stockholders in fiscal year 2019, as compared to dividend payments of $25.8 million and $24.1 million in fiscal years 2018 and 2017, respectively. Most significantly, we received proceeds from the issuance of debt of $185.0 million in fiscal year 2019 in connection with the acquisition of Ipswitch. In addition, we repurchased $25.0 million of our common stock under our share repurchase plan in fiscal year 2019, compared to $120.0 million in fiscal year 2018 and $73.9 million in fiscal year 2017. We also made principal payments on our debt of $5.3 million during fiscal year 2019, as compared to $6.2 million in fiscal year 2018 and $11.3 million in fiscal year 2017.

Indemnification Obligations

We include standard intellectual property indemnification provisions in our licensing agreements in the ordinary course of business. Pursuant to our product license agreements, we will indemnify, hold harmless, and agree to reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally business partners or customers, in connection with certain patent, copyright or other intellectual property infringement claims by third parties with respect to our products. Other agreements with our customers provide indemnification for claims relating to property damage or personal injury resulting from the performance of services by us or our subcontractors. Historically, our costs to defend lawsuits or settle claims relating to such indemnity agreements have been insignificant. Accordingly, the estimated fair value of these indemnification provisions is immaterial.

Liquidity Outlook

We believe that existing cash balances, together with funds generated from operations and amounts available under our credit facility, will be sufficient to finance our operations and meet our foreseeable cash requirements through at least the next twelve months. We do not contemplate a need for any foreign repatriation of the earnings which are deemed invested indefinitely outside of the U.S. Our foreseeable cash needs include our planned capital expenditures, debt repayments, quarterly cash dividends, share repurchases, acquisitions, lease commitments, restructuring obligations and other long-term obligations.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements as defined in Item 303(a)(4) of Regulation S-K.

Contractual Obligations

The following table details our contractual obligations as of November 30, 2019 (in thousands):

	Payments Due by Period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
Long-term debt:					
Principal payments	$ 297,238	$ 11,288	$ 45,150	$ 240,800	$ —
Interest payments(1)	39,223	9,921	18,159	11,143	—
Operating leases	31,164	7,453	10,688	10,119	2,904
Purchase obligations(2)	2,888	963	1,773	152	—
Unrecognized tax benefits(3)	—	—	—	—	—
Total	$ 370,513	$ 29,625	$ 75,770	$ 262,214	$ 2,904

(1) Interest on the long-term debt is due and payable monthly and is estimated using the effective interest rate as of November 30, 2019 as the interest rate is variable. See Note 8 to our Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.
(2) Represents the fixed or minimum amounts due under purchase obligations for support service agreements.
(3) Our other noncurrent liabilities on the consolidated balance sheet include unrecognized tax benefits and related interest and penalties. As of November 30, 2019, we had unrecognized tax benefits of $5.0 million and an additional $0.4 million for interest and penalties classified as noncurrent liabilities. At this time, we are unable to make a reasonably reliable estimate of the timing of payments in individual years in connection with these tax liabilities; therefore, such amounts are not included in the above contractual obligation table. See Note 14 to our Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.

Critical Accounting Policies

Management's discussion and analysis of financial condition and results of operations are based upon our consolidated financial statements which have been prepared in accordance with GAAP. We make estimates and assumptions in the preparation of our consolidated financial statements that affect the reported amounts of assets and liabilities, revenue and expenses and related disclosures of contingent assets and liabilities. We base our estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances. However, actual results may differ from these estimates.

We have identified the following critical accounting policies that require the use of significant judgments and estimates in the preparation of our consolidated financial statements. This listing is not a comprehensive list of all of our accounting policies. For further information regarding the application of these and other accounting policies, see Note 1 to our Consolidated Financial Statements in Item 8 of this Form 10-K.

Revenue Recognition

We derive our revenue primarily from software licenses and maintenance and services. Our license arrangements generally contain multiple performance obligations, including software maintenance services. Revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration that we expect to receive in exchange for those goods or services. When an arrangement contains multiple performance obligations, we account for individual performance obligations separately if they are distinct. We recognize revenue through the application of the following steps: (i) identification of the contract(s) with a customer; (ii) identification of the performance obligations in the contract; (iii)

determination of the transaction price; (iv) allocation of the transaction price to performance obligations in the contract; and (v) recognition of revenue when or as we satisfy the performance obligations. Sales taxes collected from customers and remitted to government authorities are excluded from revenue and we do not license our software with a right of return.

Software Licenses

Software licenses are on-premise and fully functional when made available to the customer. As the customer can use and benefit from the license on its own, on-premise software licenses represent distinct performance obligations. Revenue is recognized upfront at the point in time when control is transferred, which is defined as the point in time when the client can use and benefit from the license. Our licenses are sold as perpetual or term licenses, and the arrangements typically contain various combinations of maintenance and services, which are generally accounted for as separate performance obligations. We use the residual approach to allocate the transaction price to our software license performance obligations because, due to the pricing of our licenses being highly variable, they do not have an observable stand-alone selling price ("SSP"). As required, we evaluate the residual approach estimate compared to all available observable data in order to conclude the estimate is representative of its SSP.

Perpetual licenses are generally invoiced upon execution of the contract and payable within30 days. Term licenses are generally invoiced in advance on an annual basis over the term of the arrangement, which is typically one to three years. Any difference between the revenue recognized and the amount invoiced to the customer is recognized on our consolidated balance sheets as unbilled receivables until the customer is invoiced, at which point the amount is reclassified to accounts receivable.

Maintenance

Maintenance revenue is made up of technical support, bug fixes, and when-and-if available unspecified software upgrades. As these maintenance services are considered to be a series of distinct services that are substantially the same and have the same duration and measure of progress, we have concluded that they represent one combined performance obligation. Revenue is recognized ratably over the contract period. The SSP of maintenance services is a percentage of the net selling price of the related software license, which has remained within a tight range and is consistent with the stand-alone pricing of subsequent maintenance renewals.

Maintenance services are generally invoiced in advance on an annual basis over the term of the arrangement, which is typicallyone to three years.

Services

Services revenue primarily includes consulting and customer education services. In general, services are distinct performance obligations. Services revenue is generally recognized as the services are delivered to the customer. We apply the practical expedient of recognizing revenue upon invoicing for time and materials-based arrangements as the invoiced amount corresponds to the value of the services provided. The SSP of services is based upon observable prices in similar transactions using the hourly rates sold in stand-alone services transactions. Services are either sold on a time and materials basis or prepaid upfront.

We also offer products via a software-as-a-service ("SaaS") model, which is a subscription-based model. Our customers can use hosted software over the contract period without taking possession of it and the cloud services are available to them throughout the entire term, even if they do not use the service. Revenue related to SaaS offerings is recognized ratably over the contract period. The SSP of SaaS performance obligations is determined based upon observable prices in stand-alone SaaS transactions. SaaS arrangements are generally invoiced in advance on a monthly, quarterly, or annual basis over the term of the arrangement, which is typically one to three years.

Arrangements with Multiple Performance Obligations

When an arrangement contains multiple performance obligations, we account for individual performance obligations separately if they are distinct. We allocate the transaction price to each performance obligation in a contract based on its relative SSP. Although we do not have a history of offering these elements, prior to allocating the transaction price to each performance obligation, we consider whether the arrangement has any discounts, material rights, or specified future upgrades that may represent additional performance obligations. Determining whether products and services are distinct performance obligations and the determination of the SSP may require significant judgment.

Contract Balances

Unbilled Receivables and Contract Assets

The timing of revenue recognition may differ from the timing of customer invoicing. When revenue is recognized prior to invoicing and the right to the amount due from customers is conditioned only on the passage of time, we record an unbilled receivable on our consolidated balance sheets. Our multi-year term license arrangements, which are typically billed annually, result in revenue recognition in advance of invoicing and the recognition of unbilled receivables. Contract assets arise when revenue is recognized prior to invoicing and the right to the amount due from customers is conditioned on something other than the passage of time, such as the completion of a related performance obligation. These amounts are included in unbilled receivables or long-term unbilled receivables on our consolidated balance sheets.

Deferred Revenue

Deferred revenue is recorded when revenue is recognized subsequent to customer invoicing. Deferred revenue expected to be recognized as revenue more than one year subsequent to the balance sheet date is included in long-term liabilities on the consolidated balance sheets.

Goodwill and Intangible Asset Impairment

We had goodwill and net intangible assets of $532.2 million at November 30, 2019. We evaluate goodwill and other intangible assets with indefinite useful lives, if any, for impairment annually or on an interim basis when events and circumstances arise that indicate impairment may have occurred. We perform our annual goodwill impairment as of October 31st of each fiscal year. We believe this date aligns the timing of the annual goodwill impairment testing with our planning and budgeting process, which is a key component of the tests, and alleviates administrative burden during our year-end reporting period.

In performing our annual assessment, we first perform a qualitative test to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value and if necessary, perform a quantitative test. To conduct the quantitative impairment test of goodwill, we compare the fair value of a reporting unit to its carrying value. If the reporting unit's carrying value exceeds its fair value, we record an impairment loss to the extent that the carrying value of goodwill exceeds its implied fair value. We estimate the fair values of our reporting units using discounted cash flow models or other valuation models, such as comparative transactions and market multiples. We must make assumptions about future cash flows, future operating plans, discount rates, comparable companies, market multiples, purchase price premiums and other factors in those models. Different assumptions and judgment determinations could yield different conclusions that would result in an impairment charge to income in the period that such change or determination was made.

When we evaluate potential impairments outside of our annual measurement date, judgment is required in determining whether an event has occurred that may impair the value of goodwill or intangible assets. Factors that could indicate that an impairment may exist include significant underperformance relative to plan or long-term projections, significant changes in business strategy, significant negative industry or economic trends or a significant decline in our stock price for a sustained period of time.

The determination of reporting units also requires management judgment. We consider whether a reporting unit exists within a reportable segment based on the availability of discrete financial information that is regularly reviewed by segment management. Our three reporting units were OpenEdge, Data Connectivity and Integration, and Application Development and Deployment as of November 30, 2019.

During fiscal year 2019, we tested goodwill for impairment for each of our reporting units as of October 31, 2019. Our reporting units each had fair values which significantly exceeded their carrying values as of the annual impairment date. We did not recognize any goodwill impairment charges during fiscal years 2019, 2018 or 2017.

During fiscal year 2019, we evaluated the ongoing value of the intangible assets associated with the technology obtained in connection with the acquisitions of DataRPM and Kinvey. As a result of our decision to reduce our current and ongoing spending levels within our cognitive application product lines, which consist primarily of our DataRPM and Kinvey products, we determined that the intangible assets were fully impaired. Therefore, we incurred an impairment charge of $22.7 million in the fourth quarter of fiscal year 2019 (Note 4). We did not recognize any intangible asset impairment charges during fiscal years 2018 and 2017.

Income Tax Accounting

We have a net deferred tax asset of $18.6 million at November 30, 2019. We record valuation allowances to reduce deferred tax assets to the amount that is more likely than not to be realized. We consider scheduled reversals of temporary differences, projected future taxable income, tax planning strategies and other matters in assessing the need for and the amount of a valuation allowance. If we were to change our assumptions or otherwise determine that we were unable to realize all or part of our net deferred tax asset in the future, an adjustment to the deferred tax asset would be charged to income in the period that such change or determination was made.

Management judgment is also required in evaluating whether a tax position taken or expected to be taken in a tax return, based on the weight of available evidence, indicates that it is more likely than not that, on an evaluation of the technical merits, the tax position will be sustained on audit, including resolution of any related appeals or litigation processes. Management judgment is also required in measuring the tax benefit as the largest amount that is more than 50% likely of being realized upon ultimate settlement. If management made different estimates or judgments, material differences in the amount accrued for uncertain tax positions would occur.

Stock-Based Compensation

We recognize stock-based compensation based on the fair value of stock-based awards, less the present value of expected dividends, measured at the date of grant. Stock-based compensation is recognized over the requisite service period, which is generally the vesting period of the award, and is adjusted each period for actual forfeitures.

We estimate the fair value of each stock-based award on the measurement date using either the current market price, the Black-Scholes option valuation model, or the Monte Carlo Simulation valuation model. The Black-Scholes and Monte Carlo Simulation valuation models incorporate assumptions as to the expected stock price volatility, the expected term of the option, a risk-free interest rate and a dividend yield. The expected volatility is based on the historical volatility of our stock price. The expected term is derived from historical data on employee exercises and post-vesting employment termination behavior. The risk-free interest rate is based on the yield of zero-coupon U.S. Treasury securities for the period that is commensurate with the expected option term at the time of grant. The expected dividend yield is based on our historical behavior and future expectations of dividend declarations.

Restructuring Charges

We periodically record restructuring charges resulting from restructuring our operations (including consolidations and/or relocations of operations), changes to our strategic plan, or managerial responses to declines in demand, increasing costs, or other market factors. The determination of restructuring charges requires management judgment and may include costs related to employee benefits, such as costs of severance and termination benefits, and estimates of costs for future lease commitments on excess facilities, net of estimated future sublease income. In determining the amount of the facilities charge, we are required to estimate such factors as future vacancy rates, the time required to sublet properties and sublease rates. These estimates are reviewed quarterly based on known real estate market conditions and the credit-worthiness of subtenants, and may result in revisions to established facility reserves.

Business Combinations

We allocate the purchase price of acquired companies to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values. The estimates used to value the net assets acquired are based in part on historical experience and information obtained from the management of the acquired company. We generally value the identifiable intangible assets acquired using a discounted cash flow model. The significant estimates used in valuing certain of the intangible assets include, but are not limited to: future expected cash flows of the asset, discount rates to determine the present value of the future cash flows, attrition rates of customers, and expected technology life cycles. We also estimate the useful lives of the intangible assets based on the expected period over which we anticipate generating economic benefit from the asset.

Our estimates of fair value are based on assumptions believed to be reasonable at that time. If management made different estimates or judgments, material differences in the fair values of the net assets acquired may result.

Recent Accounting Pronouncements

Refer to Note 1 to our Consolidated Financial Statements in Item 8 of this Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to a variety of risks, including changes in interest rates affecting the return on our investments and borrowing activities and foreign currency fluctuations. We have established policies and procedures to manage our exposure to fluctuations in interest rates and foreign currency exchange rates.

Interest Rate Risk

Exposure to interest rate risk is related to changing interest rates under our Credit Agreement, which are variable and based on an index selected at our option. The rates range from 1.50% to 2.00% above the Eurocurrency rate for Eurocurrency-based borrowings or from 0.50% to 1.00% above the defined base rate for base rate borrowings. Additionally, we may borrow certain foreign currencies at rates set in the same respective range above the London interbank offered interest rates for those currencies. The outstanding balance of the term loan as of November 30, 2019 was $297.2 million.

On July 9, 2019, we entered into an interest rate swap contract with an initial notional amount of $150.0 million to manage the variability of cash flows associated with approximately one-half of our variable rate debt. The contract matures on April 30, 2024 and requires periodic interest rate settlements. Under this interest rate swap contract, we receive a floating rate based on the greater of 1-month LIBOR or 0.00% and pay a fixed rate of 1.855% on the outstanding notional amount. As of November 30, 2019, the notional value of the hedge was $148.1 million. As of November 30, 2019, the fair value of the hedge was a loss of $2.1 million and included in other noncurrent liabilities on our consolidated balance sheets.

Foreign Currency Risk

Exposure to market rate risk for changes in interest rates relates to our investment portfolio. We have not used derivative financial instruments in our investment portfolio. We place our investments with high-quality issuers and have policies limiting, among other things, the amount of credit exposure to any one issuer. We seek to limit default risk by purchasing only investment-grade securities. Our investments have an average remaining maturity of less than two years or interest-rate resets of less than 60 days and are primarily fixed-rate instruments. In addition, we have classified our debt securities as available-for-sale. The available-for-sale classification reduces the consolidated statements of operations exposure to interest rate risk if such investments are held until their maturity date because changes in fair value due to market changes in interest rates are recorded on the consolidated balance sheet in accumulated other comprehensive income. Based on a hypothetical 10% adverse movement in interest rates, the potential losses in future earnings, fair value of risk-sensitive instruments and cash flows are immaterial.

We generally use forward contracts that are not designated as hedging instruments to hedge economically the impact of the variability in exchange rates on intercompany accounts receivable and loans receivable denominated in certain foreign currencies. We generally do not hedge the net assets of our international subsidiaries. All forward contracts are recorded at fair value in other current assets, other assets, other accrued liabilities, or other noncurrent liabilities on the consolidated balance sheets at the end of each reporting period and expire between 30 days and 2 years from the date the contract was entered. In fiscal year 2019, realized and unrealized losses of $1.1 million from our forward contracts were recognized in foreign currency loss, net on the consolidated statements of operations. These losses were substantially offset by realized and unrealized gains and losses on the offsetting positions.

Foreign currency translation exposure from a 10% movement of currency exchange rates would have a material impact on our reported revenue and net income. Based on a hypothetical 10% adverse movement in all foreign currency exchange rates, our revenue would be adversely affected by approximately 3%, or $13 million, and our net income would be adversely affected by approximately 8%, or $2 million (excluding any offsetting positive impact from our ongoing hedging programs), although the actual effects may differ materially from the hypothetical analysis.

The table below details outstanding foreign currency forward contracts at November 30, 2019 and 2018 where the notional amount is determined using contract exchange rates (in thousands):

	November 30, 2019		November 30, 2018	
	Notional Value	Fair Value	Notional Value	Fair Value
Forward contracts to sell U.S. dollars	$ 66,951	$ (85)	$ 105,830	$ (170)
Forward contracts to purchase U.S. dollars	1,457	5	240	—
Total	$ 68,408	$ (80)	$ 106,070	$ (170)

Item 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Progress Software Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Progress Software Corporation and subsidiaries (the "Company") as of November 30,2019 and 2018, and the related consolidated statements of operations, comprehensive income, shareholders' equity, and cash flows for each of the three years in the period ended November 30, 2019, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of November 30, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended November 30, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of November 30, 2019, based on the criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated January 27, 2020, expressed an unqualified opinion on the Company's internal controls over financial reporting.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, the Company adopted Accounting Standards Codification Update No. 2014-09, Revenue from Contracts with Customers” (ASC 606), using the full retrospective adoption method on December 1, 2018. The adoption of ASC 606 is also communicated as part of the revenue recognition critical audit matter below.

Basis for Opinion

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

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

Critical Audit Matters

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

Revenue recognition-Refer to Note 1 to the financial statements (see also change in accounting principle explanatory paragraph above)

Critical Audit Matter Description

The Company derives revenue from multiple sources, including software licenses, maintenance, and services. Effective December 1, 2018, the Company adopted ASC 606*,* using the full retrospective method, which required the Company to retroactively adjust comparative prior periods to conform with the current presentation. Frequently, the customer arrangements provide software licenses combined with maintenance and therefore include multiple performance obligations under ASC 606. The identification of performance obligations of the arrangement, particularly for more complex customer arrangements, requires a detailed analysis of the contractual terms and application of more complex accounting guidance. In addition, the allocation of the transaction price to each performance obligation within an arrangement (license, maintenance, and services) and the timing of revenue recognition requires the application of management judgment. Revenue arrangements with higher contract values frequently require more complex management judgments.

Given the accounting complexity and the management judgment necessary to (1) identify performance obligations in the arrangement, (2) determine the timing and allocation of revenue for multiple performance obligations, and (3) retroactively adjust comparative prior periods to conform to current presentation under ASC 606, auditing revenue recognition for arrangements with multiple performance obligations and testing of ASC 606 adoption impact on adjusted comparable prior periods' financial statements requires a high degree of auditor judgment and an increased extent of effort.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the recognition of revenue from multiple performance obligation arrangements included the following, among others:

- We tested the effectiveness of controls over revenue recognition, including those over the identification of performance obligations included in the transaction, the allocation of transaction price to these performance obligations, the timing of revenue recognition, and the adoption of ASC 606 using the full retrospective method.
- We evaluated the Company's accounting policies in the context of the applicable accounting standards.
- We evaluated the appropriateness and consistency of the methods and assumptions used by management to determine the stand-alone selling price of delivered and undelivered performance obligations of the arrangement.
- We selected a sample of revenue arrangements, including those arrangements that we considered individually significant, and performed the following:
  - We obtained related contracts and evaluated whether the contracts properly documented the terms of the arrangements in accordance with the Company's policies.
  - We tested management's identification of distinct performance obligations by evaluating whether the underlying goods, services, or both were highly interdependent and interrelated.
  - We evaluated whether the Company appropriately determined all performance obligations in the arrangement and whether the methodology to allocate the transaction price to the individual performance obligations was appropriately applied based on their stand-alone selling prices.
  - We compared the transaction price to the consideration expected to be received based on current rights and obligations under the contracts and any modifications that were agreed upon with the customers.
  - We tested the allocation of the transaction price to each distinct performance obligation by comparing the relative stand-alone selling price to the selling price of similar goods or services.
  - We evaluated whether the value allocated to each performance obligation was appropriately recognized in the correct accounting period.
  - We obtained evidence of delivery of the performance obligations of the arrangement to the customer
- We tested if the cumulative effect adjustment made under the full retrospective adoption method was in accordance with ASC 606, including testing the mathematical accuracy, and assessed the completeness of the financial statement disclosures. We also performed procedures to address the completeness and accuracy of the underlying data used in the calculations and the Company's disclosures.

Ipswitch Inc. Acquisition-Refer to Note 7 to the financial statements

Critical Audit Matter Description

The Company completed the acquisition of Ipswitch Inc. for cash consideration of approximately $225 million on April 30, 2019 and accounted for the transaction under the acquisition method of accounting for business combinations. Accordingly, the purchase price was allocated to the assets acquired and liabilities assumed based on their respective fair values. The method for determining fair value varied depending on the type of asset or liability and involved management making significant estimates related to assumptions such as the discount rates, customer attrition, and revenue growth projections.

We identified the valuation of the intangible assets of Ipswitch Inc. as a critical audit matter because of the significant estimates management makes to determine their fair value. This requires a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists, when performing audit procedures to evaluate the reasonableness of management's assumptions related to the discount rates, customer attrition, and revenue growth projections.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the fair value of assets acquired and liabilities assumed for Ipswitch Inc. included the following, among others:

- We tested the effectiveness of controls over the valuation of intangible assets, including management's controls over forecasts of revenue growth projections, customer attrition rate, and selection of the discount rate.
- We assessed the reasonableness of management's revenue growth projections and customer attrition rate by comparing these assumptions to historical results and certain peer companies.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the (1) valuation methodology and (2) valuation assumptions by:
  - Testing the source information underlying the determination of the valuation assumptions and testing the mathematical accuracy of the calculation.
  - Developing a range of independent estimates for certain assumptions and comparing those to the assumptions selected by management.
  - Evaluating whether the fair value models being used are appropriate considering the Company's circumstances and valuation premise identified.
- We evaluated whether the estimated future cash flows were consistent with evidence obtained in other areas of the audit.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
January 27, 2020

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

PROGRESS SOFTWARE CORPORATION
Consolidated Balance Sheets

(In thousands, except share data)	November 30, 2019	November 30, 2018 As Adjusted[1]
Assets		
Current assets:		
Cash and cash equivalents	$ 154,259	$ 105,126
Short-term investments	19,426	34,387
Total cash, cash equivalents and short-term investments	173,685	139,513
Accounts receivable (less allowances of $825 in 2019 and $840 in 2018)	72,820	59,715
Unbilled receivables and contract assets	10,880	1,421
Other current assets	27,280	25,080
Assets held for sale	—	5,776
Total current assets	284,665	231,505
Long-term unbilled receivables and contract assets	12,492	1,811
Property and equipment, net	29,765	30,714
Intangible assets, net	99,392	58,919
Goodwill	432,824	314,992
Deferred tax assets	18,601	966
Other assets	3,532	5,243
Total assets	$ 881,271	$ 644,150
Liabilities and shareholders' equity		
Current liabilities:		
Current portion of long-term debt, net	$ 10,717	$ 5,819
Accounts payable	10,603	10,593
Accrued compensation and related taxes	34,444	25,500
Dividends payable to shareholders	7,498	6,998
Income taxes payable	1,444	1,228
Other accrued liabilities	18,685	12,686
Short-term deferred revenue	157,494	123,210
Total current liabilities	240,885	186,034
Long-term debt, net	284,002	110,270
Long-term deferred revenue	19,752	12,730
Deferred tax liabilities	3	5,799
Other noncurrent liabilities	6,347	5,315
Commitments and contingencies (Note 9)		
Shareholders' equity:		
Preferred stock, $0.01 par value; authorized, 10,000,000 shares; issued, none	—	—
Common stock, $0.01 par value, and additional paid-in capital; authorized, 200,000,000 shares; issued and outstanding, 45,036,441 shares in 2019 and 45,114,935 shares in 2018	450	451
Additional paid-in capital	295,503	266,602
Retained earnings	64,303	85,125
Accumulated other comprehensive loss	(29,974)	(28,176)
Total shareholders' equity	330,282	324,002
Total liabilities and shareholders' equity	$ 881,271	$ 644,150

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

See notes to consolidated financial statements.

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PROGRESS SOFTWARE CORPORATION
Consolidated Statements of Operations

(In thousands, except per share data)	Fiscal Year Ended November 30, 2019	November 30, 2018 As Adjusted[1]	November 30, 2017 As Adjusted[1]
Revenue:			
Software licenses	$ 122,552	$ 99,800	$ 113,643
Maintenance and services	290,746	279,181	275,511
Total revenue	413,298	378,981	389,154
Costs of revenue:			
Cost of software licenses	4,894	4,769	5,752
Cost of maintenance and services	44,463	39,470	43,299
Amortization of acquired intangibles	25,884	22,734	20,108
Total costs of revenue	75,241	66,973	69,159
Gross profit	338,057	312,008	319,995
Operating expenses:			
Sales and marketing	101,701	93,036	101,051
Product development	88,572	79,739	76,988
General and administrative	53,360	49,050	45,739
Amortization of acquired intangibles	22,255	13,241	13,039
Impairment of intangible and long-lived assets	24,096	—	—
Restructuring expenses	6,331	2,251	22,210
Acquisition-related expenses	1,658	258	1,458
Loss on assets held for sale	—	5,147	—
Fees related to shareholder activist	—	1,472	2,020
Total operating expenses	297,973	244,194	262,505
Income from operations	40,084	67,814	57,490
Other (expense) income:			
Interest expense	(9,913)	(5,149)	(4,631)
Interest income and other, net	1,143	1,220	921
Foreign currency loss, net	(2,819)	(3,089)	(1,317)
Total other expense, net	(11,589)	(7,018)	(5,027)
Income before income taxes	28,495	60,796	52,463
Provision for income taxes	2,095	11,126	23,442
Net income	$ 26,400	$ 49,670	$ 29,021
Earnings per share:			
Basic	$ 0.59	$ 1.09	$ 0.60
Diluted	$ 0.58	$ 1.08	$ 0.60
Weighted average shares outstanding:			
Basic	44,791	45,561	48,129
Diluted	45,340	46,135	48,516
Cash dividends declared per common share	$ 0.630	$ 0.575	$ 0.515

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

See notes to consolidated financial statements.

PROGRESS SOFTWARE CORPORATION
Consolidated Statements of Comprehensive Income

(In thousands)	Fiscal Year Ended November 30, 2019	Fiscal Year Ended November 30, 2018 As Adjusted[(1)]	Fiscal Year Ended November 30, 2017 As Adjusted[(1)]
Net income	$ 26,400	$ 49,670	$ 29,021
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	(420)	(9,796)	10,248
Unrealized loss on hedging activity, net of tax benefit of $503 in 2019 and $0 in 2018 and 2017	(1,551)	—	—
Unrealized gain (loss) on investments, net of tax provision (benefit) of $60 in 2019, $57 in 2018, and ($60) in 2017	173	26	(93)
Total other comprehensive (loss) income, net of tax	(1,798)	(9,770)	10,155
Comprehensive income	$ 24,602	$ 39,900	$ 39,176

[(1)]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

See notes to consolidated financial statements.

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PROGRESS SOFTWARE CORPORATION
Consolidated Statements of Shareholders' Equity

(in thousands)	Common Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Shareholders' Equity
	Number of Shares	Amount				
Balance, December 1, 2016, as adjusted[1]	48,537	$ 485	$ 239,011	$ 231,794	$ (28,561)	$ 442,729
Issuance of stock under employee stock purchase plan	220	2	4,898	—	—	4,900
Exercise of stock options	203	2	5,106	—	—	5,108
Vesting of restricted stock units and release of deferred stock units	660	7	—	—	—	7
Withholding tax payments related to net issuance of restricted stock units	(118)	(1)	(3,755)	—	—	(3,756)
Tax benefit arising from employee stock purchase plan, stock options and restricted share activity	—	—	679	—	—	679
Stock-based compensation	—	—	14,153	—	—	14,153
Dividends declared	—	—	—	(24,679)	—	(24,679)
Treasury stock repurchases and retirements	(2,221)	(22)	(10,729)	(63,185)	—	(73,936)
Net income	—	—	—	29,021	—	29,021
Other comprehensive income	—	—	—	—	10,155	10,155
Balance, November 30, 2017, as adjusted[1]	47,281	$ 473	$ 249,363	$ 172,951	$ (18,406)	$ 404,381
Issuance of stock under employee stock purchase plan	225	2	5,456	—	—	5,458
Exercise of stock options	189	2	3,856	—	—	3,858
Vesting of restricted stock units and release of deferred stock units	407	4	—	—	—	4
Withholding tax payments related to net issuance of restricted stock units	(108)	(1)	(3,998)	—	—	(3,999)
Stock-based compensation	—	—	20,569	—	—	20,569
Adjustment due to adoption of ASU 2016-09 (Note 1)	—	—	641	(641)	—	—
Dividends declared	—	—	—	(26,169)	—	(26,169)
Treasury stock repurchases and retirements	(2,879)	(29)	(9,285)	(110,686)	—	(120,000)
Net income	—	—	—	49,670	—	49,670
Other comprehensive loss	—	—	—	—	(9,770)	(9,770)
Balance, November 30, 2018[1]	45,115	$ 451	$ 266,602	$ 85,125	$ (28,176)	$ 324,002

Issuance of stock under employee stock purchase plan	189	2	5,505	—	—	5,507
Exercise of stock options	119	1	3,620	—	—	3,621
Vesting of restricted stock units and release of deferred stock units	364	4	(1)	—	—	3
Withholding tax payments related to net issuance of restricted stock units	(106)	(1)	(4,277)	—	—	(4,278)
Stock-based compensation	—	—	23,311	—	—	23,311
Issuance of shares related to non-compete agreement (Note 7)	44		2,000			2,000
Adjustment due to adoption of ASU 2016-16 (Note 1)	—	—		4,781	—	4,781
Dividends declared	—	—	—	(28,267)	—	(28,267)
Treasury stock repurchases and retirements	(688)	(7)	(1,257)	(23,736)	—	(25,000)
Net income	—	—	—	26,400	—	26,400
Other comprehensive loss	—	—	—	—	(1,798)	(1,798)
Balance, November 30, 2019	45,037	$ 450	$ 295,503	$ 64,303	$ (29,974)	$ 330,282

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

See notes to consolidated financial statements.

PROGRESS SOFTWARE CORPORATION
Consolidated Statements of Cash Flows

(In thousands)	Fiscal Year Ended November 30, 2019	November 30, 2018 As Adjusted[(1)]	November 30, 2017 As Adjusted[(1)]
Cash flows from operating activities:			
Net income	$ 26,400	$ 49,670	$ 29,021
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization of property and equipment	7,552	6,941	7,526
Amortization of acquired intangibles and other	49,127	37,561	35,370
Stock-based compensation	23,311	20,569	14,153
Loss on disposal of property and equipment	376	390	416
Loss on assets held for sale	—	5,147	—
Impairment of intangible and long-lived assets	24,096	—	—
Deferred income taxes	(14,869)	(2,328)	(4,254)
Excess tax benefit from stock plans	—	—	(904)
Allowances for bad debt and sales credits	546	262	46
Changes in operating assets and liabilities:			
Accounts receivable and unbilled receivables	(24,655)	18,708	14,346
Other assets	(1,902)	(10,332)	7,518
Accounts payable and accrued liabilities	9,116	(11,842)	673
Income taxes payable	(454)	(2,890)	893
Deferred revenue	29,840	9,496	882
Net cash flows from operating activities	128,484	121,352	105,686
Cash flows (used in) from investing activities:			
Purchases of investments	(10,550)	(8,258)	(40,380)
Sales and maturities of investments	25,320	23,101	31,559
Purchases of property and equipment	(3,998)	(7,250)	(3,377)
Payments for acquisitions, net of cash acquired	(225,298)	—	(77,150)
Proceeds from sale of property, plant and equipment, net	6,146	—	1,557
Net cash flows (used in) from investing activities	(208,380)	7,593	(87,791)
Cash flows from (used in) financing activities:			
Proceeds from stock-based compensation plans	9,265	9,205	10,025
Payments for taxes related to net share settlements of equity awards	(4,278)	(3,999)	(3,756)
Repurchases of common stock	(25,000)	(120,000)	(73,936)
Dividend payments to shareholders	(27,760)	(25,789)	(24,127)
Proceeds from the issuance of debt	184,985	—	—
Excess tax benefit from stock plans	—	—	904
Payment of principal on long-term debt	(5,309)	(6,188)	(11,250)
Payment of issuance costs for long-term debt	(1,611)	—	(1,174)
Net cash flows from (used in) financing activities	130,292	(146,771)	(103,314)
Effect of exchange rate changes on cash	(1,263)	(10,512)	11,847
Net increase (decrease) in cash and cash equivalents	49,133	(28,338)	(73,572)
Cash and cash equivalents, beginning of year	105,126	133,464	207,036
Cash and cash equivalents, end of year	$ 154,259	$ 105,126	$ 133,464

[(1)]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

Supplemental disclosure:						
Cash paid for income taxes, net of refunds of $1,385 in 2019, $909 in 2018, and $3,997 in 2017	$	16,340	$	25,451	$	25,992
Cash paid for interest	$	8,666	$	4,220	$	3,597
Non-cash investing and financing activities:						
Total fair value of restricted stock awards, restricted stock units and deferred stock units on date vested	$	16,573	$	16,431	$	20,089
Dividends declared	$	7,498	$	6,998	$	6,619

See notes to consolidated financial statements.

PROGRESS SOFTWARE CORPORATION
Notes to Consolidated Financial Statements

Note 1: Nature of Business and Summary of Significant Accounting Policies

The Company

Progress Software Corporation ("Progress," the "Company," "we," "us," or "our") offers the leading platform for developing and deploying strategic business applications. We enable customers and partners to deliver modern, high-impact digital experiences with a fraction of the effort, time and cost. Progress offers powerful tools for easily building adaptive user experiences across any type of device or touchpoint, the flexibility of a cloud-native app dev platform to deliver modern apps, leading data connectivity technology, web content management, business rules, secure file transfer, network monitoring, plus award-winning machine learning that enables cognitive capabilities to be a part of any application. Over 1,700 independent software vendors ("ISVs"), 100,000 enterprise customers, and 2 million developers rely on Progress to power their applications.

Our products are generally sold as perpetual licenses, but certain products also use term licensing models and our cloud-based offerings use a subscription-based model. More than half of our worldwide license revenue is realized through relationships with indirect channel partners, principally application partners, original equipment manufacturers ("OEMs"), distributors and value-added resellers. Application partners are ISVs that develop and market applications using our technology and resell our products in conjunction with sales of their own products that incorporate our technology. OEMs are companies that embed our products into their own software products or devices. Value-added resellers are companies that add features or services to our product, then resell it as an integrated product or complete "turn-key" solution.

We operate in North America and Latin America (the "Americas"); Europe, the Middle East and Africa ("EMEA"); and the Asia Pacific region, through local subsidiaries as well as independent distributors.

Accounting Principles

We prepare our consolidated financial statements and accompanying notes in conformity with accounting principles generally accepted in the United States of America ("GAAP").

Basis of Consolidation

The consolidated financial statements include our accounts and those of our subsidiaries (all of which are wholly-owned). We eliminate all intercompany balances and transactions.

Use of Estimates

The preparation of consolidated financial statements requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. On an on-going basis, management evaluates its estimates and records changes in estimates in the period in which they become known. These estimates are based on historical data and experience, as well as various other assumptions that management believes to be reasonable under the circumstances. The most significant estimates relate to: the timing and amount of revenue recognition, including the determination of the nature and timing of the satisfaction of performance obligations, the standalone selling price of performance obligations, and the transaction price allocated to performance obligations; the realization of tax assets and estimates of tax liabilities; fair values of investments in marketable securities; assets held for sale; intangible assets and goodwill valuations; the recognition and disclosure of contingent liabilities; the collectability of accounts receivable; and assumptions used to determine the fair value of stock-based compensation. Actual results could differ from those estimates.

Foreign Currency Translation

The functional currency of most of our foreign subsidiaries is the local currency in which the subsidiary operates. For foreign operations where the local currency is considered to be the functional currency, we translate assets and liabilities into U.S. dollars at the exchange rate on the balance sheet date. We translate income and expense items at average rates of exchange prevailing during each period. We accumulate translation adjustments in accumulated other comprehensive loss, a component of shareholders' equity.

For foreign operations where the U.S. dollar is considered to be the functional currency, we remeasure monetary assets and liabilities into U.S. dollars at the exchange rate on the balance sheet date and non-monetary assets and liabilities are remeasured

into U.S. dollars at historical exchange rates. We translate income and expense items at average rates of exchange prevailing during each period. We recognize remeasurement adjustments currently as a component of foreign currency loss, net in the statements of operations.

Transaction gains or losses that arise from exchange rate fluctuations on transactions denominated in a currency other than the functional currency are included in foreign currency loss, net in the statements of operations as incurred.

Cash Equivalents and Investments

Cash equivalents include short-term, highly liquid investments purchased with remaining maturities of three months or less. As of November 30, 2019, all of our cash equivalents were invested in money market funds.

We classify investments, state and municipal bond obligations, U.S. treasury and government agency bonds, and corporate bonds and notes, as investments available-for-sale, which are stated at fair value. We include aggregate unrealized holding gains and losses, net of taxes, on available-for-sale securities as a component of accumulated other comprehensive loss in shareholders' equity. We include realized gains and losses in interest income and other, net on the consolidated statements of operations.

We monitor our investment portfolio for impairment on a periodic basis. In the event that the carrying value of an investment exceeds its fair value and the decline in value is determined to be other than temporary, an impairment charge is recorded and a new cost basis for the investment is established. In determining whether an other-than-temporary impairment exists, we consider the nature of the investment, the length of time and the extent to which the fair value has been less than cost, and our intent and ability to continue holding the security for a period sufficient for an expected recovery in fair value.

Allowances for Doubtful Accounts and Sales Credit Memos

We maintain an allowance for doubtful accounts for estimated losses resulting from the inability of customers to make required payments. We establish this allowance using estimates that we make based on factors such as the composition of the accounts receivable aging, historical bad debts, changes in payment patterns, changes to customer creditworthiness and current economic trends.

We also record an allowance for estimates of potential sales credit memos. This allowance is determined based on an analysis of historical credit memos issued and current economic trends, and is recorded as a reduction of revenue.

A summary of activity in the allowance for doubtful accounts is as follows (in thousands):

	November 30, 2019	November 30, 2018 As Adjusted[1]	November 30, 2017
Beginning balance	$ 574	$ 498	$ 741
ASC 606 adjustment	—	88	—
Charge to costs and expenses	606	216	204
Write-offs and other	(457)	(232)	(437)
Translation adjustments	(56)	4	(10)
Ending balance	$ 667	$ 574	$ 498

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

A summary of activity in the allowance for sales credit memos is as follows (in thousands):

	November 30, 2019	November 30, 2018 As Adjusted[1]	November 30, 2017
Beginning balance	$ 266	$ 178	$ 402
ASC 606 adjustment	—	41	—
Charge (credit) to revenue	(60)	46	(158)
Write-offs and other	(46)	—	(69)
Translation adjustments	(2)	1	3
Ending balance	$ 158	$ 266	$ 178

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

Concentrations of Credit Risk

Our financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash and cash equivalents, investments, derivative instruments and trade receivables. We have cash investment policies which, among other things, limit investments to investment-grade securities. We hold our cash and cash equivalents, investments and derivative instrument contracts with high quality financial institutions and we monitor the credit ratings of those institutions. We perform ongoing credit evaluations of our customers, and the risk with respect to trade receivables is further mitigated by the diversity, both by geography and by industry, of the customer base. No single customer represented more than 10% of consolidated accounts receivable or revenue in fiscal years 2019, 2018 or 2017.

Fair Value of Financial Instruments

The carrying amount of our cash and cash equivalents, accounts receivable, accounts payable and long-term debt approximates fair value due to the short-term nature or market interest rates of these items. We base the fair value of short-term investments on quoted market prices or other relevant information generated by market transactions involving identical or comparable assets. We measure and record derivative financial instruments at fair value. See Note 4 for further discussion of financial instruments that are carried at fair value on a recurring and nonrecurring basis.

Derivative Instruments

We record all derivatives on the consolidated balance sheets at fair value. We use derivative instruments to manage exposures to fluctuations in the value of foreign currencies, which exist as part of our ongoing business operations.

Cash Flow Hedge

We entered into an interest rate swap contract in July 2019 to manage the variability of cash flows associated with approximately one-half of our variable rate debt. We have designated the interest rate swap as a cash flow hedge and assess the hedge effectiveness both at the onset of the hedge and at regular intervals throughout the life of the derivative. To the extent that the interest rate swap is highly effective in offsetting the variability of the hedged cash flows, changes in the fair value of the derivative are included as a component of other comprehensive loss on our consolidated balance sheets. Although we have determined at the onset of the hedge that the interest rate swap will be a highly effective hedge throughout the term of the contract, any portion of the fair value swap subsequently determined to be ineffective will be recognized in earnings.

Forward Contracts

Certain assets and forecasted transactions are exposed to foreign currency risk. Our objective for holding derivatives is to eliminate or reduce the impact of these exposures. We periodically monitor our foreign currency exposures to enhance the overall economic effectiveness of our foreign currency hedge positions. Principal currencies hedged include the euro, British pound, Brazilian real, Indian rupee, and Australian dollar. We do not enter into derivative instruments for speculative purposes, nor do we hold or issue any derivative instruments for trading purposes.

We enter into certain derivative instruments that do not qualify for hedge accounting and are not designated as hedges. Although these derivatives do not qualify for hedge accounting, we believe that such instruments are closely correlated with the underlying exposure, thus managing the associated risk. The gains or losses from changes in the fair value of such derivative instruments that are not accounted for as hedges are recognized in earnings in foreign currency loss, net in the consolidated statements of operations.

Property and Equipment

We record property and equipment at cost. We record property and equipment purchased in business combinations at fair value, which is then treated as the cost. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the related assets. Leasehold improvements are amortized on a straight-line basis over the shorter of the lease term or the useful lives of the assets. Useful lives by major asset class are as follows: computer equipment and software, 3 to 7 years; buildings and improvements, 5 to 39 years; and furniture and fixtures, 5 to 7 years. Repairs and maintenance costs are expensed as incurred.

Product Development and Internal Use Software

Expenditures for product development, other than internal use software costs, are expensed as incurred. Product development expenses primarily consist of personnel and related expenses for our product development staff, the cost of various third-party contractor fees, and allocated overhead expenses.

Software development costs associated with internal use software are incurred in three stages of development: the preliminary project stage, the application development stage, and the post-implementation stage. Costs incurred during the preliminary project and post-implementation stages are expensed as incurred. Certain internal and external qualifying costs incurred during the application development stage are capitalized as property and equipment. Internal use software is amortized on a straight-line basis over its estimated useful life of three years, beginning when the software is ready for its intended use.

During the fiscal years ended November 30, 2019, 2018, and 2017, there were no internal use software development costs capitalized. We did not incur any amortization expense related to internal use software development costs during the fiscal year ended November 30, 2019 as these costs were fully amortized as of November 30, 2018. Amortization expense related to internal use software totaled $0.2 million and $0.6 million during the fiscal years ended November 30, 2018 and 2017, respectively.

Goodwill, Intangible Assets and Long-Lived Assets

Goodwill is the amount by which the cost of acquired net assets in a business combination exceeded the fair value of net identifiable assets on the date of purchase. We evaluate goodwill and other intangible assets with indefinite useful lives, if any, for impairment annually or on an interim basis when events and circumstances arise that indicate impairment may have occurred.

In performing our annual assessment, we first perform a qualitative test and if necessary, perform a quantitative test. To conduct the quantitative impairment test of goodwill, we compare the fair value of a reporting unit to its carrying value. If the reporting unit's carrying value exceeds its fair value, we record an impairment loss to the extent that the carrying value of goodwill exceeds its implied fair value. We estimate the fair values of our reporting units using discounted cash flow models or other valuation models, such as comparative transactions and market multiples. We did not recognize any goodwill impairment charges during fiscal years 2019, 2018, or 2017.

Intangible assets are comprised of purchased technology, customer-related assets, and trademarks and trade names acquired through business combinations (Note 7). All of our intangible assets are amortized using the straight-line method over their estimated useful life.

We periodically review long-lived assets (primarily property and equipment) and intangible assets with finite lives for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable or that the useful lives of those assets are no longer appropriate. We base each impairment test on a comparison of the undiscounted cash flows to the carrying value of the asset or asset group. If impairment is indicated, we write down the asset to its estimated fair value based on a discounted cash flow analysis. During fiscal year 2019, we recorded a $22.7 million asset impairment charge, which was primarily applicable to the intangible assets obtained in connection with our acquisitions of DataRPM and Kinvey during the second and third quarters of fiscal year 2017, respectively (Note 4).

We classify long-lived assets to be sold as held for sale in the period in which: (i) we have approved and committed to a plan to sell the asset, (ii) the asset is available for immediate sale in its present condition, (iii) an active program to locate a buyer and other actions required to sell the asset have been initiated, (iv) the sale of the asset is probable, (v) the asset is being actively marketed for sale at a price that is reasonable in relation to its current fair value, and (vi) it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn. Assets held for sale are initially measured at the lower of the carrying value or the fair value less cost to sell. Losses resulting from this measurement are recognized in the period in which the held for sale criteria are met while gains are not recognized until the date of sale. Once designated as held for sale, we stop recording depreciation expense on the asset. We assess the fair value less cost to sell of long-lived assets held for sale at each reporting period until it no longer meets this classification. In the fourth quarter of fiscal year 2018, we reclassified certain corporate land and building assets previously reported as property and equipment to assets held for sale on our consolidated balance sheet. As the fair value less cost to sell was less than the carrying value of these assets, we recognized an impairment charge of $5.1 million. We sold these long-lived assets during fiscal year 2019 and recognized a net gain on the sale of approximately $0.1 million. During the fourth quarter of fiscal year 2019, we incurred an additional asset impairment charge of $1.4 million related to the abandonment of certain long-lived assets associated with this sale of corporate land and buildings. The fair value of the assets held for sale was measured using third-party valuation models, which included a discounted cash flow analysis (Note 4).

Comprehensive (Loss) Income

The components of comprehensive loss include, in addition to net income, unrealized gains and losses on investments and foreign currency translation adjustments.

Accumulated other comprehensive loss by components, net of tax (in thousands):

	Foreign Currency Translation Adjustment	Unrealized (Losses) Gains on Investments	Unrealized Loss on Hedging Activity	Total
Balance, December 1, 2017	$ (18,177)	$ (229)	$ —	$ (18,406)
Other comprehensive (loss) income	(9,796)	26	—	(9,770)
Balance, December 1, 2018	$ (27,973)	$ (203)	$ —	$ (28,176)
Other comprehensive (loss) income	(420)	173	(1,551)	(1,798)
Balance, November 30, 2019	$ (28,393)	$ (30)	$ (1,551)	$ (29,974)

The tax effect on accumulated unrealized losses on investments was minimal as ofNovember 30, 2019, November 30, 2018, and November 30, 2017.

Revenue Recognition

Revenue Policy

We derive our revenue primarily from software licenses and maintenance and services. Our license arrangements generally contain multiple performance obligations, including software maintenance services. Revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration that we expect to receive in exchange for those goods or services. When an arrangement contains multiple performance obligations, we account for individual performance obligations separately if they are distinct. We recognize revenue through the application of the following steps: (i) identification of the contract(s) with a customer; (ii) identification of the performance obligations in the contract; (iii) determination of the transaction price; (iv) allocation of the transaction price to performance obligations in the contract; and (v) recognition of revenue when or as we satisfy the performance obligations. Sales taxes collected from customers and remitted to government authorities are excluded from revenue and we do not license our software with a right of return.

Software Licenses

Software licenses are on-premise and fully functional when made available to the customer. As the customer can use and benefit from the license on its own, on-premise software licenses represent distinct performance obligations. Revenue is recognized upfront at the point in time when control is transferred, which is defined as the point in time when the client can use and benefit from the license. Our licenses are sold as perpetual or term licenses, and the arrangements typically contain various combinations of maintenance and services, which are generally accounted for as separate performance obligations. We use the

residual approach to allocate the transaction price to our software license performance obligations because, due to the pricing of our licenses being highly variable, they do not have an observable stand-alone selling price ("SSP"). As required, we evaluate the residual approach estimate compared to all available observable data in order to conclude the estimate is representative of its SSP.

Perpetual licenses are generally invoiced upon execution of the contract and payable within30 days. Term licenses are generally invoiced in advance on an annual basis over the term of the arrangement, which is typically one to three years. Any difference between the revenue recognized and the amount invoiced to the customer is recognized on our consolidated balance sheets as unbilled receivables until the customer is invoiced, at which point the amount is reclassified to accounts receivable.

Maintenance

Maintenance revenue is made up of technical support, bug fixes, and when-and-if available unspecified software upgrades. As these maintenance services are considered to be a series of distinct services that are substantially the same and have the same duration and measure of progress, we have concluded that they represent one combined performance obligation. Revenue is recognized ratably over the contract period. The SSP of maintenance services is a percentage of the net selling price of the related software license, which has remained within a tight range and is consistent with the stand-alone pricing of subsequent maintenance renewals.

Maintenance services are generally invoiced in advance on an annual basis over the term of the arrangement, which is typically one tothree years.

Services

Services revenue primarily includes consulting and customer education services. In general, services are distinct performance obligations. Services revenue is generally recognized as the services are delivered to the customer. We apply the practical expedient of recognizing revenue upon invoicing for time and materials-based arrangements as the invoiced amount corresponds to the value of the services provided. The SSP of services is based upon observable prices in similar transactions using the hourly rates sold in stand-alone services transactions. Services are either sold on a time and materials basis or prepaid upfront.

We also offer products via a software-as-a-service ("SaaS") model, which is a subscription-based model. Our customers can use hosted software over the contract period without taking possession of it and the cloud services are available to them throughout the entire term, even if they do not use the service. Revenue related to SaaS offerings is recognized ratably over the contract period. The SSP of SaaS performance obligations is determined based upon observable prices in stand-alone SaaS transactions. SaaS arrangements are generally invoiced in advance on a monthly, quarterly, or annual basis over the term of the arrangement, which is typically one to three years.

Arrangements with Multiple Performance Obligations

When an arrangement contains multiple performance obligations, we account for individual performance obligations separately if they are distinct. We allocate the transaction price to each performance obligation in a contract based on its relative SSP. Although we do not have a history of offering these elements, prior to allocating the transaction price to each performance obligation, we consider whether the arrangement has any discounts, material rights, or specified future upgrades that may represent additional performance obligations. Determining whether products and services are distinct performance obligations and the determination of the SSP may require significant judgment.

Contract Balances

Unbilled Receivables and Contract Assets

The timing of revenue recognition may differ from the timing of customer invoicing. When revenue is recognized prior to invoicing and the right to the amount due from customers is conditioned only on the passage of time, we record an unbilled receivable on our consolidated balance sheets. Our multi-year term license arrangements, which are typically billed annually, result in revenue recognition in advance of invoicing and the recognition of unbilled receivables.

As of November 30, 2019, invoicing of our long-term unbilled receivables is expected to occur as follows (in thousands):

2021	$	11,731
2022		761
Total	$	12,492

Contract assets, which arise when revenue is recognized prior to invoicing and the right to the amount due from customers is conditioned on something other than the passage of time, such as the completion of a related performance obligation, were $4.0 million as of November 30, 2019 and insignificant as of November 30, 2018. These amounts are included in unbilled receivables or long-term unbilled receivables on our consolidated balance sheets.

Deferred Revenue

Deferred revenue is recorded when revenue is recognized subsequent to customer invoicing. Our deferred revenue balance is primarily made up of deferred maintenance from our OpenEdge and Application Development and Deployment segments.

As of November 30, 2019, the changes in deferred revenue were as follows (in thousands):

Balance, December 1, 2018 As Adjusted[1]	$	135,940
Billings and other		454,604
Revenue recognized		(413,298)
Balance, November 30, 2019	$	177,246

[1]The Company adopted ASC 606 effective December 1, 2018 using the full retrospective method.

Transaction price allocated to remaining performance obligations represents contracted revenue that has not yet been recognized, which includes deferred revenue and amounts that will be invoiced and recognized as revenue in future periods. As of November 30, 2019, transaction price allocated to remaining performance obligations was $186 million. We expect to recognize approximately 90% of the revenue within the next year and the remainder thereafter.

Deferred Contract Costs

Deferred contract costs, which include certain sales incentive programs, are incremental and recoverable costs of obtaining a contract with a customer. Incremental costs of obtaining a contract with a customer are recognized as an asset if the expected benefit of those costs is longer than one year. We have applied the practical expedient to expense costs as incurred for costs to obtain a contract with a customer when the amortization period would have been one year or less. These costs include a large majority of our sales incentive programs as we have determined that annual compensation is commensurate with annual sales activities.

Certain of our sales incentive programs do meet the requirements to be capitalized. Depending upon the sales incentive program and the related revenue arrangement, such capitalized costs are amortized over the longer of (i) the product life, which is generally three to five years; or (ii) the term of the related revenue contract. We determined that a three to five year product life represents the period of benefit that we receive from these incremental costs based on both qualitative and quantitative factors, which include customer contracts, industry norms, and product upgrades. Total deferred contract costs were $1.7 million as of November 30, 2019 and minimal as of November 30, 2018 and are included in other current assets and other assets on our consolidated balance sheets. Amortization of deferred contract costs is included in sales and marketing expense on our consolidated statement of operations and was minimal in all periods presented.

Advertising Costs

Advertising costs are expensed as incurred and were $0.8 million, $1.4 million, and $1.5 million in fiscal years 2019, 2018, and 2017, respectively.

Warranty Costs

We make periodic provisions for expected warranty costs. Historically, warranty costs have been insignificant.

Stock-Based Compensation

Stock-based compensation expense reflects the fair value of stock-based awards, less the present value of expected dividends, measured at the grant date and recognized over the relevant service period. We estimate the fair value of each stock-based award on the measurement date using either the current market price of the stock, the Black-Scholes option valuation model, or the Monte Carlo Simulation valuation model. The Black-Scholes and Monte Carlo Simulation valuation models incorporate assumptions as to stock price volatility, the expected life of options or awards, a risk-free interest rate and dividend yield. We recognize stock-based compensation expense related to options and restricted stock units on a straight-line basis over the service period of the award, which is generally 4 or 5 years for options and 3 years for restricted stock units. We recognize stock-based compensation expense related to performance stock units and our employee stock purchase plan using an accelerated attribution method.

Fees Related to Shareholder Activist

In September 2017, Praesidium Investment Management, then one of our largest stockholders, publicly announced its disagreement with our strategy in a Schedule 13D filed with the Securities and Exchange Commission (the “SEC”) and stated that it was seeking changes in the composition of our Board of Directors. In fiscal years 2017 and 2018, we incurred professional and other fees relating to Praesidium’s actions. We did not incur any fees related to Praesidium's actions during fiscal year 2019.

Acquisition-Related Costs

Acquisition-related costs are expensed as incurred and include those costs incurred as a result of a business combination. These costs consist of professional services fees, including third-party legal and valuation-related fees, as well as retention fees and earn-out payments treated as compensation expense. We incurred $1.7 million, $0.3 million, and $1.5 million of acquisition-related costs, which are included in acquisition-related expenses in our consolidated statement of operations, for the fiscal years ended November 30, 2019, November 30, 2018, and November 30, 2017, respectively.

Restructuring Charges

Our restructuring charges are comprised primarily of costs related to property abandonment, including future lease commitments, net of any sublease income, and associated leasehold improvements; and employee termination costs related to headcount reductions. We recognize and measure restructuring liabilities initially at fair value when the liability is incurred. We incurred $6.3 million, $2.3 million, and $22.2 million of restructuring related costs, which are included in restructuring expenses in our consolidated statement of operations, for the fiscal years ended November 30, 2019, November 30, 2018, and November 30, 2017, respectively.

Income Taxes

We provide for deferred income taxes resulting from temporary differences between financial and taxable income. We record valuation allowances to reduce deferred tax assets to the amount that is more likely than not to be realized.

We recognize and measure uncertain tax positions taken or expected to be taken in a tax return utilizing a two-step approach. We first determine if the weight of available evidence indicates that it is more likely than not that the tax position will be sustained on audit, including resolution of any related appeals or litigation processes. The second step is that we measure the tax benefit as the largest amount that is more likely than not to be realized upon ultimate settlement. We recognize interest and penalties related to uncertain tax positions in our provision for income taxes on our consolidated statements of operations.

Recent Accounting Pronouncements

Recently Adopted Accounting Pronouncements

In October 2016, the FASB issued Accounting Standards Update No. 2016-16,*Income Taxes (Topic 740), Intra-Entity Transfers of Assets Other Than Inventory* ("ASU 2016-16"), which requires entities to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. Under prior accounting standards, the recognition of current and deferred income taxes for an intra-entity transfer was prohibited until the asset has been sold to an outside party. We adopted this standard at the beginning of the first quarter of fiscal year 2019. Upon adoption, we reclassified approximately $3.4 million from non-current prepaid taxes, which is included in other assets on our consolidated balance sheet, to retained earnings as of December 1, 2018. During the preparation of our consolidated financial statements for the three months ended August 31, 2019, we identified that a deferred tax asset of $8.2 million should also have been recorded upon adoption of this standard at the beginning of the first quarter of fiscal year 2019, with the offset recorded to retained earnings. We determined that the error is not material to the first and second quarters of fiscal year 2019. We also concluded that recording an out-of-period correction in the third quarter of fiscal year 2019 would not be material and therefore corrected this error by recording the $8.2 million deferred tax asset during the third quarter of fiscal year 2019. Therefore, the impact of the adoption of ASU 2016-16 on our consolidated balance sheet was a reclassification of approximately $4.8 million to retained earnings.

In May 2014, the FASB issued Accounting Standards Update No. 2014-09,*Revenue from Contracts with Customers (Topic 606)* ("ASC 606"). Under this standard, revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration that the entity expects to receive in exchange for those goods or services. The standard also requires new disclosures regarding the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers and provides guidance on the recognition of costs related to obtaining customer contracts. We adopted this ASU effective December 1, 2018 in accordance with the full retrospective approach, which required us to retrospectively adjust certain previously reported results in the comparative prior periods presented. Upon adoption, we recorded a cumulative $31 million increase to our 2017 beginning retained earnings balance, a $15 million decrease to deferred revenue, a $28 million increase to unbilled receivables, and a $12 million increase to deferred tax liabilities.

The revenue recognition related to accounting for the following transactions is most impacted by our adoption of this standard:

- **Revenue from term licenses with extended payment terms over the term of the agreement within our Data Connectivity and Integration segment** - Under the applicable revenue recognition guidance for fiscal years 2018 and prior, these transactions were recognized when the amounts were billed to the customer. In accordance with ASC 606, revenue from term license performance obligations is recognized upon delivery and revenue from maintenance performance obligations is expected to be recognized over the contract term. To the extent that we enter into these transactions, revenue from term licenses with extended payment terms will be recognized prior to the customer being billed and we will recognize an unbilled receivable on the balance sheet. Accordingly, the recognition of license revenue is accelerated under ASC 606 as we historically did not recognize revenue until the amounts had been billed to the customer.

- **Revenue from transactions with multiple elements within our Application Development and Deployment segment (i.e., sales of perpetual licenses with maintenance and/or support)** - Under the applicable revenue recognition guidance for fiscal years 2018 and prior, these transactions were recognized ratably over the associated maintenance period as the Company did not have vendor specific objective evidence ("VSOE") for maintenance or support. Under ASC 606, the requirement to have VSOE for undelivered elements that existed under prior guidance is eliminated. Accordingly, the Company will recognize a portion of the sales price as revenue upon delivery of the license instead of recognizing the entire sales price ratably over the maintenance period.

The impact of the adoption of this standard on our previously reported consolidated balance sheet and consolidated statements of operations is as follows:

Consolidated Balance Sheet

	November 30, 2018		
(in thousands)	As Reported	Adjustments	As Adjusted
Assets			
Accounts receivable, net	$ 58,450	$ 1,265	$ 59,715
Short-term unbilled receivables	—	1,421	1,421
Long-term unbilled receivables	—	1,811	1,811
Deferred tax assets	1,922	(956)	966
Other assets[(1)]	580,237	—	580,237
Total assets	$ 640,609	$ 3,541	$ 644,150
Liabilities and shareholders' equity			
Short-term deferred revenue	133,194	(9,984)	123,210
Long-term deferred revenue	15,127	(2,397)	12,730
Deferred tax liabilities	3,797	2,002	5,799
Other liabilities[(2)]	178,409	—	178,409
Retained earnings	71,242	13,883	85,125
Accumulated other comprehensive loss	(28,213)	37	(28,176)
Other equity[(3)]	267,053	—	267,053
Total liabilities and shareholders' equity	$ 640,609	$ 3,541	$ 644,150

[(1)]Includes cash and cash equivalents, short-term investments, other current assets, assets held for sale, property and equipment, net, intangible assets, net, goodwill, and other assets.

[(2)]Includes current portion of long-term debt, net, accounts payable, accrued compensation and related taxes, dividends payable, income taxes payable, other accrued liabilities, long-term debt, net, and other noncurrent liabilities.

[(3)]Includes common stock and additional paid-in capital.

Consolidated Statements of Income

	Fiscal Year Ended					
	November 30, 2018			November 30, 2017		
(In thousands, except per share data)	As Reported	Adjustments	As Adjusted	As Reported	Adjustments	As Adjusted
Revenue:						
Software licenses	$ 122,137	$ (22,337)	$ 99,800	$ 124,406	$ (10,763)	$ 113,643
Maintenance and services	275,028	4,153	279,181	273,166	2,345	275,511
Total revenue	397,165	(18,184)	378,981	397,572	(8,418)	389,154
Costs of revenue	66,973	—	66,973	69,159	—	69,159
Gross Profit	330,192	(18,184)	312,008	328,413	(8,418)	319,995
Operating expenses	244,194	—	244,194	257,799	4,706	262,505
Income from operations	85,998	(18,184)	67,814	70,614	(13,124)	57,490
Other expense, net	(7,018)	—	(7,018)	(5,027)	—	(5,027)
Income before income taxes	78,980	(18,184)	60,796	65,587	(13,124)	52,463
Provision for income taxes	15,489	(4,363)	11,126	28,170	(4,728)	23,442
Net income	$ 63,491	$ (13,821)	$ 49,670	$ 37,417	$ (8,396)	$ 29,021
Earnings (loss) per share:						
Basic	$ 1.39	$ (0.30)	$ 1.09	$ 0.78	$ (0.18)	$ 0.60
Diluted	$ 1.38	$ (0.30)	$ 1.08	$ 0.77	$ (0.17)	$ 0.60
Weighted average shares outstanding:						
Basic	45,561	—	45,561	48,129	—	48,129
Diluted	46,135	—	46,135	48,516	—	48,516

The adoption of ASC 606 had no impact on total cash from or used in operating, financing, or investing activities on our consolidated cash flow statements.

Recently Issued Accounting Pronouncements Not Yet Adopted

In August 2018, the FASB issued Accounting Standards Update No. 2018-15, *Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40), Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* ("ASU 2018-15"). ASU 2018-15 amends current guidance to align the accounting for costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing costs associated with developing or obtaining internal-use software. Capitalized implementation costs must be expensed over the term of the hosting arrangement and presented in the same line item in the statement of income as the fees associated with the hosting element (service) of the arrangement. The guidance in ASU 2018-15 is effective for annual reporting periods beginning after December 15, 2019, with early adoption permitted. We are currently accounting for costs incurred in a cloud computing arrangement in accordance with the guidance provided in ASU 2018-15.

In August 2017, the FASB issued Accounting Standards Update No. 2017-12, *Derivatives and Hedging (Topic 815), Targeted Improvements to Accounting for Hedging Activities* ("ASU 2017-12"). ASU 2017-12 intends to better align an entity's risk management activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results. The amendments expand and refine hedge accounting for both nonfinancial and financial risk components and align the recognition and presentation of the effects of the hedging instrument and the hedged item in the financial statements. The guidance in ASU 2017-12 is required for annual reporting periods beginning after December 15, 2018. We are currently accounting for our cash flow hedges in accordance with the guidance provided in ASU 2017-12.

In January 2017, the FASB issued Accounting Standards Update No. 2017-04, *Intangibles - Goodwill and Other (Topic 350), Simplifying the Test for Goodwill Impairment* ("ASU 2017-04"). ASU 2017-04 amends Topic 350 to simplify the subsequent measurement of goodwill by eliminating Step 2 from the goodwill impairment test. This update requires the performance of an annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An impairment charge should be recognized for the amount by which the carrying amount exceeds the reporting unit's fair value. However, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. The guidance in ASU 2017-04 is required for annual reporting periods beginning after December 15, 2019, with early adoption permitted. We do not expect the implementation of this update to have a material effect upon adoption on our consolidated financial position and results of operations.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02, *Leases (Topic 842)* ("ASU 2016-02"), which requires lessees to record most leases on their balance sheets, recognizing a lease liability for the obligation to make lease payments and a right-of-use asset for the right to use the underlying asset for the lease term. The guidance in ASU 2016-02 is required for annual reporting periods beginning after December 15, 2018.

We are required to adopt this standard effective December 1, 2019 and plan to apply the modified retrospective transition method. The comparative historical information will not be restated and will continue to be reported under the accounting standards in effect for those periods. The new standard provides for optional practical expedients in transition. We expect to elect the package of transition practical expedients available in the standard, which permits us not to reassess our prior conclusions about lease identification, classification, and initial direct costs under the new standard. Furthermore, we expect to elect the practical expedients to combine lease and non-lease components and to not recognize right-of-use assets and lease liabilities for short-term leases. On a preliminary basis, we expect to recognize right-of-use assets of approximately $26 million to $30 million and lease liabilities of approximately $28 million to $32 million as of December 1, 2019. The most significant impact is from right-of-use assets and lease liabilities related to our office space operating leases. The adoption is not expected to impact our consolidated net earnings or cash flows.

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Note 2: Cash, Cash Equivalents and Investments

A summary of our cash, cash equivalents and available-for-sale investments at November 30, 2019 is as follows (in thousands):

	Amortized Cost Basis	Unrealized Gains	Unrealized Losses	Fair Value
Cash	$ 144,346	$ —	$ —	$ 144,346
Money market funds	9,913	—	—	9,913
State and municipal bond obligations	7,036	1	—	7,037
U.S. treasury bonds	7,221	10	—	7,231
Corporate bonds	5,146	12	—	5,158
Total	$ 173,662	$ 23	$ —	$ 173,685

A summary of our cash, cash equivalents and available-for-sale investments at November 30, 2018 is as follows (in thousands):

	Amortized Cost Basis	Unrealized Gains	Unrealized Losses	Fair Value
Cash	$ 101,316	$ —	$ —	$ 101,316
Money market funds	3,810	—	—	3,810
State and municipal bond obligations	19,542	—	(119)	19,423
U.S. treasury bonds	6,726	—	(21)	6,705
Corporate bonds	8,329	—	(70)	8,259
Total	$ 139,723	$ —	$ (210)	$ 139,513

Such amounts are classified on our consolidated balance sheets as follows (in thousands):

	November 30, 2019		November 30, 2018	
	Cash and Equivalents	Short-Term Investments	Cash and Equivalents	Short-Term Investments
Cash	$ 144,346	$ —	$ 101,316	$ —
Money market funds	9,913	—	3,810	—
State and municipal bond obligations	—	7,037	—	19,423
U.S. treasury bonds	—	7,231	—	6,705
Corporate bonds	—	5,158	—	8,259
Total	$ 154,259	$ 19,426	$ 105,126	$ 34,387

The fair value of debt securities by contractual maturity is as follows (in thousands):

	November 30, 2019	November 30, 2018
Due in one year or less	$ 14,004	$ 25,051
Due after one year [(1)]	5,422	9,336
Total	$ 19,426	$ 34,387

(1) Includes state and municipal bond obligations, U.S. treasury bonds and corporate bonds, which are securities representing investments available for current operations and are classified as current on the consolidated balance sheets.

We did not hold any investments with continuous unrealized losses as of November 30, 2019 or November 30, 2018.

Note 3: Derivative Instruments

Cash Flow Hedge

On July 9, 2019, we entered into an interest rate swap contract with an initial notional amount of$150.0 million to manage the variability of cash flows associated with approximately one-half of our variable rate debt. The contract matures on April 30, 2024 and requires periodic interest rate settlements. Under this interest rate swap contract, we receive a floating rate based on the greater of 1-month LIBOR or 0.00% and pay a fixed rate of 1.855% on the outstanding notional amount.

We have designated the interest rate swap as a cash flow hedge and assess the hedge effectiveness both at the onset of the hedge and at regular intervals throughout the life of the derivative. To the extent that the interest rate swap is highly effective in offsetting the variability of the hedged cash flows, changes in the fair value of the derivative are included as a component of other comprehensive loss on our consolidated balance sheets. Although we have determined at the onset of the hedge that the interest rate swap will be a highly effective hedge throughout the term of the contract, any portion of the fair value swap subsequently determined to be ineffective will be recognized in earnings. As of November 30, 2019, the fair value of the hedge was a loss of$2.1 million and included in other noncurrent liabilities on our consolidated balance sheets.

The following table presents our interest rate swap contract where the notional amount reflects the quarterly amortization of the interest rate swap, which is equal to approximately one-half of the corresponding reduction in the balance of our term loan as we make our scheduled principal payments. The fair value of the derivative represents the discounted value of the expected future discounted cash flows for the interest rate swap, based on the amortization schedule and the current forward curve for the remaining term of the contract, as of the date of each reporting period (in thousands):

	November 30, 2019		November 30, 2018	
	Notional Value	Fair Value	Notional Value	Fair Value
Interest rate swap contracts designated as cash flow hedges	$ 148,125	$ (2,054)	$ —	$ —

Forward Contracts

We generally use forward contracts that are not designated as hedging instruments to hedge economically the impact of the variability in exchange rates on intercompany accounts receivable and loans receivable denominated in certain foreign currencies. We generally do not hedge the net assets of our international subsidiaries.

All forward contracts are recorded at fair value on the consolidated balance sheets at the end of each reporting period and expire between30 days and two years from the date the contract was entered. At November 30, 2019, $0.1 million was recorded in other noncurrent liabilities on the consolidated balance sheets. At November 30, 2018, $0.3 million and $0.1 million was recorded in other noncurrent liabilities and other current assets, respectively, on the consolidated balance sheets. In fiscal year 2019, realized and unrealized losses of $1.1 million from our forward contracts were recognized in foreign currency loss, net on the consolidated statement of operations. In fiscal years 2018 and 2017, realized and unrealized losses of $6.9 million and realized and unrealized gains of $9.4 million, respectively, from our forward contracts were recognized in foreign currency loss, net on the consolidated statements of operations. These losses and gains were substantially offset by realized and unrealized gains and losses on the offsetting positions.

The table below details outstanding foreign currency forward contracts where the notional amount is determined using contract exchange rates (in thousands):

	November 30, 2019		November 30, 2018	
	Notional Value	Fair Value	Notional Value	Fair Value
Forward contracts to sell U.S. dollars	$ 66,951	$ (85)	$ 105,830	$ (170)
Forward contracts to purchase U.S. dollars	1,457	5	240	—
Total	$ 68,408	$ (80)	$ 106,070	$ (170)

Note 4: Fair Value Measurements

Recurring Fair Value Measurements

The following table details the fair value measurements within the fair value hierarchy of our financial assets and liabilities at November 30, 2019 (in thousands):

	Total Fair Value	Fair Value Measurements Using		
		Level 1	Level 2	Level 3
Assets				
Money market funds	$ 9,913	$ 9,913	$ —	$ —
State and municipal bond obligations	7,037	—	7,037	—
U.S. treasury bonds	7,231	—	7,231	—
Corporate bonds	5,158	—	5,158	—
Liabilities				
Foreign exchange derivatives	(80)	—	(80)	—
Interest rate swap	$ (2,054)	$ —	$ (2,054)	$ —

The following table details the fair value measurements within the fair value hierarchy of our financial assets and liabilities at November 30, 2018 (in thousands):

	Total Fair Value	Fair Value Measurements Using		
		Level 1	Level 2	Level 3
Assets				
Money market funds	$ 3,810	$ 3,810	$ —	$ —
State and municipal bond obligations	19,423	—	19,423	—
U.S. treasury bonds	6,705	—	6,705	—
Corporate bonds	8,259	—	8,259	—
Liabilities				
Foreign exchange derivatives	$ (170)	$ —	$ (170)	$ —

When developing fair value estimates, we maximize the use of observable inputs and minimize the use of unobservable inputs. When available, we use quoted market prices to measure fair value. The valuation technique used to measure fair value for our Level 1 and Level 2 assets is a market approach, using prices and other relevant information generated by market transactions involving identical or comparable assets. If market prices are not available, the fair value measurement is based on models that use primarily market based parameters including yield curves, volatilities, credit ratings and currency rates. In certain cases where market rate assumptions are not available, we are required to make judgments about assumptions market participants would use to estimate the fair value of a financial instrument.

Nonrecurring Fair Value Measurements

During fiscal years 2019 and 2018, certain assets were measured at fair value on a nonrecurring basis using significant unobservable inputs (Level 3).

During the fourth quarter of fiscal year 2019, based on the fair value measurement, we recorded a $22.7 million asset impairment charge, which was attributable to the intangible assets primarily associated with the technologies and trade names obtained in the acquisitions of DataRPM and Kinvey during the second and third quarters of fiscal year 2017, respectively (Note 6).

During the fourth quarter of fiscal year 2018, based on the fair value measurement, we recorded a $5.1 million asset impairment charge as of November 30, 2018 related to certain corporate land and building assets previously reported as property and equipment, net that we reclassified to assets held for sale on our consolidated balance sheets. On April 3, 2019, we

sold these assets for approximately $5.8 million in net cash proceeds and recognized a net gain on the sale of approximately $0.1 million, which is included in interest income and other, net on our consolidated statements of operations.

The following table presents nonrecurring fair value measurements as of November 30, 2019 (in thousands):

	Total Fair Value	Total Losses
Intangible assets	$ —	$ 22,688

The fair value measurements of intangible assets and long-lived assets were determined using an income-based valuation methodology, which incorporates unobservable inputs, including discounted expected cash flows over the remaining estimated useful life of the technology, thereby classifying the fair value as a Level 3 measurement within the fair value hierarchy. The expected cash flows include maintenance fees to be collected from existing customers using the products, offset by compensation related costs and hosting fees to be incurred over the remaining estimated useful lives.

The following table presents nonrecurring fair value measurements as of November 30, 2018 (in thousands):

	Total Fair Value	Total Losses
Assets held for sale	$ 5,776	$ 5,147

The fair value measurement of the assets held for sale was measured using third-party valuation models and was determined using an income-based valuation methodology, which includes discounted expected cash flows. As the discounted cash flows represent unobservable inputs, the fair value was classified as a Level 3 measurement within the fair value hierarchy. The expected cash flows include proceeds from the sale, offset by the costs incurred to sell the assets.

Note 5: Property and Equipment

Property and equipment consists of the following (in thousands):

	November 30, 2019	November 30, 2018
Computer equipment and software	$ 47,699	$ 47,266
Land, buildings and leasehold improvements	34,083	34,676
Furniture and fixtures	7,090	6,104
Capitalized software development costs	276	276
Property and equipment, gross	89,148	88,322
Less accumulated depreciation and amortization	(59,383)	(57,608)
Property and equipment, net	$ 29,765	$ 30,714

Depreciation and amortization expense related to property and equipment was $7.6 million, $6.9 million, and $7.5 million for the years ended November 30, 2019, 2018, and 2017, respectively.

In the fourth quarter of fiscal year 2018, we reclassified certain corporate land and building assets previously reported as property and equipment to assets held for sale on our consolidated balance sheet. Based on the fair value measurement, we recorded a $5.1 million asset impairment charge as of November 30, 2018. On April 3, 2019, we sold these assets for approximately $5.8 million in net cash proceeds and recognized a net gain on the sale of approximately $0.1 million. During the fourth quarter of fiscal year 2019, we incurred an additional asset impairment charge of $1.4 million related to the abandonment of certain long-lived assets associated with this sale of corporate land and buildings. This asset impairment charge is included in impairment of intangible and long-lived assets on our consolidated statements of operations.

Note 6: Intangible Assets and Goodwill

Intangible Assets

Intangible assets are comprised of the following significant classes (in thousands):

	November 30, 2019			November 30, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net Book Value	Gross Carrying Amount	Accumulated Amortization	Net Book Value
Purchased technology	$ 135,186	$ (105,967)	$ 29,219	$ 154,301	$ (110,959)	$ 43,342
Customer-related	134,042	(74,175)	59,867	67,802	(56,589)	11,213
Trademarks and trade names	24,740	(16,043)	8,697	17,740	(13,376)	4,364
Non-compete agreement	2,000	(391)	1,609	—	—	—
Total	$ 295,968	$ (196,576)	$ 99,392	$ 239,843	$ (180,924)	$ 58,919

We amortize intangible assets assuming no expected residual value. Amortization expense related to these intangible assets was $48.1 million, $36.0 million and $33.1 million in fiscal years 2019, 2018 and 2017, respectively.

During the fourth quarter of fiscal year 2019, we evaluated the ongoing value of the intangible assets associated with the technology obtained in connection with the acquisitions of DataRPM and Kinvey. As a result of our decision to reduce our current and ongoing spending levels within our cognitive application product lines, which consist primarily of our DataRPM and Kinvey products, we determined that the intangible assets were fully impaired and incurred an impairment charge of $22.7 million (Note 4).

Future amortization expense for intangible assets as of November 30, 2019 is as follows (in thousands):

2020	$ 23,235
2021	23,117
2022	22,136
2023	21,860
2024	9,044
Total	$ 99,392

Goodwill

Changes in the carrying amount of goodwill for fiscal years 2019 and 2018 are as follows (in thousands):

	November 30, 2019	November 30, 2018
Balance, beginning of year	$ 314,992	$ 315,041
Additions	117,871	—
Translation adjustments	(39)	(49)
Balance, end of year	$ 432,824	$ 314,992

The addition to goodwill during fiscal year 2019 is related to the acquisition of Ipswitch in April 2019 (Note 7).

Changes in the carrying amount of goodwill by reportable segment for fiscal year2019 are as follows (in thousands):

	November 30, 2018	Additions	Translation adjustments	November 30, 2019
OpenEdge	$ 248,987	$ 117,871	$ (39)	$ 366,819
Data Connectivity and Integration	19,040	—		19,040
Application Development and Deployment	46,965	—		46,965
Total goodwill	$ 314,992	$ 117,871	$ (39)	$ 432,824

We assess the impairment of goodwill on an annual basis and whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable.

During fiscal year 2019, we tested goodwill for impairment for each of our reporting units as of October 31, 2019. Our reporting units each had fair values which significantly exceeded their carrying values as of the annual impairment date. We did not recognize any goodwill impairment charges during fiscal years 2019, 2018 or 2017.

Note 7: Business Combinations

Ipswitch Acquisition

On April 30, 2019, we completed the acquisition of all of the outstanding equity interests of Ipswitch, Inc. ("Ipswitch") from Roger Greene (the "Seller") pursuant to the Stock Purchase Agreement, dated as of March 28, 2019, by and among Progress, Ipswitch and the Seller. The acquisition was completed for an aggregate purchase price of $225.0 million, subject to certain customary adjustments as further described in the Stock Purchase Agreement (the "Consideration"), which was paid in cash. Pursuant to the Stock Purchase Agreement, $22.5 million of the Consideration was deposited into an escrow account to secure certain indemnification and other potential obligations of the Seller to Progress. The Seller also received an award of approximately $2.0 million in Progress restricted stock as consideration for the Seller entering into a non-competition agreement for three years as set forth in the Stock Purchase Agreement.

Ipswitch enables approximately 24,000 small and medium-sized businesses and enterprises to provide secure data sharing and ensure high-performance infrastructure availability. Through this acquisition, we bolstered our core offerings to small and medium-sized businesses and enterprises, enabling those businesses to respond faster to business demands and to improve productivity. We funded the acquisition through a combination of existing cash resources and a $185.0 million term loan, which is part of a new $401.0 million term loan and revolving credit facility (Note 8).

The consideration has been allocated to Ipswitch's tangible assets, identifiable intangible assets, and assumed liabilities based on their estimated fair values. The preliminary fair value estimates of the net assets acquired are based upon preliminary calculations and valuations, and those estimates and assumptions are subject to change as we obtain additional information for those estimates during the measurement period (up to one year from the acquisition date). The excess of the total consideration over the tangible assets, identifiable intangible assets, and assumed liabilities was recorded as goodwill.

We recorded measurement period adjustments based on our ongoing valuation and purchase price allocation procedures.

The allocation of the purchase price is as follows (in thousands):

	Initial Purchase Price Allocation	Measurement Period Adjustments	Adjusted Purchase Price Allocation	Life
Net working capital	$ 6,068	$ (216)	$ 5,852	
Property, plant and equipment	4,661		4,661	
Purchased technology	33,100		33,100	5 Years
Trade name	9,600		9,600	5 Years
Customer relationships	66,600		66,600	5 Years
Other assets	314	(4)	310	
Deferred revenue	(12,696)		(12,696)	
Goodwill	117,651	220	117,871	
Net assets acquired	$ 225,298	$ —	$ 225,298	

The fair value of the intangible assets has been estimated using the income approach in which the after-tax cash flows are discounted to present value. The cash flows are based on estimates used to value the acquisition, and the discount rates applied were benchmarked with reference to the implied rate of return from the transaction model as well as the weighted average cost of capital. The valuation assumptions take into consideration the Company's estimates of customer attrition, technology obsolescence, and revenue growth projections. Based on the preliminary valuation, the acquired intangible assets are comprised of customer relationships of approximately $66.6 million, existing technology of approximately $33.1 million, and trade names of approximately $9.6 million.

Tangible assets acquired and assumed liabilities were recorded at fair value. The valuation of the assumed deferred revenue was based on our contractual commitment to provide post-contract customer support to Ipswitch customers and future contractual performance obligations under existing hosting arrangements. The fair value of this assumed liability was based on the estimated cost plus a reasonable margin to fulfill these service obligations. A significant portion of the deferred revenue is expected to be recognized in the 12 months following the acquisition.

We recorded the excess of the purchase price over the identified tangible and intangible assets as goodwill. We believe that the investment value of the future enhancement of our product and solution offerings created as a result of this acquisition has principally contributed to a purchase price that resulted in the recognition of $117.9 million of goodwill, which is deductible for tax purposes.

An election was made under Section 338(h)(10) of the Internal Revenue Code for Ipswitch to treat it as selling all of its assets on the acquisition date and then liquidating. As a result, the identifiable intangible assets and goodwill are deductible for tax purposes.

As previously noted, the Seller received a restricted stock award of approximately$2.0 million, subject to continued compliance with the three-year non-compete agreement. We concluded that the restricted stock award is not a compensation arrangement and we recorded the fair value of the award as an intangible asset separate from goodwill. We will recognize intangible asset amortization expense over the term of the agreement, which is 3 years. We recorded $0.4 million of amortization expense related to this restricted stock award for the fiscal year ended November 30, 2019 in operating expenses on our consolidated statement of operations.

Acquisition-related transaction costs (e.g., legal, due diligence, valuation, and other professional fees) and certain acquisition restructuring and related charges are not included as a component of consideration transferred but are required to be expensed as incurred. During the fiscal year ended November 30, 2019, we incurred approximately $1.7 million of acquisition-related costs, which are included in acquisition-related expenses on our consolidated statement of operations.

The operations of Ipswitch are included in our operating results as part of the OpenEdge segment from the date of acquisition. The amount of revenue of Ipswitch included in our consolidated statement of operations during the fiscal years ended November 30, 2019 was approximately $28.2 million. We determined that disclosing the amount of Ipswitch related earnings

included in the consolidated statements of operations is impracticable, as certain operations of Ipswitch were integrated into the operations of the Company from the date of acquisition.

Pro Forma Information

The following pro forma financial information presents the combined results of operations of Progress and Ipswitch as if the acquisition had occurred on December 1, 2017 after giving effect to certain pro forma adjustments. The pro forma adjustments reflected herein include only those adjustments that are directly attributable to the Ipswitch acquisition and factually supportable. These pro forma adjustments include (i) a decrease in revenue from Ipswitch due to the beginning balance of deferred revenue being adjusted to reflect the fair value of the acquired balance, (ii) a net increase in amortization expense to record amortization expense for the $111.3 million of acquired identifiable intangible assets and to eliminate historical amortization of Ipswitch intangible assets, (iii) an increase in interest expense to record interest for the period presented as a result of the new credit facility entered into by Progress in connection with the acquisition, and (iv) the income tax effect of the adjustments made at the statutory tax rate of the U.S. (approximately 24.5%). In addition, prior to the acquisition Ipswitch did not pay entity level corporate tax, with the exception of some states, because it was registered as an S-Corporation. Therefore, we applied the statutory tax rate of the U.S. (approximately 24.5%) to the income before tax of Ipswitch as if the acquisition had occurred on December 1, 2017.

The pro forma financial information does not reflect any adjustments for anticipated expense savings resulting from the acquisition and is not necessarily indicative of the operating results that would have actually occurred had the transaction been consummated on December 1, 2017. These results are prepared in accordance with ASC 606.

(In thousands, except per share data)	Pro Forma Fiscal Year Ended November 30, 2019	Pro Forma Fiscal Year Ended November 30, 2018
Revenue	$ 442,286	$ 431,014
Net income	$ 19,641	$ 20,599
Net income per basic share	$ 0.44	$ 0.45
Net income per diluted share	$ 0.43	$ 0.45

Kinvey Acquisition

On June 1, 2017, we acquired by merger 100% of the outstanding securities of Kinvey for an aggregate sum of $49.2 million, which included approximately $0.3 million held-back from the founder of Kinvey as an incentive to remain with the Company for at least two years following the acquisition. The $0.3 million held-back was recorded to expense over the service period, which ended prior to the expiration of the two years. Kinvey allows developers to set up, use, and operate a serverless cloud backend for any native, hybrid, web, or IoT app built using any development tools. The acquisition was accounted for as a business combination, and accordingly, the results of operations of Kinvey are included in our operating results as part of the OpenEdge business segment from the date of acquisition. We paid the purchase price in cash from available funds.

The total consideration, less the $0.3 million held-back discussed above, which is considered to be a compensation arrangement, was allocated to Kinvey's tangible assets, identifiable intangible assets and assumed liabilities based on their estimated fair values. The excess of the total consideration, less the amount held-back from the founder, over the tangible assets, identifiable intangible assets and assumed liabilities was recorded as goodwill. The allocation of the purchase price was completed in the fourth quarter of fiscal year 2017 upon the finalization of our valuation of identifiable intangible assets and deferred taxes.

The allocation of the purchase price is as follows (in thousands):

	Total	Life
Net working capital	$ (963)	
Property, plant and equipment	26	
Purchased technology	22,100	5 Years
Trade name	1,800	5 Years
Customer relationships	100	5 Years
Net deferred tax assets	1,465	
Goodwill	24,351	
Net assets acquired	$ 48,879	

The fair value of the intangible assets was estimated using the income approach in which the after-tax cash flows are discounted to present value. The cash flows are based on estimates used to price the acquisition, and the discount rates applied were benchmarked with reference to the implied rate of return from the transaction model as well as the weighted average cost of capital.

Deferred taxes include deferred tax liabilities resulting from the tax effects of fair value adjustments related to identifiable intangible assets, which are more than offset by the value of deferred tax assets acquired from Kinvey. Tangible assets acquired and assumed liabilities were recorded at fair value.

We recorded the excess of the purchase price over the identified tangible and intangible assets as goodwill. We believe that the investment value of the future enhancement of our product and solution offerings created as a result of this acquisition has principally contributed to a purchase price that resulted in the recognition of $24.4 million of goodwill, which is not deductible for tax purposes.

Acquisition-related transaction costs (e.g., legal, due diligence, valuation, and other professional fees) are not included as a component of consideration paid, but are required to be expensed as incurred. During the fiscal year ended November 30, 2019, we did not incur any acquisition-related transaction costs. During the fiscal years ended November 30, 2018 and 2017, we incurred approximately $0.3 million and $1.1 million, respectively, of acquisition-related costs, which are included in acquisition-related expenses in our consolidated statement of operations.

During the fourth quarter of fiscal year 2019, we evaluated the ongoing value of the intangible assets associated with the technology obtained in connection with the acquisitions of DataRPM and Kinvey. As a result of our decision to reduce our current and ongoing spending levels within our cognitive application product lines, which consist primarily of our DataRPM and Kinvey products, we determined that the intangible assets were fully impaired and incurred an impairment charge of $22.7 million.

We have not disclosed the amount of revenues and earnings of Kinvey since acquisition, nor pro forma financial information, as those amounts are not significant to our consolidated financial statements.

DataRPM Acquisition

On March 1, 2017, we acquired by merger 100% of the outstanding securities of DataRPM for an aggregate sum of $30.0 million. Approximately $1.7 million of the purchase price was paid to DataRPM's founders in the form of restricted stock units, subject to a two-year vesting schedule and continued employment. DataRPM is a developer of solutions within the cognitive predictive maintenance for the industrial IoT ("IIoT") market. The acquisition was accounted for as a business combination, and accordingly, the results of operations of DataRPM are included in our operating results as part of the OpenEdge business segment from the date of acquisition. We paid the purchase price in cash from available funds.

The total consideration, less the fair value of the granted restricted stock units discussed above, which are considered compensation arrangements, was allocated to DataRPM's tangible assets, identifiable intangible assets and assumed liabilities based on their estimated fair values. The excess of the total consideration, less the fair value of the restricted stock units, over the tangible assets, identifiable intangible assets and assumed liabilities was recorded as goodwill. The allocation of the purchase price was completed in the fourth quarter of fiscal year 2017 upon the finalization of our valuation of identifiable intangible assets and deferred taxes.

The allocation of the purchase price is as follows (in thousands):

	Total	Life
Net working capital	$ (174)	
Property, plant and equipment	68	
Purchased technology	19,900	5 Years
Trade name	800	5 Years
Customer relationships	100	5 Years
Deferred taxes	(5,006)	
Goodwill	12,583	
Net assets acquired	$ 28,271	

The fair value of the intangible assets was estimated using the income approach in which the after-tax cash flows are discounted to present value. The cash flows are based on estimates used to price the acquisition, and the discount rates applied were benchmarked with reference to the implied rate of return from the transaction model as well as the weighted average cost of capital.

Deferred taxes include deferred tax liabilities resulting from the tax effects of fair value adjustments related to identifiable intangible assets, partially offset by the fair value of deferred tax assets acquired from DataRPM. Tangible assets acquired and assumed liabilities were recorded at fair value.

We recorded the excess of the purchase price over the identified tangible and intangible assets as goodwill. We believe that the investment value of the future enhancement of our product and solution offerings created as a result of this acquisition has principally contributed to a purchase price that resulted in the recognition of $12.6 million of goodwill, which is not deductible for tax purposes.

As discussed above, approximately $1.7 million of the total consideration was paid to DataRPM's founders in restricted stock units, subject to a vesting schedule and continued employment. We concluded that the restricted stock units are compensation arrangements and we are recognizing stock-based compensation expense in accordance with the vesting schedule over the service period of the awards, which is 2 years. During the fiscal years ended November 30, 2019, 2018 and 2017, we incurred stock-based compensation expense related to these restricted stock units of $0.1 million, $0.1 million and $0.4 million, respectively. The expense was lower in fiscal years 2019 and 2018 due to the forfeiture of the restricted stock units held by one of the founders as a result of his termination of employment. These amounts are included in operating expenses in our consolidated statement of operations.

Acquisition-related transaction costs (e.g., legal, due diligence, valuation, and other professional fees) are not included as a component of consideration transferred, but are required to be expensed as incurred. During the fiscal years ended November 30, 2019 and 2018, we did not incur any acquisition-related costs. During the fiscal year ended November 30, 2017, we incurred approximately $0.4 million of acquisition-related costs, which are included in acquisition-related expenses in our consolidated statement of operations.

During the fourth quarter of fiscal year 2019, we evaluated the ongoing value of the intangible assets associated with the technology obtained in connection with the acquisitions of DataRPM and Kinvey. As a result of our decision to reduce our current and ongoing spending levels within our cognitive application product lines, which consist primarily of our DataRPM and Kinvey products, we determined that the intangible assets were fully impaired and incurred an impairment charge of $22.7 million.

We have not disclosed the amount of revenues and earnings of DataRPM since acquisition, nor pro forma financial information, as those amounts are not significant to our consolidated financial statements.

Note 8: Term Loan and Line of Credit

On April 30, 2019, we entered into an amended and restated credit agreement (the "Credit Agreement") with certain lenders (the "Lenders"), which provides for a $301.0 million secured term loan and a $100.0 million secured revolving credit facility. The revolving credit facility may be made available in U.S. Dollars and certain other currencies and may be increased by up to an additional $125.0 million if the existing or additional lenders are willing to make such increased commitments. The

revolving credit facility has sublimits for swing line loans up to$25.0 million and for the issuance of standby letters of credit in a face amount up to$25.0 million.

The Credit Agreement modified our prior credit facility by extending the maturity date to April 30, 2024 and extending the principal repayments of the term loan. We borrowed an additional $185.0 million under the term loan as part of this modification. The new term loan was used to partially fund our acquisition of Ipswitch (Note 7) and we expect to use the revolving credit facility for general corporate purposes, which may include acquisitions of other businesses, and may also use it for working capital.

The Credit Agreement replaces our previous credit agreement dated November 20, 2017, which was set to mature on November 20, 2022. Loans under the previous credit agreement could be prepaid before maturity in whole or in part at our option without penalty or premium. At the time we entered into the Credit Agreement, there were no revolving loans and $1.3 million letters of credit outstanding, which were incorporated into the new credit facility.

Interest rates for the term loan and revolving credit facility are based upon our leverage ratio and determined based on an index selected at our option. The rates range from 1.50% to 2.00% above the Eurocurrency rate for Eurocurrency-based borrowings or from0.50% to 1.00% above the defined base rate for base rate borrowings. Additionally, we may borrow certain foreign currencies at rates set in the same respective range above the London interbank offered interest rates for those currencies. A quarterly commitment fee on the undrawn portion of the revolving credit facility is required and ranges from 0.25% to 0.35% per annum based on our leverage ratio. The average interest rate of the credit facility during the fiscal year ended November 30, 2019 was 3.90% and the interest rate as of November 30, 2019 was 3.38%.

The credit facility matures on April 30, 2024, when all amounts outstanding will be due and payable in full. The revolving credit facility does not require amortization of principal. The outstanding balance of the term loan as of November 30, 2019 was $297.2 million, with $11.3 million due in the next 12 months. The term loan requires repayment of principal at the end of each fiscal quarter, beginning with the fiscal quarter ended August 31, 2019. The principal repayment amounts are in accordance with the following schedule: (i) four payments of $1.9 million each, (ii) four payments of $3.8 million each, (iii) four payments of $5.6 million each, (iv) four payments of $7.5 million each, (v) three payments of $9.4 million each, and (vi) the last payment is of the remaining principal amount. Any amounts outstanding under the term loan thereafter would be due on the maturity date. The term loan may be prepaid before maturity in whole or in part at our option without penalty or premium. As of November 30, 2019, the carrying value of the term loan approximates the fair value, based on Level 2 inputs (observable market prices in less than active markets), as the interest rate is variable over the selected interest period and is similar to current rates at which we can borrow funds.

Costs incurred to obtain our long-term debt of$1.6 million, along with $1.2 million of unamortized debt issuance costs related to the previous credit agreement, are recorded as debt issuance costs as a direct deduction from the carrying value of the debt liability on our consolidated balance sheets as of November 30, 2019. These costs are being amortized over the term of the debt agreement using the effective interest rate method. Amortization expense related to the debt issuance costs of $0.5 million for the fiscal year ended November 30, 2019 and $0.4 million for the fiscal years ended November 30, 2018 and 2017 is recorded in interest expense on our consolidated statements of operations.

Revolving loans may be borrowed, repaid, and reborrowed until April 30, 2024, at which time all amounts outstanding must be repaid. Accrued interest on the loans is payable quarterly in arrears with respect to base rate loans and at the end of each interest rate period (or at each three-month interval in the case of loans with interest periods greater than three months) with respect to Eurocurrency rate loans. We may prepay the loans or terminate or reduce the commitments in whole or in part at any time, without premium or penalty, subject to certain conditions and reimbursement of certain costs in the case of Eurocurrency rate loans. As of November 30, 2019, there were no amounts outstanding under the revolving line and $1.8 million of letters of credit.

We are the sole borrower under the credit facility. Our obligations under the Credit Agreement are secured by substantially all of our assets and each of our material domestic subsidiaries, as well as 100% of the capital stock of our domestic subsidiaries and65% of the capital stock of our first-tier foreign subsidiaries, in each case, subject to certain exceptions as described in the Credit Agreement. Future material domestic subsidiaries will be required to guaranty our obligations under the Credit Agreement, and to grant security interests in substantially all of their assets to secure such obligations. The Credit Agreement generally prohibits, with certain exceptions, any other liens on our assets, subject to certain exceptions as described in the Credit Agreement.

The Credit Agreement contains customary affirmative and negative covenants, including covenants that limit or restrict our ability to, among other things, grant liens, make investments, make acquisitions, incur indebtedness, merge or consolidate,

dispose of assets, pay dividends or make distributions, repurchase stock, change the nature of the business, enter into certain transactions with affiliates and enter into burdensome agreements, in each case subject to customary exceptions for a credit facility of this size and type. We are also required to maintain compliance with a consolidated fixed charge coverage ratio, a consolidated total leverage ratio and a consolidated senior secured leverage ratio. We are in compliance with these financial covenants as of November 30, 2019.

As of November 30, 2019, aggregate principal payments of long-term debt for the next five years are (in thousands):

2020	$	11,287
2021		18,812
2022		26,338
2023		33,863
2024		206,938
Total	$	297,238

Note 9: Commitments and Contingencies

Leasing Arrangements

We lease certain facilities and equipment under non-cancelable operating lease arrangements. Future minimum rental payments under these leases are as follows at November 30, 2019 (in thousands):

2020	$	7,453
2021		5,711
2022		4,977
2023		5,017
2024		5,102
Thereafter		2,904
Total	$	31,164

Our operating lease arrangements are subject to customary renewal and base rental fee escalation clauses. Total rent expense, net of sublease income which is insignificant, under operating lease arrangements was approximately $8.9 million, $6.8 million and $6.9 million in fiscal years 2019, 2018 and 2017, respectively.

Guarantees and Indemnification Obligations

We include standard intellectual property indemnification provisions in our licensing agreements in the ordinary course of business. Pursuant to our product license agreements, we will indemnify, hold harmless, and agree to reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally business partners or customers, in connection with certain patent, copyright or other intellectual property infringement claims by third parties with respect to our products. Other agreements with our customers provide indemnification for claims relating to property damage or personal injury resulting from the performance of services by us or our subcontractors. Historically, our costs to defend lawsuits or settle claims relating to such indemnity agreements have been insignificant. Accordingly, the estimated fair value of these indemnification provisions is immaterial.

Legal Proceedings

We are 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 other legal matters will have a material effect on our financial position, results of operations or cash flows.

Note 10: Shareholders' Equity

Preferred Stock

Our Board of Directors is authorized to establish one or more series of preferred stock and to fix and determine the number and conditions of preferred shares, including dividend rates, redemption and/or conversion provisions, if any, preferences and voting rights. As of November 30, 2019, there was no preferred stock issued or outstanding.

Common Stock

We have 200,000,000 shares of authorized common stock, $0.01 par value per share, of which 45,036,441 were issued and outstanding at November 30, 2019.

There were 170,359 deferred stock units ("DSUs") outstanding at November 30, 2019. Each DSU represents one share of our common stock and all DSU grants have been made to non-employee members of our Board of Directors. DSUs do not have voting rights and can only be converted into common stock when the recipient ceases to be a member of the Board of Directors or a change in control of the Company occurs.

Common Stock Repurchases

In fiscal years 2019 and 2018, we repurchased and retired 0.7 million shares of our common stock for $25.0 million and 2.9 million shares of our common stock for $120.0 million, respectively, under this current authorization. In fiscal year 2017, we repurchased and retired 2.2 million shares of our common stock for $73.9 million. As of November 30, 2019, there was $75.0 million remaining under the current authorization. In January 2020, our Board of Directors increased the total share repurchase authorization from $75.0 million to $250.0 million.

Dividends

On September 27, 2016, our Board of Directors approved the initiation of a quarterly cash dividend of $0.125 per share of common stock to Progress stockholders. We began paying quarterly cash dividends of $0.125 per share of common stock to Progress stockholders in December 2016 and increased the quarterly cash dividend to $0.14 per share in September 2017. In September 2018, the quarterly cash dividend was increased by 11% to $0.155 per share of common stock. On September 24, 2019, our Board of Directors approved an additional 6% increase to our quarterly cash dividend from $0.155 to $0.165 per share of common stock and declared a quarterly dividend of $0.165 per share of common stock. We have declared aggregate per share quarterly cash dividends totaling $0.630, $0.575 and $0.515 for the years ended November 30, 2019, November 30, 2018 and November 30, 2017, respectively. We have paid aggregate cash dividends totaling $27.8 million, $25.8 million, and $24.1 million and for the years ended November 30, 2019, November 30, 2018 and November 30, 2017, respectively.

Note 11: Stock-Based Compensation

We currently have one stockholder-approved stock plan from which we can issue stock-based awards, which was approved by our stockholders in fiscal year 2008 ("2008 Plan"). The 2008 Plan replaced the 1992 Incentive and Nonqualified Stock Option Plan, the 1994 Stock Incentive Plan and the 1997 Stock Incentive Plan (collectively, the "Previous Plans"). The Previous Plans solely exist to satisfy outstanding options previously granted under those plans. The 2008 Plan permits the granting of stock awards to officers, members of the Board of Directors, employees and consultants. Awards under the 2008 Plan may include nonqualified stock options, incentive stock options, grants of conditioned or restricted stock, unrestricted grants of stock, grants of stock contingent upon the attainment of performance goals, deferred stock units and stock appreciation rights. A total of 54,510,000 shares are issuable under these plans, of which 4,145,680 shares were available for grant as of November 30, 2019.

We have adopted two stock plans for which the approval of stockholders was not required: the 2002 Nonqualified Stock Plan ("2002 Plan") and the 2004 Inducement Stock Plan ("2004 Plan"). The 2002 Plan permits the granting of stock awards to non-executive officer employees and consultants. Executive officers and members of the Board of Directors are not eligible for awards under the 2002 Plan. Awards under the 2002 Plan may include nonqualified stock options, grants of conditioned or restricted stock, unrestricted grants of stock, grants of stock contingent upon the attainment of performance goals and stock appreciation rights. A total of 9,750,000 shares are issuable under the 2002 Plan, of which 400,046 shares were available for grant as of November 30, 2019.

The 2004 Plan is reserved for persons to whom we may issue securities as an inducement to become employed by us pursuant to the rules and regulations of the NASDAQ Stock Market. Awards under the 2004 Plan may include nonqualified stock

options, grants of conditioned or restricted stock, unrestricted grants of stock, grants of stock contingent upon the attainment of performance goals and stock appreciation rights. A total of 1,500,000 shares are issuable under the 2004 Plan, of which 453,796 shares were available for grant as of November 30, 2019.

Under all of our plans, the options granted generally begin to vest within one year of the grant.

A summary of stock option activity under all the plans is as follows:

	Shares (in thousands)	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value[1] (in thousands)
Options outstanding, December 1, 2018	1,107	$ 37.82		
Granted	655	35.10		
Exercised	(119)	30.47		
Canceled	(220)	37.31		
Options outstanding, November 30, 2019	1,423	$ 37.26	5.14	$ 9,782
Exercisable, November 30, 2019	497	$ 36.70	4.49	$ 3,849
Vested or expected to vest, November 30, 2019	1,423	$ 37.26	5.14	$ 9,782

(1) The aggregate intrinsic value was calculated based on the difference between the closing price of our stock on November 30, 2019 of $41.92 and the exercise prices for all options outstanding.

A summary of restricted stock units activity is as follows (in thousands, except per share data):

	Number of Shares	Weighted Average Fair Value
Restricted stock units outstanding, December 1, 2018	912	$ 35.46
Granted	540	36.09
Issued	(365)	32.93
Canceled	(258)	31.79
Restricted stock units outstanding, November 30, 2019	829	$ 38.16

Each restricted stock unit represents one share of common stock. The restricted stock units generally vest semi-annually over a three-year period. Performance-based restricted stock units are subject to multi-year performance criteria aligned with our business plan and are earned only to the extent the performance criteria are achieved.

The fair value of outright stock awards, restricted stock units and DSUs is equal to the closing price of our common stock on the date of grant, less the present value of expected dividends, as the recipient is not entitled to dividends during the requisite service period.

During fiscal year 2017, we granted performance-based restricted stock units that include a three-year market condition under a Long-Term Incentive Plan (“LTIP”) where the performance measurement period is three years. Vesting of the LTIP awards is based on our level of attainment of specified total stockholder return ("TSR") targets relative to the percentage appreciation of a specified index of companies for the respective three-year periods and is also subject to the continued employment of the grantees. In order to estimate the fair value of such awards, we used a Monte Carlo Simulation valuation model.

During the first quarter of fiscal years 2018 and 2019, we granted performance-based restricted stock units that include two performance metrics under the LTIP where the performance measurement period is three years. Vesting of the 2018 and 2019 LTIP awards is as follows: (i) 50% is based on the three-year market condition as described above (TSR), and (ii) 50% is based on achievement of a three-year cumulative performance condition (operating income). In order to estimate the fair value of such awards, we used a Monte Carlo Simulation valuation model for the market condition portion of the award and used the

closing price of our common stock on the date of grant, less the present value of expected dividends, for the portion related to the performance condition.

The 1991 Employee Stock Purchase Plan ("ESPP") permits eligible employees to purchase up to an aggregate of 9,450,000 shares of our common stock through accumulated payroll deductions. The ESPP has a 27-month offering period comprised of nine three-month purchase periods. The purchase price of the stock is equal to 85% of the lesser of the market value of such shares at the beginning of a 27-month offering period or the end of each three-month segment within such offering period. If the market price at any of the nine purchase periods is less than the market price on the first date of the 27-month offering period, subsequent to the purchase, the offering period is canceled and the employee is entered into a new 27-month offering period with the then current market price as the new base price. We issued 189,000 shares, 225,000 shares and 220,000 shares with weighted average purchase prices of $29.23, $24.27 and $22.27 per share, respectively, in fiscal years 2019, 2018 and 2017, respectively. At November 30, 2019, approximately 401,000 shares were available and reserved for issuance under the ESPP.

We estimated the fair value of stock options and ESPP awards granted in fiscal years 2019, 2018 and 2017 on the measurement dates using the Black-Scholes option valuation model, and LTIP awards using the Monte Carlo Simulation valuation model, with the following weighted average assumptions:

	Fiscal Year Ended		
	November 30, 2019	November 30, 2018	November 30, 2017
Stock options:			
Expected volatility	25.0%	22.8%	25.0%
Risk-free interest rate	2.5%	2.3%	1.9%
Expected life (in years)	4.8	4.8	4.8
Expected dividend yield	1.8%	1.1%	1.7%
Employee stock purchase plan:			
Expected volatility	30.6%	23.8%	22.9%
Risk-free interest rate	2.3%	2.3%	1.2%
Expected life (in years)	1.6	1.7	1.5
Expected dividend yield	1.7%	1.5%	1.6%
Long-term incentive plan:			
Expected volatility	32.2%	27.4%	27.5%
Risk-free interest rate	2.5%	2.1%	1.4%
Expected life (in years)	2.8	2.9	2.7
Expected dividend yield	1.7%	1.7%	1.8%

For each stock option award, the expected life in years is based on historical exercise patterns and post-vesting termination behavior. Expected volatility is based on historical volatility of our stock, and the risk-free interest rate is based on the U.S. Treasury yield curve for the period that is commensurate with the expected life at the time of grant. The expected annual dividend yield is based on the weighted-average of the dividend yield assumptions used for options granted during the applicable period.

For each ESPP award, the expected life in years is based on the period of time between the beginning of the offering period and the date of purchase, plus an additional holding period of three months. Expected volatility is based on historical volatility of our stock, and the risk-free interest rate is based on the U.S. Treasury yield curve in effect at each purchase period. The expected annual dividend yield is based on the weighted-average of the dividend yield assumptions used for options granted during the applicable period.

Based on the above assumptions, the weighted average estimated fair value of stock options granted in fiscal years 2019, 2018, and 2017 was $7.38, $10.30 and $5.95 per share, respectively. We amortize the estimated fair value of stock options to expense over the vesting period using the straight-line method. The weighted average estimated fair value for shares issued under our ESPP in fiscal years 2019, 2018 and 2017 was $11.07, $10.24 and $8.32 per share, respectively. We amortize the estimated fair value of shares issued under the ESPP to expense over the vesting period using a graded vesting model.

Total unrecognized stock-based compensation expense, net of expected forfeitures, related to unvested stock options and unvested restricted stock awards amounted to $28.7 million at November 30, 2019. These costs are expected to be recognized over a weighted average period of 2 years.

The following additional activity occurred under our plans (in thousands):

	Fiscal Year Ended		
	November 30, 2019	November 30, 2018	November 30, 2017
Total intrinsic value of stock options on date exercised	$ 1,388	$ 3,692	$ 1,622
Total fair value of deferred stock units on date vested	1,853	1,690	57
Total fair value of restricted stock units on date vested	14,720	14,741	20,032

The following table provides the classification of stock-based compensation as reflected in our consolidated statements of operations (in thousands):

	Fiscal Year Ended		
	November 30, 2019	November 30, 2018	November 30, 2017
Cost of maintenance and services	$ 1,134	$ 616	$ 1,016
Sales and marketing	4,155	2,959	2,214
Product development	7,205	8,242	4,576
General and administrative	10,817	8,752	6,347
Total stock-based compensation	$ 23,311	$ 20,569	$ 14,153
Income tax benefit included in the provision for income taxes	$ 4,661	$ 4,345	$ 4,057

Separation Arrangements

During fiscal year 2017, we entered into separation agreements withthree executives, which entitled them to accelerated vesting of certain stock-based awards. Due to the separation and accelerated vesting, we recognized additional stock-based compensation expense of $1.5 million, of which $0.8 million was recorded as sales and marketing expense and $0.7 million was recorded as general and administrative expense, in the consolidated statement of operations.

Note 12: Retirement Plan

We maintain a retirement plan covering all U.S. employees under Section 401(k) of the Internal Revenue Code. Company contributions to the plan are at the discretion of the Board of Directors and totaled approximately $2.3 million, $3.1 million and $2.1 million for fiscal years 2019, 2018 and 2017, respectively.

Note 13: Restructuring

The following table provides a summary of activity for all of the restructuring actions, which are detailed further below (in thousands):

	Excess Facilities and Other Costs	Employee Severance and Related Benefits	Total
Balance, November 30, 2016	$ 107	$ 1,443	$ 1,550
Costs incurred	2,655	19,555	22,210
Cash disbursements	(1,456)	(17,778)	(19,234)
Asset impairment	(762)	—	(762)
Translation adjustments and other	26	336	362
Balance, November 30, 2017	$ 570	$ 3,556	$ 4,126
Costs incurred	1,011	1,240	2,251
Cash disbursements	(1,309)	(4,802)	(6,111)
Translation adjustments and other	35	10	45
Balance, November 30, 2018	$ 307	$ 4	$ 311
Costs incurred	740	5,591	6,331
Cash disbursements	(760)	(3,647)	(4,407)
Translation adjustments and other	(91)	59	(32)
Balance, November 30, 2019	$ 196	$ 2,007	$ 2,203

2019 Restructurings

During the fourth quarter of fiscal year 2019, we announced the reduction of our current and ongoing spending level within our cognitive application product lines, which consist primarily of our DataRPM and Kinvey products. This restructuring resulted in a reduction in positions primarily within the product development function. In connection with this restructuring action, during the fourth quarter of fiscal year 2019, we evaluated the ongoing value of the intangible assets primarily associated with the technologies and trade names obtained in the acquisitions of DataRPM and Kinvey. As a result, we wrote down these assets to fair value, which resulted in a $22.7 million asset impairment charge (Note 4).

Restructuring expenses are related to employee costs, including severance, health benefits and outplacement services (but excluding stock-based compensation).

For the fiscal year ended November 30, 2019, we incurred expenses of $2.5 million relating to this restructuring. The expenses are recorded as restructuring expenses in the consolidated statements of operations.

A summary of activity for this restructuring action is as follows (in thousands):

	Excess Facilities and Other Costs	Employee Severance and Related Benefits	Total
Balance, December 1, 2018	$ —	$ —	$ —
Costs incurred	—	2,494	2,494
Cash disbursements	—	(1,035)	(1,035)
Translation adjustments and other	—	1	1
Balance, November 30, 2019	$ —	$ 1,460	$ 1,460

Cash disbursements for expenses incurred to date under this restructuring are expected to be made through fiscal year 2020. Accordingly, the balance of the restructuring reserve of $1.5 million is included in other accrued liabilities on the consolidated balance sheet at November 30, 2019. We do not expect to incur additional material costs with respect to this restructuring.

During the second quarter of fiscal year 2019, we restructured our operations in connection with the acquisition of Ipswitch (Note 7). This restructuring resulted in a reduction in redundant positions, primarily within administrative functions of Ipswitch. We expect to incur additional expenses as part of this action related to employee costs and facility closures as we consolidate offices in various locations during fiscal year 2020, but we do not expect these costs to be material.

For the fiscal year ended November 30, 2019, we incurred expenses of $3.1 million relating to this restructuring. The expenses are recorded as restructuring expenses in the consolidated statements of operations.

A summary of activity for this restructuring action is as follows (in thousands):

	Excess Facilities and Other Costs	Employee Severance and Related Benefits	Total
Balance, December 1, 2018	$ —	$ —	$ —
Costs incurred	5	3,093	3,098
Cash disbursements	—	(2,604)	(2,604)
Translation adjustments and other	—	58	58
Balance, November 30, 2019	$ 5	$ 547	$ 552

Cash disbursements for expenses incurred to date under this restructuring are expected to be made through fiscal year 2020. Accordingly, the balance of the restructuring reserve of $0.6 million is included in other accrued liabilities on the consolidated balance sheet at November 30, 2019.

2017 Restructuring

During the first quarter of fiscal year 2017, we undertook certain operational restructuring initiatives intended to significantly reduce annual costs. As part of this action, management committed to a new strategic plan highlighted by a new product strategy and a streamlined operating approach. To execute these operational restructuring initiatives, we reduced our global workforce by over 20%. These workforce reductions occurred in substantially all functional units and across all geographies in which we operate. During the fourth quarter of fiscal year 2017, we incurred additional costs with respect to this restructuring, including reduction in redundant positions primarily within the product development and sales functions. We also consolidated offices in various locations during fiscal years 2017 and 2018. We expect to incur additional expenses related to facility closures as part of this restructuring action through fiscal year 2020, but we do not expect these additional costs to be material.

Restructuring expenses are related to employee costs, including severance, health benefits and outplacement services (but excluding stock-based compensation), facilities costs, which include fees to terminate lease agreements and costs for unused space, net of sublease assumptions, and other costs, which include asset impairment charges.

As part of this fiscal year 2017 restructuring, for the fiscal years ended November 30, 2019 and 2018, we incurred expenses of $0.7 million and $2.3 million, respectively, which are recorded as restructuring expenses in the consolidated statements of operations.

A summary of activity for this restructuring action is as follows (in thousands):

	Excess Facilities and Other Costs	Employee Severance and Related Benefits	Total
Balance, December 1, 2016	$ —	$ —	$ —
Costs incurred	2,570	19,555	22,125
Cash disbursements	(1,294)	(16,335)	(17,629)
Asset impairment	(762)	—	(762)
Translation adjustments and other	26	336	362
Balance, November 30, 2017	$ 540	$ 3,556	$ 4,096
Costs incurred	1,011	1,240	2,251
Cash disbursements	(1,279)	(4,802)	(6,081)
Translation adjustments and other	35	10	45
Balance, November 30, 2018	$ 307	$ 4	$ 311
Costs incurred	735	4	739
Cash disbursements	(760)	(8)	(768)
Asset impairment	(89)	—	(89)
Translation adjustments and other	(2)	—	(2)
Balance, November 30, 2019	$ 191	$ —	$ 191

Cash disbursements for expenses incurred to date under this restructuring are expected to be made through fiscal year 2020. Accordingly, the balance of the restructuring reserve of $0.2 million is included in other accrued liabilities on the consolidated balance sheet atNovember 30, 2019.

Note 14: Income Taxes

The components of income before income taxes are as follows (in thousands):

		Fiscal Year Ended	
	November 30, 2019	November 30, 2018	November 30, 2017
		As Adjusted[1]	As Adjusted[1]
U.S.	$ (11,778)	$ 59,440	$ 65,191
Foreign	40,273	1,356	(12,728)
Total	$ 28,495	$ 60,796	$ 52,463

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

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The provision for income taxes is comprised of the following (in thousands):

	Fiscal Year Ended		
	November 30, 2019	November 30, 2018	November 30, 2017
Current:			
Federal	$ 9,294	$ 8,979	$ 23,739
State	1,862	1,387	2,461
Foreign	5,808	3,088	1,496
Total current	16,964	13,454	27,696
Deferred, as adjusted[1]:			
Federal	(12,191)	(863)	(2,740)
State	(2,399)	(51)	(292)
Foreign	(279)	(1,414)	(1,222)
Total deferred	(14,869)	(2,328)	(4,254)
Total	$ 2,095	$ 11,126	$ 23,442

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

A reconciliation of the income taxes incurred at the U.S. Federal statutory rate compared to the effective tax rate is as follows (in thousands):

	Fiscal Year Ended		
	November 30, 2019	November 30, 2018 As Adjusted[1]	November 30, 2017 As Adjusted[1]
Tax at U.S. Federal statutory rate	$ 5,984	$ 13,513	$ 18,362
Foreign rate differences	(2,619)	1,281	4,793
Effects of foreign operations included in U.S. Federal provision	451	550	(186)
State income taxes, net	(918)	1,180	1,349
Research credits	(1,086)	(302)	(251)
Domestic production activities deduction	(248)	(1,283)	(2,670)
Tax-exempt interest	(27)	(66)	(101)
Nondeductible stock-based compensation	1,043	502	808
Meals and entertainment	198	192	276
Compensation subject to 162(m)	422	227	208
Uncertain tax positions and tax settlements	(720)	(1,626)	429
Remeasurement of net deferred tax liabilities due to the Act	—	(1,660)	—
Net excess tax benefit or detriment from stock-based compensation plans	(103)	(861)	—
Global intangible low tax inclusion	2,100	—	—
Foreign derived intangible deduction	(2,300)	—	—
Other	(82)	(521)	425
Total	$ 2,095	$ 11,126	$ 23,442

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

The effective income tax rate is based on the income for the year, the composition of the income in different countries, changes related to valuation allowances and adjustments, if any, for the potential tax consequences or benefits of audits or other tax contingencies. Our aggregate income tax rate in foreign jurisdictions is lower than our effective income tax rate in the United States. The majority of our income before provision for income taxes from foreign operations has been earned by our subsidiary in Bulgaria that is taxed at a 10% tax rate.

Our United States income before provision for income taxes was at a deficit for fiscal year 2019 largely due to increased expense for amortization of acquired intangibles and due to an impairment expense of intangibles and long-lived assets.

During the first quarter of fiscal year 2018, the Tax Cuts and Jobs Act (the "Act") was enacted in the United States. The Act reduced the U.S. federal corporate tax rate from 35% to 21% effective January 1, 2018, moved to a territorial tax system and eliminated the domestic production activities deduction. The Act also provided for a one-time deemed repatriation transition tax on the post-1986 undistributed foreign subsidiary earnings and profits through December 31, 2017. However, the Company concluded that it is not subject to the one-time transition tax due to the Company's foreign subsidiaries being in a net accumulated deficit position.

Other international provisions of the Act became effective in fiscal year 2019 for the Company. The global intangible low-taxed income ("GILTI") provisions require the Company to include in its U.S. income tax base foreign subsidiary earnings in excess of an allowable return of the foreign subsidiary's tangible assets.

During fiscal year 2018, the Company recognized a $1.7 million income tax benefit due to the re-measurement of its net U.S. deferred tax liabilities due to the Act.

The components of deferred tax assets and liabilities are as follows (in thousands):

	November 30, 2019	November 30, 2018 As Adjusted[(1)]
Deferred tax assets:		
Accounts receivable	$ 174	$ 134
Accrued compensation	3,283	1,863
Accrued liabilities and other	2,690	2,106
Deferred revenue	3,995	—
Stock-based compensation	4,342	3,166
Depreciation and amortization	15,341	—
Tax credit and loss carryforwards	21,867	24,338
Gross deferred tax assets	51,692	31,607
Valuation allowance	(8,864)	(8,790)
Total deferred tax assets	42,828	22,817
Deferred tax liabilities:		
Goodwill	(18,879)	(17,966)
Deferred revenue	(4,541)	(1,610)
Depreciation and amortization	—	(7,151)
Prepaid expenses	(810)	(923)
Total deferred tax liabilities	(24,230)	(27,650)
Total	$ 18,598	$ (4,833)

(1)The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

The valuation allowance primarily applies to net operating loss carryforwards and unutilized tax credits in jurisdictions or under conditions where realization is not more likely than not. The $0.1 million increase in the valuation allowance during fiscal year 2019 primarily relates to acquired foreign net operating losses which have a valuation allowance recorded against them. The $7.3 million increase in the valuation allowance during fiscal year 2018 primarily relates to losses in a foreign subsidiary that are more likely than not going to expire prior to utilization. The $1.7 million decrease in the valuation allowance during fiscal year 2017 primarily relates to a foreign subsidiary that utilized net operating loss carryforwards in fiscal year 2017 that had a valuation allowance recorded against them.

At November 30, 2019, we have federal and foreign net operating loss carryforwards of $133.7 million expiring on various dates through 2034. In addition, we have state net operating loss carryforwards of $0.9 million expiring on various dates through 2020. At November 30, 2019, we have state tax credit carryforwards of approximately $3.2 million expiring on various

dates through 2034 and $2.3 million that may be carried forward indefinitely. In addition, we have federal tax credit carryforwards of approximately $0.9 million expiring on various dates through 2036.

It is our intention to indefinitely reinvest the earnings of our non-U.S. subsidiaries. We have not provided for U.S. income taxes on the undistributed earnings of non-U.S. subsidiaries, which totaled $72.3 million as of November 30, 2019, as these earnings have been indefinitely reinvested. It is not practicable to determine the amount of the unrecognized deferred tax liability if the undistributed earnings were to be repatriated due to the complexity of the income tax laws and regulations and the effects of the Tax Reform Act. These earnings could be subject to non-U.S. withholding taxes and other federal, state and/or foreign taxes if they were remitted to the U.S.

As of November 30, 2019, the total amount of unrecognized tax benefits was $5.0 million, of which $2.9 million was recorded in other noncurrent liabilities on the consolidated balance sheet and $2.1 million of deferred tax assets, principally related to U.S and foreign net operating loss carry-forwards and state research and development tax credits, have not been recorded.

A reconciliation of the balance of our unrecognized tax benefits is as follows (in thousands):

	Fiscal Year Ended		
	November 30, 2019	November 30, 2018	November 30, 2017
Balance, beginning of year	$ 5,787	$ 7,520	$ 7,046
Tax positions related to current year	—	—	785
Tax positions related to a prior period	110	(15)	(120)
Settlements with tax authorities	(181)	(39)	(155)
Lapses due to expiration of the statute of limitations	(723)	(1,679)	(36)
Balance, end of year	$ 4,993	$ 5,787	$ 7,520

If recognized, all amounts of unrecognized tax benefits would affect the effective tax rate.

We recognize interest and penalties related to uncertain tax positions as a component of our provision for income taxes. In fiscal year 2019 a net benefit of $0.1 million was recorded to the provision for income taxes related to estimated interest and penalties of $0.1 million offset by a reduction of $0.2 million related to statute expirations. In fiscal year 2018 a net benefit of $0.1 million was recorded to the provision for income taxes related to estimated interest and penalties of $0.2 million offset by a reduction of $0.3 million related to statute expirations. In fiscal year 2017 estimated interest and penalties of $0.2 million were recorded to the provision for income taxes. We have accrued $0.4 million and $0.4 million of estimated interest and penalties at November 30, 2019 and 2018, respectively. We do not expect any significant changes to the amount of unrecognized tax benefits in the next twelve months.

Our Federal income tax returns have been examined or are closed by statute for all years prior to fiscal year 2016. State income tax authorities in certain jurisdictions are examining state income tax returns and the Company does not expect the results of these examinations to be material to our consolidated balance sheets, cash flows or statements of income. Our state income tax returns have been examined or are closed by statute for all years prior to fiscal year 2013, and we are no longer subject to audit for those periods.

Tax authorities for certain non-U.S. jurisdictions are also examining tax returns and the Company does not expect the results of these examinations to be material to our consolidated balance sheets, cash flows or statements of income. With some exceptions, we are generally no longer subject to tax examinations in non-U.S. jurisdictions for years prior to fiscal year 2014.

Note 15: Earnings Per Share

We compute basic earnings per share using the weighted average number of common shares outstanding. We compute diluted earnings per share using the weighted average number of common shares outstanding plus the effect of outstanding dilutive stock options, restricted stock units and deferred stock units, using the treasury stock method. The following table sets forth the calculation of basic and diluted earnings per share from continuing operations (in thousands, expect per share data):

	Fiscal Year Ended		
	November 30, 2019	November 30, 2018 As Adjusted[1]	November 30, 2017 As Adjusted[1]
Net income	$ 26,400	$ 49,670	$ 29,021
Weighted average shares outstanding	44,791	45,561	48,129
Dilutive impact from common stock equivalents	549	574	387
Diluted weighted average shares outstanding	45,340	46,135	48,516
Basic earnings per share	$ 0.59	$ 1.09	$ 0.60
Diluted earnings per share	$ 0.58	$ 1.08	$ 0.60

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

We excluded stock awards representing approximately 932,000 shares, 602,000 shares, and 494,000 shares of common stock from the calculation of diluted earnings per share in the fiscal years ended November 30, 2019, 2018 and 2017, respectively, because these awards were anti-dilutive.

Note 16: Business Segments and International Operations

Operating segments are components of an enterprise that engage in business activities for which discrete financial information is available and regularly reviewed by the chief operating decision maker in deciding how to allocate resources and assess performance. Our chief operating decision maker is our Chief Executive Officer.

The changes made to our organization during fiscal years 2019 and 2018, as discussed in Note 13, did not change our determination of the three reportable segments as our organizational structure maintains the focus of the three business segments.

We do not manage our assets or capital expenditures by segment or assign other income (expense) and income taxes to segments. We manage and report such items on a consolidated company basis.

The following table provides revenue and contribution margin from our reportable segments and reconciles to the consolidated income from continuing operations before income taxes:

(In thousands)	Fiscal Year Ended November 30, 2019	November 30, 2018 As Adjusted[1]	November 30, 2017 As Adjusted[1]
Segment revenue:			
OpenEdge	$ 296,929	$ 277,806	$ 279,823
Data Connectivity and Integration	39,903	23,129	29,434
Application Development and Deployment	76,466	78,046	79,897
Total revenue	413,298	378,981	389,154
Segment costs of revenue and operating expenses:			
OpenEdge	85,209	67,820	75,791
Data Connectivity and Integration	7,973	7,634	10,270
Application Development and Deployment	23,993	27,087	27,116
Total costs of revenue and operating expenses	117,175	102,541	113,177
Segment contribution margin:			
OpenEdge	211,720	209,986	204,032
Data Connectivity and Integration	31,930	15,495	19,164
Application Development and Deployment	52,473	50,959	52,781
Total contribution margin	296,123	276,440	275,977
Other unallocated expenses[2]	256,039	208,626	218,487
Income from operations	40,084	67,814	57,490
Other expense, net	(11,589)	(7,018)	(5,027)
Income before income taxes	$ 28,495	$ 60,796	$ 52,463

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

[2]The following expenses are not allocated to our segments as we manage and report our business in these functional areas on a consolidated basis only: certain product development and corporate sales and marketing expenses, customer support, administration, amortization and impairment of acquired intangibles, impairment of long-lived assets, loss on assets held for sale, stock-based compensation, fees related to shareholder activist, restructuring, and acquisition-related expenses.

Our revenues are derived from licensing our products, and from related services, which consist of maintenance, hosting services, and consulting and education. Information relating to revenue from external customers by revenue type is as follows (in thousands):

	Fiscal Year Ended November 30, 2019	November 30, 2018 As Adjusted[1]	November 30, 2017 As Adjusted[1]
Performance obligations transferred at a point in time:			
Software licenses	$ 122,552	$ 99,800	$ 113,643
Performance obligations transferred over time:			
Maintenance	259,006	249,171	243,508
Services	31,740	30,010	32,003
Total revenue	$ 413,298	$ 378,981	$ 389,154

[1]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

In the following table, revenue attributed to the United States includes sales to customers in the U.S. and sales to certain multinational organizations. Revenue from Canada, EMEA, Latin America and the Asia Pacific region includes sales to customers in each region plus sales from the U.S. to distributors in these regions. Information relating to revenue from external customers from different geographical areas is as follows (in thousands):

	Fiscal Year Ended		
	November 30, 2019	November 30, 2018	November 30, 2017
		As Adjusted[(1)]	As Adjusted[(1)]
United States	$ 213,252	$ 187,627	$ 214,232
Canada	20,659	16,630	21,583
EMEA	137,301	135,055	117,509
Latin America	19,665	18,046	16,002
Asia Pacific	22,421	21,623	19,828
Total revenue	$ 413,298	$ 378,981	$ 389,154

[(1)]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

No single customer, partner, or country outside of the U.S. has accounted for more than 10% of our consolidated revenue in any year presented. Long-lived assets totaled $25.7 million, $25.8 million and $39.5 million in the U.S. and $4.1 million, $4.9 million and $2.8 million outside of the U.S. at the end of fiscal years 2019, 2018 and 2017, respectively. No individual country outside of the U.S. accounted for more than 10% of our consolidated long-lived assets.

Note 17: Selected Quarterly Financial Data (unaudited)

(in thousands, except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Fiscal year 2019:				
Revenue	$ 89,549	$ 99,995	$ 106,716	$ 117,038
Gross profit	73,510	82,384	85,891	96,272
Income (loss) from operations	15,409	14,741	15,960	(6,026)
Net income (loss)	9,402	8,181	13,557	(4,740)
Basic earnings (loss) per share	0.21	0.18	0.30	(0.11)
Diluted earnings (loss) per share	0.21	0.18	0.30	(0.11)
Fiscal year 2018[(1)]:				
Revenue	$ 95,410	$ 92,864	$ 92,603	$ 98,104
Gross profit	78,507	76,221	75,907	81,373
Income from operations	19,131	18,550	19,103	11,030
Net income	13,732	12,904	14,390	8,644
Basic earnings per share	0.30	0.28	0.32	0.19
Diluted earnings per share	0.29	0.28	0.32	0.19

[(1)]The Company adopted the accounting standard related to revenue recognition ("ASC 606") effective December 1, 2018 using the full retrospective method. See Note 1. *Nature of Business and Summary of Significant Accounting Policies* for further information.

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

None.

Item **9A. Controls and Procedures**

(a) Evaluation of disclosure controls and procedures

Our management maintains disclosure controls and procedures as defined in Rule 13a-15(e) and 15d-15(e) under the Securities and Exchange Act of 1934, as amended (the "Exchange Act") that are designed to provide reasonable assurance that information required to be disclosed in our reports filed or submitted under the Exchange Act is processed, recorded, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer (our principal executive officer and principal financial officer, respectively), as appropriate, to allow for timely decisions regarding required disclosure.

Our management, including the Chief Executive Officer and Chief Financial Officer, carried out an evaluation of the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective to ensure that the information required to be disclosed in the reports filed or submitted by us under the Securities Exchange Act of 1934 was recorded, processed, summarized and reported within the requisite time periods and that such information was accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow for timely decisions regarding required disclosure.

(b) Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Because of its inherent limitations, internal control over financial reporting may not prevent or detect all misstatements. Our internal control system was designed to provide reasonable assurance to our management and board of directors regarding the preparation and fair presentation of published financial statements.

Our management assessed the effectiveness of our internal control over financial reporting as ofNovember 30, 2019. Our assessment was based on the framework in the updated *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our assessment we believe that as of November 30, 2019, our internal control over financial reporting is effective based on those criteria.

Deloitte & Touche LLP, our independent registered public accounting firm, which audited our consolidated financial statements, has issued an attestation report on our internal control over financial reporting, which is included in this Item 9A below.

(c) Changes in internal control over financial reporting

Our management, including our Chief Executive Officer and Chief Financial Officer, evaluated our "internal control over financial reporting" as defined in Exchange Act Rule 13a-15(f) to determine whether any changes in our internal control over financial reporting occurred during the fiscal quarter ended November 30, 2019 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, there were no changes in our internal control over financial reporting during the fiscal quarter ended November 30, 2019 that have materially affected, or are reasonably likely to materially affect our internal control over financial reporting.

(d) Report of independent registered public accounting firm

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Progress Software Corporation

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Progress Software Corporation and subsidiaries (the "Company") as ofNovember 30, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of November 30, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended November 30, 2019, of the Company and our report dated January 27, 2020, expressed an unqualified opinion on those financial statements and included an explanatory paragraph regarding the Company's adoption of Accounting Standards Codification Update No. 2014-09, *Revenue from Contracts with Customers (ASC 606)*.

Basis for Opinion

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

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Deloitte & Touche LLP

Boston, Massachusetts
January 27, 2020

Item 9B. Other Information

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Executive and Other Key Officers of the Registrant

The following table sets forth certain information regarding our executive and other key officers.

Name	Age	Position
John Ainsworth	55	Senior Vice President, Products - Core
Stephen Faberman	50	Chief Legal Officer
Yogesh Gupta	59	President and Chief Executive Officer
Paul Jalbert	62	Chief Financial Officer
Loren Jarrett	45	Senior Vice President, General Manager - Developer Tools Business
Katie Kulikoski	43	Chief People Officer
Tony Murphy	49	Chief Information Officer and Chief Information Security Officer
Jennifer Ortiz	43	Vice President Corporate Marketing
Gary Quinn	59	Senior Vice President, Core Field Organization
Sundar Subramanian	42	Senior Vice President, General Manager - Incubation Products

Mr. Ainsworth became Senior Vice President, Products-Core in January 2017. Mr. Ainsworth is responsible for the product management, product marketing, technical support and engineering functions for Progress OpenEdge, Progress Corticon, Progress DataDirect Connect, Progress DataDirect Hybrid Data Pipeline, Sitefinity, MOVEit and WhatsUp Gold. Prior to joining our company, Mr. Ainsworth was Senior Vice President, Engineering Services at CA Technologies, Inc., a position he assumed in April 2016. Prior to that time, Mr. Ainsworth held various senior positions within CA Technologies, Inc., which he joined through acquisition in 1994.

Mr. Faberman became Chief Legal Officer in December 2015. As Chief Legal Officer, Mr. Faberman is responsible for our legal and compliance, risk management, license compliance, facilities and corporate development functions. Prior to becoming Chief Legal Officer, Mr. Faberman was Senior Vice President, General Counsel. Mr. Faberman became General Counsel in December 2012 and a Senior Vice President in January 2014. Prior to that time, from October 2012 to December 2012, Mr. Faberman was Vice President, Acting General Counsel, and from January 2012 to October 2012, Mr. Faberman was Vice President, Deputy General Counsel. Prior roles included Senior Vice President, Corporate Counsel at Heritage Property Investment Trust, Inc. from October 2003 until October 2006, and Partner, Bingham McCutcheon LLP until October 2003.

Mr. Gupta became President and Chief Executive Officer in October 2016. Prior to that time, Mr. Gupta served as an advisor to various venture capital and private equity firms from October 2015 until September 2016. Prior to that time, Mr. Gupta was President and Chief Executive Officer at Kaseya, Inc., from June 2013 until July 2015, at which time, Mr. Gupta became Chairman of the Board of Directors, a position he held until October 2015. From July 2012 until June 2013, Mr. Gupta served as an advisor to various venture capital and private equity firms in several mergers and acquisitions opportunities. Mr. Gupta was previously President and Chief Executive Officer of FatWire Software from July 2007 until February 2012, prior to the acquisition of FatWire Software by Oracle Corporation. Prior roles included Chief Technology Officer at CA Technologies, with whom Mr. Gupta held various senior positions.

Mr. Jalbert became Chief Financial Officer in March 2017. As CFO, Mr. Jalbert is responsible for our finance and accounting, financial planning, treasury, tax and investor relations functions. Prior to becoming CFO, Mr. Jalbert was Vice President, Chief Accounting Officer, a position he assumed upon joining the Company in August 2012. Prior roles included Corporate Controller at publicly traded companies Keane and Genuity, as well as other senior financial positions at Verizon (formerly GTE). On January 16, 2020, we announced that Mr. Jalbert will retire as CFO on January 31, 2020, and will be replaced as CFO by Anthony Folger.

Ms. Jarrett became Senior Vice President and General Manager, Developer Tools Business in June 2019. As General Manager, Ms. Jarrett is responsible for the sales, product management, product marketing, field marketing, technical support and engineering for our DevTools product line. Prior to this role, Ms. Jarrett was our Chief Marketing Officer, a position she held from January 2017 to June 2019. Prior to that time, Ms. Jarrett was Chief Marketing Officer at Acquia, from 2015 until December 2016. Previously, Ms. Jarrett was Chief Marketing Officer at Kaseya, Inc. from 2013 until 2015, and Vice President, Corporate Charge Card and Loyalty Products at American Express, in 2013. Prior to that time, Ms. Jarrett was Vice President, Product Management and Strategy at Oracle Corporation from 2011 until 2012, and Senior Vice President of Marketing and Product Management at FatWire from 2007 until its acquisition by Oracle in 2011.

Ms. Kulikoski became Chief People Officer in November 2019. As Chief People Officer, Ms. Kulikoski is responsible for all aspects of the company's global human resources function, including culture development, talent acquisition, retention, change management and process effectiveness. Prior to joining our Company, from May 2014 to September 2019, Ms. Kulikoski held a variety of positions of increasing responsibility and scope at Brightcove, Inc. Her tenure at Brightcove included serving as Chief People Officer from November 2018 to September 2019. Prior to May 2014, Ms. Kulikoski held leadership positions at Optaros, CIDC and ConnectEdu.

Mr. Murphy became Chief Information Officer in June 2017 and Chief Information Security Officer in September 2018. As our Chief Information Officer and Chief Information Security Officer, Mr. Murphy is responsible for the development and implementation of our overall technology strategy for all internal systems and business processes and for monitoring and preventing security related incidents. Prior to joining our company, Mr. Murphy was Vice President of Global IT at Stratus Technologies, from January 2013 until May 2017. Previously, Mr. Murphy was Director of IT and Business Systems at Acme Packet, Inc. from May 2011 until its acquisition by Oracle Corporation in 2013.

Ms. Ortiz became Vice President of Corporate Marketing in October 2019. In this role, Ms. Ortiz is responsible for the development and execution of our corporate marketing programs. Prior to becoming Vice President of Corporate Marketing, Ms. Ortiz held a variety of positions of increasing responsibility and scope at Progress during her fifteen-year tenure with the company.

Mr. Quinn became Senior Vice President, Core Field Organization in August 2017. Mr. Quinn is responsible for global field operations for Progress OpenEdge, Progress Corticon, Progress DataDirect Connect, Progress DataDirect Hybrid Data Pipeline, Sitefinity, MOVEit and WhatsUp Gold. Prior to joining our company, Mr. Quinn was President and Chief Executive Officer of FalconStor Software, Inc. Mr. Quinn joined FalconStor Software in April 2012 as vice president of sales and marketing for North America, and he was named executive vice president and chief operating officer (COO) in April 2013, interim CEO in June 2013 and CEO in July 2013. Prior roles included Executive Vice President of Global Partners and International Sales at CA Technologies until 2006 and Commissioner of Information Technology (CIO) at Suffolk County Department of Information Technology (DoIT) from 2008 until 2012.

Mr. Subramanian became Senior Vice President and General Manager, Incubation Products in August 2019. As General Manager, Mr. Subramanian is responsible for driving all facets of the company’s early stage products including sales, demand generation, engineering, product management, product marketing, customer success, support and developer relations for the Kinvey, Kinvey Health Cloud, DataRPM, NativeChat and NativeScript product lines. Prior to joining Progress, Mr. Subramanian was an Executive Director at athenahealth, Inc., from August 2016 to July 2019, and Vice President, Products at Citrus Payment Solutions Pvt. Ltd., from September 2015 to August 2016. Previously, he served as Vice President, SaaS at Kaseya, Inc., from January 2014 to August 2015.

Code of Conduct

We have adopted a Code of Conduct that applies to all employees and directors. A copy of the Code of Conduct is publicly available on our website at www.progress.com. If we make any substantive amendments to the Code of Conduct or grant any waiver, including any implicit waiver, from the Code of Conduct to our executive officers or directors, we will disclose the nature of such amendment or waiver in a Current Report on Form 8-K.

The remainder of the information required by Item 10 is incorporated by reference to our definitive Proxy Statement.

Item 11. Executive Compensation

The information required by Item 11 is incorporated by reference to our definitive Proxy Statement.

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

Information related to securities authorized for issuance under equity compensation plans as of November 30, 2019 is as follows (in thousands, except per share data):

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	Weighted-average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available For Future Issuance
Equity compensation plans approved by stockholders[1]	1,696 [2]	$ 35.27	4,547 [3]
Equity compensation plans not approved by stockholders[4]	555	40.85	854
Total	2,251	$ 37.26	5,401

(1) Consists of the 1992 Incentive and Nonqualified Stock Option Plan, 1994 Stock Incentive Plan, 1997 Stock Incentive Plan, 2008 Stock Option and Incentive Plan and 1991 Employee Stock Purchase Plan ("ESPP").

(2) Includes 829,000 restricted stock units under our 2008 Plan. Does not include purchase rights accruing under the ESPP because the purchase price (and therefore the number of shares to be purchased) will not be determined until the end of the purchase period.

(3) Includes 401,000 shares available for future issuance under the ESPP.

(4) Consists of the 2002 Nonqualified Stock Plan and the 2004 Inducement Plan described below.

We have adopted two equity compensation plans, the 2002 Nonqualified Stock Plan (2002 Plan) and the 2004 Inducement Stock Plan (2004 Plan), for which the approval of stockholders was not required. We intend that the 2004 Plan be reserved for persons to whom we may issue securities as an inducement to become employed by us pursuant to the rules and regulations of NASDAQ. Executive officers and members of the Board of Directors are not eligible for awards under the 2002 Plan. An executive officer would be eligible to receive an award under the 2004 Plan only as an inducement to join us. Awards under the 2002 Plan and the 2004 Plan may include nonqualified stock options, grants of conditioned stock, unrestricted grants of stock, grants of stock contingent upon the attainment of performance goals and stock appreciation rights. A total of 11,250,000 shares are issuable under the two plans, of which, 853,842 shares are available for future issuance.

The information required by Item 12 with respect to security ownership and our equity compensation plans may be found under the headings captioned “Information About Progress Software Common Stock Ownership” and “Equity Compensation Plan Information” in our definitive Proxy Statement and is incorporated by reference.

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

The information required by Item 13 is incorporated by reference to our definitive Proxy Statement.

Item 14. Principal Accounting Fees and Services

The information required by Item 14 is incorporated by reference to our definitive Proxy Statement.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) Documents Filed as Part of this Annual Report on Form 10-K

1. Financial Statements (included in Item 8 of this Annual Report on Form 10-K):

- Report of Independent Registered Public Accounting Firm
- Consolidated Balance Sheets as of November 30, 2019 and 2018
- Consolidated Statements of Operations for the years ended November 30, 2019, 2018 and 2017
- Consolidated Statements of Comprehensive Income (Loss) for the years ended November 30, 2019, 2018 and 2017
- Consolidated Statements of Shareholders' Equity for the years ended November 30, 2019, 2018 and 2017
- Consolidated Statements of Cash Flows for the years ended November 30, 2019, 2018 and 2017
- Notes to Consolidated Financial Statements

2. Financial Statement Schedules

Financial statement schedules are omitted as they are either not required or the information is otherwise included in the consolidated financial statements.

(b) Exhibits

Documents listed below, except for documents followed by parenthetical numbers, are being filed as exhibits. Documents followed by parenthetical numbers are not being filed herewith and, pursuant to Rule 12b-32 of the General Rules and Regulations promulgated by the SEC under the Exchange Act, reference is made to such documents as previously filed as exhibits with the SEC. Our file number under the Exchange Act is 0-19417.

2.1*	Stock Purchase Agreement, dated March 28, 2019, by and among Progress Software Corporation, Ipswitch, Inc. and Roger Greene (1)
2.2	Plan of Domestication (2)
3.1	Certificate of Conversion from Non-Delaware Corporation to Delaware Corporation (3)
3.2	Certificate of Incorporation (4)
3.2.1	Certificate of Correction to Certification of Incorporation (5)
3.3	Amended and Restated By-Laws, as amended March 19, 2019 (6)
4.1	Specimen certificate for the Common Stock (7)
4.2	Description of Registered Securities
10.1**	1992 Incentive and Nonqualified Stock Option Plan (8)
10.2**	1994 Stock Incentive Plan (9)
10.3**	1997 Stock Incentive Plan, as amended and restated (10)
10.4**	Form of Employee Retention and Motivation Agreement (effective prior to September 2014) (11)
10.5**	2002 Nonqualified Stock Plan, as amended and restated (12)
10.6**	2004 Inducement Stock Plan, as amended and restated (13)
10.7**	Progress Software Corporation 1991 Employee Stock Purchase Plan, as amended and restated (14)
10.8**	Progress Software Corporation 2008 Stock Option and Incentive Plan, as amended and restated (15)
10.9**	Form of Notice of Grant of Stock Options and Grant Agreement under the Progress Software Corporation 2008 Stock Option and Incentive Plan (16)
10.10**	Progress Software Corporation Corporate Executive Bonus Plan (17)
10.11**	Progress Software Corporation 2019 Fiscal Year Compensation Program for Non-Employee Directors (18)
10.12**	Form of Deferred Stock Unit Agreement under the Progress Software Corporation 2008 Stock Option and Incentive Plan (19)
10.13**	Form of Non-Qualified Stock Option Agreement for Non-Employee Directors under the Progress Software Corporation 2008 Stock Option and Incentive Plan (Initial Grant) (20)

10.14**	Form of Non-Qualified Stock Option Agreement for Non-Employee Directors under the Progress Software Corporation 2008 Stock Option and Incentive Plan (Annual Grant) (21)
10.15**	Form of Restricted Stock Unit Agreement under the Progress Software Corporation 2008 Stock Option and Incentive Plan (22)
10.16*	Second Amended and Restated Credit Agreement, dated as of April 30, 2019, by and among Progress Software Corporation, each of the lenders party thereto, JPMorgan Chase Bank, N.A., as Administrative Agent, Wells Fargo Bank, N.A. and Citizens Bank, N.A., as Syndication Agents, and Bank of America, N.A., Citibank, N.A., Silicon Valley Bank, Santander Bank, N.A. and TD Bank, N.A., as Documentation Agents, and JPMorgan Chase Bank, N.A., as Sole Bookrunner and Sole Lead Arranger (23)
10.17**	Employment Agreement, dated October 10, 2016, by and between Progress Software Corporation and Yogesh Gupta (24)
10.18**	Employee Retention and Motivation Agreement, dated as of October 10, 2016, by and between Progress Software Corporation and Yogesh Gupta (25)
10.19**	Employment Agreement, dated March 24, 2017, by and between Progress Software Corporation and Paul Jalbert (26)
10.20	Form of Employee Retention and Motivation Agreement (effective after September 2014)
10.21	Form of Termination Letter (Executive Officers)
10.22	Form of Separation Agreement and Release (Executive Officers)
21.1	List of Subsidiaries of the Registrant
23.1	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm
31.1	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Yogesh Gupta
31.2	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Paul Jalbert
32.1	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101***	The following materials from Progress Software Corporation's Annual Report on Form 10-K for the year ended November 30, 2019, formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) Consolidated Balance Sheets as of November 30, 2019 and 2018, (ii) Consolidated Statements of Income for the years ended November 30, 2019, 2018 and 2017, (iii) Consolidated Statements of Comprehensive Income for the years ended November 30, 2019, 2018 and 2017, (iv) Consolidated Statements of Shareholders' Equity for the years ended November 30, 2019, 2018 and 2017, and (v) Consolidated Statements of Cash Flows for the years ended November 30, 2019, 2018 and 2017.
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

(1) Incorporated by reference to Exhibit 2.1 to our Current Report on Form 8-K filed on April 1, 2019.
(2) Incorporated by reference to Exhibit 2.1 to our Current Report on Form 8-K filed on May 14, 2015.
(3) Incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed on May 14, 2015.
(4) Incorporated by reference to Exhibit 3.2 to our Current Report on Form 8-K filed on May 14, 2015.
(5) Incorporated by reference to Exhibit 3.2.1 to our Annual Report on Form 10-K for the year ended November 30, 2015.
(6) Incorporated by reference to Exhibit 3.1 to our Quarterly Report on Form 10-Q for the quarter ended May 31, 2019.
(7) Incorporated by reference to Exhibit 4.1 to our Annual Report on Form 10-K for the year ended November 30, 2011.
(8) Incorporated by reference to Exhibit 10.1 to our Annual Report on Form 10-K for the year ended November 30, 2009.
(9) Incorporated by reference to Exhibit 10.2 to our Annual Report on Form 10-K for the year ended November 30, 2009.
(10) Incorporated by reference to Exhibit 10.3 to our Annual Report on Form 10-K for the year ended November 30, 2012.
(11) Incorporated by reference to Exhibit 10.4 to our Annual Report on Form 10-K for the year ended November 30, 2013.
(12) Incorporated by reference to Exhibit 10.5 to our Annual Report on Form 10-K for the year ended November 30, 2015.
(13) Incorporated by reference to Exhibit 10.6 to our Annual Report on Form 10-K for the year ended November 30, 2015.
(14) Incorporated by reference to Appendix A to our definitive Proxy Statement filed April 15, 2016.
(15) Incorporated by reference to Annex A to our definitive Proxy Statement filed May 7, 2013.
(16) Incorporated by reference to Exhibit 10.9 to our Annual Report on Form 10-K for the year ended November 30, 2013.
(17) Incorporated by reference to Exhibit 10.10 to our Annual Report on Form 10-K for the year ended November 30, 2012.
(18) Incorporated by reference to Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended February 28, 2019 filed on April 5, 2019.
(19) Incorporated by reference to Exhibit 10.12 to our Annual Report on Form 10-K for the year ended November 30, 2013.
(20) Incorporated by reference to Exhibit 10.13 to our Annual Report on Form 10-K for the year ended November 30, 2013.
(21) Incorporated by reference to Exhibit 10.14 to our Annual Report on Form 10-K for the year ended November 30, 2013.
(22) Incorporated by reference to Exhibit 10.15 to our Annual Report on Form 10-K for the year ended November 30, 2014.
(23) Incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed on May 1, 2019.
(24) Incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed on October 14, 2016.
(25) Incorporated by reference to Exhibit 10.2 to our Current Report on Form 8-K filed on October 14, 2016.
(26) Incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed on March 31, 2017.

* Certain schedules and exhibits have been omitted from this Exhibit pursuant to Item 601(a)(5) of Regulation S-K. Progress Software Corporation will furnish a copy of any omitted schedule or exhibit to the U.S. Securities and Exchange Commission or its staff upon request.

** Management contract or compensatory plan or arrangement in which an executive officer or director of Progress Software Corporation participates.

*** Pursuant to Rule 406T of Regulations S-T, the Interactive Data Files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

(c) Financial Statement Schedules

All schedules are omitted because they are not applicable or the required information is shown on the financial statements or notes hereto.

Item 16. Form 10-K Summary

Not applicable.

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 the 27th day of January 2020.

PROGRESS SOFTWARE CORPORATION

By: /s/ YOGESH K. GUPTA
Yogesh K. Gupta
President and Chief Executive Officer

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

Signature	Title	Date
/s/ YOGESH K. GUPTA Yogesh K. Gupta	President and Chief Executive Officer (Principal Executive Officer)	January 27, 2020
/s/ PAUL A. JALBERT Paul A. Jalbert	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	January 27, 2020
/s/ JOHN R. EGAN John R. Egan	Non-Executive Chairman	January 27, 2020
/s/ PAUL T. DACIER Paul T. Dacier	Director	January 27, 2020
/s/ RAINER GAWLICK Rainer Gawlick	Director	January 27, 2020
/s/ CHARLES F. KANE Charles F. Kane	Director	January 27, 2020
/s/ SAMSKRITI KING Samskriti King	Director	January 27, 2020
/s/ DAVID A. KRALL David A. Krall	Director	January 27, 2020
/s/ ANGELA TUCCI Angela Tucci	Director	January 27, 2020
/s/ VIVIAN VITALE Vivian Vitale	Director	January 27, 2020

Exhibit 4.2

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

As of January 27, 2020, Progress Software Corporation has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), our Common Stock.

Description of Common Stock

The following description of our Common Stock is a summary and does not purport to be complete. It issubject to and qualified in its entirety by reference to our Certificate of Incorporation (as amended by the Certificate of Correction dated January 26, 2016, the "Certificate of Incorporation") and our Amended and Restated Bylaws (the "Bylaws"), each of which are incorporated by reference as an exhibit to the Annual Report on Form 10-K of which this Exhibit 4.2 is a part. We encourage you to read our Certificate of Incorporation, our Bylaws and the applicable provisions of the Delaware General Corporation Law, for additional information.

Authorized Capital Shares

Our authorized capital shares consist of 200,000,000 shares of common stock, $0.01 par value per share ("Common Stock"), and 10,000,000 shares of preferred stock, $0.01 par value per share ("Preferred Stock"). The outstanding shares of our Common Stock are fully paid and nonassessable.

Voting Rights

Holders of Common Stock are entitled to one vote per share on all matters voted on by the stockholders, including the election of directors. Our Common Stock does not have cumulative voting rights.

Dividend Rights

Subject to the rights of holders of outstanding shares of Preferred Stock, if any, the holders of Common Stock are entitled to receive dividends, if any, as may be declared from time to time by the Board of Directors in its discretion out of funds legally available for the payment of dividends.

Liquidation Rights

Subject to any preferential rights of outstanding shares of Preferred Stock, holders of Common Stock will share ratably in all assets legally available for distribution to our stockholders in the event of dissolution.

Other Rights and Preferences

Our Common Stock has no sinking fund or redemption provisions or preemptive, conversion or exchange rights. Holders of Common Stock may not act by unanimous written consent.

Listing

The Common Stock is traded on The Nasdaq Stock Market LLC under the trading symbol "PRGS."

Exhibit 10.20

EMPLOYEE RETENTION AND MOTIVATION AGREEMENT

This agreement (the "Agreement") is effective as of __________ (the "Agreement Date") by and between ___________ (the "Covered Person") and Progress Software Corporation, a Delaware corporation (the "Company").

R E C I T A L S

A. The Covered Person is being retained as an employee or officer of the Company in a role that is important to the continued conduct of the Company's business and operations.

B. The Board of Directors of the Company (the "Board") has determined that it is in the best interest of the Company and its stockholders to assure that the Company will have the continued dedication and objectivity of the Covered Person, notwithstanding the possibility, threat or occurrence of a Change of Control (as defined below) of the Company.

C. The Board believes that it is imperative to provide the Covered Person with certain benefits following a Change of Control and certain severance benefits upon the Covered Person's termination of employment following a Change in Control.

D. In order to accomplish the foregoing objectives, the Board has directed the Company, upon execution of the Agreement by the Covered Person, to commit to the terms provided herein.

E. The Covered Party accepts the terms of the Agreement.

F. Certain capitalized terms used in this Agreement are defined in Section 4 below.

In consideration of the mutual covenants herein contained and in consideration of the continuing employment of the Covered Person by the Company, the parties agree as follows:

1. Term of Employment The Company and the Covered Person acknowledge that the Covered Person's employment is at will, as defined under applicable law, except as may otherwise be provided under the terms of any written employment agreement between the Company and the Covered Person, that is signed on behalf of the Company now or hereafter in effect. If the Covered Person's employment terminates for any reason, the Covered Person shall not be entitled to any payments, benefits, damages, awards or compensation (collectively, "recompense") other than the maximum recompense as provided by one of the following: (i) this Agreement, or (ii) any written employment agreement then in effect between the Covered Person and the Company, or (iii) the Company's existing severance guidelines and benefit plans which are in effect at the time of termination, or (iv) applicable statutory provisions. The provisions of this Agreement shall terminate upon the earlier of (i) the date that all obligations of the parties hereunder have been satisfied, or (ii) five years after the Agreement Date; provided, however, that the term of the provisions of this Agreement may be extended by written resolutions adopted by the Board. A termination of the provisions of this Agreement pursuant to the preceding sentence shall be effective for all purposes, except that such termination shall not affect the payment or provision of compensation or benefits on account of termination of employment occurring prior to the termination of the provisions of this Agreement.

2. Benefits Immediately Following Change of Control

(a) Treatment of Outstanding Options and Restricted Equity Effective immediately upon a Change of Control, unless the outstanding stock options and shares of restricted equity held by the Covered Person under the Company's stock option plans on the date of the Change of Control are continued by the Company or assumed by its successor entity, all restricted stock units and stock options held by the Covered Person which were granted prior to the date of the Change of Control under the Company's stock option plans which would otherwise become fully vested, nonforfeitable and not subject to any restrictions during the one year period following the date of the Change of Control shall instead become fully vested, nonforfeitable and not subject to any restrictions as of the date of the Change of Control. If such outstanding options and shares of restricted equity held by the Covered Person are continued by the Company or assumed by its successor entity, then vesting shall continue in its usual course.

(b) Payment of Management Bonus Effective immediately upon a Change of Control, the Covered Person's annual management bonus shall be fixed at the Covered Person's target bonus level as in effect immediately prior to the Change of Control and the Covered Person shall be paid a pro-rated portion of such bonus, as of the date of the Change of Control. Any payment to which the Covered Person is entitled pursuant to this section shall be paid in a lump sum within thirty (30) days of the event requiring such payment.

3. Severance Benefits

(a) Termination Following a Change of Control If the Covered Person's employment terminates after a Change of Control, then, subject to Section 5 below, the Covered Person shall be entitled to receive severance benefits as follows:

(i) Involuntary Termination If the Covered Person's employment is terminated within twelve (12) months following a Change of Control as a result of Involuntary Termination, then the Covered Person shall be entitled to receive a lump sum severance payment in an amount equal to fifteen (15) months of the Covered Person's annual Target Compensation; and in addition, for a period of fifteen (15) months after such termination, the Company shall be obligated to provide the Covered Person with benefits that are substantially equivalent to the Covered Person's benefits (medical, dental, vision and life insurance) that were in effect immediately prior to the Change of Control. In addition, all restricted stock units and stock options held by the Covered Person which were granted prior to the date of such termination under the Company's stock option plans which would otherwise become fully vested, nonforfeitable and not subject to any restrictions during the one-year period following the date of such termination shall instead become fully vested, nonforfeitable and not subject to any restrictions as of the date of such termination. Any severance payments to which the Covered Person is entitled pursuant to this section shall be paid in a lump sum within thirty (30) days of the effective date of the Covered Person's termination. For purposes of this Paragraph 3(a)(i), the term "Target Compensation" shall mean the highest level of Target Compensation applicable to the Covered Person from the period of time immediately prior to the Change of Control through the effective date of the Covered Person's termination. With respect to any taxable income that the Covered Person is deemed to have received for federal income tax purposes by virtue of the Company providing continued employee benefits to the Covered Person, the Company shall make a cash payment to the Covered Person such that the net economic result to the Covered Person will be as if such benefits were provided on a tax-free basis to the same extent as would have been applicable had the Covered Person's employment not been terminated. Such cash payment shall be made no later than April 1 following each calendar year in which such benefits are taxable to the Covered Person.

Anything in this Agreement to the contrary notwithstanding, if at the time of the Covered Person's separation from service (within the meaning of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), the Covered Person is considered a "specified employee" within the meaning of Section 409A(a)(2)(B)(i) of the Code, and if any payment that the Covered Person becomes entitled to under this Agreement is considered deferred compensation subject to interest and additional tax imposed pursuant to Section 409A(a) of the Code as a result of the application of Section 409A(a)(2)(B)(i) of the Code, then no such payment shall be payable prior to the date that is the earliest of (A) six months after the Covered Person's date of termination, (B) the Covered Person's death, or (C) such other date as will cause such payment not to be subject to such interest and additional tax. The parties agree that this Agreement may be amended, as reasonably requested by either party and as may be necessary to comply fully with Section 409A of the Code and all related rules and regulations in order to preserve the payments and benefits provided hereunder without additional cost to either party.

(ii) Voluntary Resignation If the Covered Person's employment terminates by reason of the Covered Person's voluntary resignation (and is not an Involuntary Termination), then the Covered Person shall not be entitled to receive any severance payments or other benefits except for such benefits (if any) as may then be established under the Company's then existing severance guidelines and benefit plans at the time of such termination.

(iii) Disability; Death If the Company terminates the Covered Person's employment as a result of the Covered Person's Disability, or such Covered Person's employment is terminated due to the death of the Covered Person, then the Covered Person shall not be entitled to receive any severance payments or other benefits except for those (if any) as may then be established under the Company's then existing severance guidelines and benefit plans at the time of such Disability or death.

(iv) Termination for Cause If the Company terminates the Covered Person' employment for Cause, then the Covered Person shall not be entitled to receive any severance payments or other benefits following the date of such termination, and the Company shall have no obligation to provide for the continuation of any health and medical benefit or life insurance plans existing on the date of such termination, other than as required by law.

(b) Termination Other than in Connection with Change of Control If the Covered Person's employment is terminated for any reason either prior to the occurrence of a Change of Control or after the twelve (12) month period following a Change of Control, then the Covered Person shall be entitled to receive severance and any other benefits only as provided under any written agreement with the Company or as may then be established under the Company's existing severance guidelines and benefit plans at the time of such termination.

4. Definition of Terms The following terms referred to in this Agreement shall have the following meanings:

(a) Change of Control "Change of Control" shall mean the occurrence of any of the following events:

(i) Any "person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended) is or becomes the "beneficial owner" (as defined in Rule 13d-3 under said Act), directly or indirectly, of securities of the Company representing fifty percent (50%) or more of the total voting power represented by the Company's then outstanding voting securities, whether by tender offer, or otherwise; or

(ii) A change in the composition of the Board, as a result of which fewer than a majority of the directors are Incumbent Directors. "Incumbent Directors" shall mean directors who either (A) are directors of the Company as of the Agreement Date, or (B) are elected, or nominated for election, to the Board with the affirmative votes of at least a majority of the directors of the Company as of the Agreement Date, at the time of such election or nomination (but shall not include an individual whose election or nomination is in connection with an actual or threatened proxy contest relating to the election of directors to the Company); or

(iii) The consummation of a merger or consolidation of the Company with any other entity, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity) at least fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity outstanding immediately prior thereto representing less than fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity outstanding immediately after such merger or consolidation; but the Company is clearly the acquirer considering the totality of the circumstances, including such factors as whether the president of the Company will continue as president of the Company or the surviving entity, the majority of the directors of the Company or the surviving entity will be Incumbent Directors, substantially all of the executive officers of the Company will be retained, etc., all as determined immediately prior to the consummation of the merger or consolidation by the Incumbent Directors.

(iv) The liquidation of the Company; or the sale or disposition by the Company of all or substantially all of the Company's assets.

(b) Involuntary Termination "Involuntary Termination" shall mean (i) without the Covered Person's express written consent, the assignment to the Covered Person of any duties or the significant reduction of the Covered Person's duties, either of which is materially inconsistent with the Covered Person's position with the Company and responsibilities in effect immediately prior to such assignment, or the removal of the Covered Person from such position and responsibilities, which is not effected for Disability or for Cause; (ii) a material reduction by the Company in the base salary and/or bonus of the Covered Person as in effect immediately prior to such reduction; (iii) a material reduction by the Company in the kind or level of employee benefits to which the Covered Person is entitled immediately prior to such reduction with the result that the Covered Person's overall benefit package is significantly reduced; (iv) the relocation of the Covered Person to a facility or a location more than fifty (50) miles from the Covered Person's then present location, without the Covered Person's express written consent; (v) any purported termination of the Covered Person by the Company which is not effected for death or Disability or for Cause, or any purported termination for Cause for which the grounds relied upon are not valid; or (vi) the failure of the Company to obtain, on or before the Change of Control, the assumption of the terms of this Agreement by any successors contemplated in Section 7 below. An Involuntary Termination shall be effective upon written notice by the Covered Person.

(c) Cause "Cause" shall mean (i) any act of personal dishonesty taken by the Covered Person in connection with his or her responsibilities as an employee and intended to result in substantial personal enrichment of the Covered Person, (ii) the conviction of a felony, (iii) a willful act by the Covered Person which constitutes gross misconduct and which is injurious to the Company, and (iv) continued violations by the Covered Person of the Covered Person's obligations as an employee of the Company which are demonstrably willful and deliberate on the Covered Person's part after there has been delivered to the Covered Person a written demand for performance from the Company which describes the basis for the Company's belief that the Covered Person has not substantially performed his or her duties.

(d) Disability “Disability” shall mean that the Covered Person has been unable to perform his or her duties as an employee of the Company as the result of incapacity due to physical or mental illness, and such inability, at least twenty-six (26) weeks after its commencement, is determined to be total and permanent by a physician selected by the Company or its insurers and acceptable to the Covered Person or the Covered Person’s legal representative (such agreement as to acceptability not to be unreasonably withheld). Termination resulting from Disability may only be effected after at least thirty (30) days’ written notice by the Company of its intention to terminate the Covered Person’s employment. In the event that the Covered Person resumes the performance of substantially all of his or her duties as an employee of the Company before termination of his or her employment becomes effective, the notice of intent to terminate shall automatically be deemed to have been revoked.

(e) Target Compensation “Target Compensation” shall mean the total of all fixed and variable cash compensation due a Covered Person based upon one hundred percent (100%) attainment of performance levels.

5. Limitation on Payments In the event that the severance and other benefits provided for in this Agreement or otherwise payable to the Covered Person (i) constitute “parachute payments” within the meaning of Section 280G of the Code and (ii) but for this Section 5, would be subject to the excise tax imposed by Section 4999 of the Code (the “Excise Tax”), then the Covered Person’s severance benefits under Section 3(a)(i) shall be either

(i) delivered in full, or

(ii) delivered as to such lesser extent which would result in no portion of such severance benefits subject to the Excise Tax,

whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and the Excise Tax, results in the receipt by the Covered Person on an after tax basis, of the greatest amount of severance payments and benefits, notwithstanding that all or some portion of such severance payments and benefits may be taxable under Section 4999 of the Code. Unless the Company and the Covered Person otherwise agree in writing, any determination required under this Section 5 shall be made in writing in good faith by the accounting firm serving the Company’s independent public accountants immediately prior to the Change of Control (the “Accountants”) in good faith consultation with the Covered Person. In the event of a reduction in benefits hereunder, such benefits shall be reduced in the following order: (a) cash payments not subject to Section 409A of the Code; (b) cash payments subject to Section 409A of the Code; (c) equity compensation; and (d) non-cash forms of benefit. To the extent any payment is to be made over time, then the payment shall be reduced in reverse chronological order. For purposes of making the calculations required by this Section 5, the Accountants may make reasonable assumptions and approximations concerning the application taxes and may rely on reasonable good faith interpretations concerning the application of Sections 280G and 4999 of the Code. The Company and the Covered Person shall furnish to the Accountants such information and documents as the Accountants may reasonable request in order to make a determination under this Section. The Company shall bear all costs the Accountants may reasonably incur in connection with any calculations contemplated by this Section 5.

6. Remedy If Covered Person’s benefits are reduced to avoid the Excise Tax pursuant to Section 5 hereof and notwithstanding such reduction, the IRS determines that the Covered Person is liable for the Excise Tax as a result of the receipt of severance benefits from the Company, then Covered Person shall be obligated to pay to the Company (the “Repayment Obligation”) an amount of money equal to the “Repayment Amount.” The Repayment Amount shall be the smallest such amount, if any, as shall be required to be paid to the Company so that the Covered Person’s net proceeds with respect to his or her

severance benefits hereunder (after taking into account the payment of the Excise Tax imposed on such benefits) shall be maximized. Notwithstanding the foregoing, the Repayment Amount shall be zero if a Repayment Amount of more than zero would not eliminate the Excise Tax. If the Excise Tax is not eliminated through the performance of the Repayment Obligation, the Covered Person shall pay the Excise Tax. The Repayment Obligation shall be discharged within thirty (30) days of either (i) the Covered Person entering into a binding agreement with the IRS as to the amount of Excise Tax liability, or (ii) a final determination by the IRS or a court decision requiring the Covered Person to pay the Excise Tax from which no appeal is available or is timely taken.

7. Successors

(a) Company's Successors Any successor to the Company (whether direct or indirect and whether by purchase, lease, merger, consolidation, liquidation or otherwise) or to all or substantially all of the Company's business and/or assets shall assume the obligations under this Agreement and agree expressly to perform the obligations under this Agreement in the same manner and to the same extent as the Company would be required to perform such obligations in the absence of a succession. For all purposes under this Agreement, the term "Company" shall include any successor to the Company's business and/or assets which executes and delivers the assumption agreement described in this subsection (a) which becomes bound by the terms of this Agreement by operation of law.

(b) Covered Person's Successors The terms of this Agreement and all rights of the Covered Person's hereunder shall inure to the benefit of, and be enforceable by, the Covered Person's personal or legal representatives, executors, administrators, successors, heirs, distributes, devisees and legatees.

8. Notice

(a) General Notices and all other communications contemplated by this Agreement shall be in writing and shall be deemed to have been duly given when personally delivered or when mailed by U.S. registered or certified mail, return receipt requested and postage prepaid. In the case of the Covered Person, mailed notices shall be addressed to him or her at the home address which he or she most recently communicated to the Company in writing. In the case of the Company, mailed notices shall be addressed to its corporate headquarters, and all notices shall be directed to the attention of its General Counsel.

(b) Notice of Termination by the Company Any termination by the Company of the Covered Person's employment with the Company at any time following a Change of Control shall be communicated by notice of termination to the Covered Person at least five (5) days prior to the date of such termination, given in accordance with Section 8(a) of this Agreement. Such notice shall specify the termination date and whether the termination is considered by the Company to be for Cause as defined in Section 4(c) in which case the Company shall identify the specific subsection(s) of Section 4(c) asserted by the Company as the basis for the termination and shall set forth in reasonable detail the facts and circumstances relied upon by the Company in categorizing the termination as for Cause.

(c) Notice by Covered Person of Involuntary Termination by the Company In the event the Covered Person determines that an Involuntary Termination has occurred at any time following a Change of Control, the Covered Person shall give written notice that such Involuntary Termination has occurred as set forth in this Section 8(c). Such notice shall be delivered by the Covered Person to the Company in accordance with Section 8(a) of this Agreement within ninety (90) days following the date on which such Involuntary Termination has occurred (or, if such Involuntary Termination occurred as a result

of more than one event set forth in Section 4(b), within ninety (90) days following the earliest of such events), shall indicate the specific provision or provisions in this Agreement upon which the Covered Person relied to make such determination and shall set forth in reasonable detail the facts and circumstances claimed to provide a basis for such determination. The failure by the Covered Person to include in the notice any fact or circumstance which contributes to a showing of Involuntary Termination shall not waive any right of the Covered Person hereunder or preclude the Covered Person from asserting such fact or circumstance in enforcing his or her rights hereunder.

9. Miscellaneous Provisions

(a) No Duty to Mitigate The Covered Person shall not be required to mitigate the amount of any payment contemplated by this Agreement (whether by seeking new employment or in any other manner), nor shall any such payment be reduced by any earnings that the Covered Person may receive from any other source.

(b) Waiver No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed in writing and signed by the Covered Person and by an authorized officer of the Company (other than the Covered Person). No waiver by either party of any breach of, or compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision of the same condition or provision at another time.

(c) Entire Agreement Except with respect to the terms of any written employment agreement, if any, by and between the Company and the Covered Person that is signed on behalf of the Company, no agreements, representations or understandings (whether oral or written and whether express or implied) which are not expressly set forth in this Agreement have been made or entered into by either party with respect to the subject matter hereof.

(d) Choice of Law The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the Commonwealth of Massachusetts.

(e) Severability The invalidity or enforceability of any provisions or provisions of this Agreement shall not affect the validity or enforceability of any other provision hereof, which shall remain in full force and effect.

(f) Arbitration Any dispute or controversy arising under or in connection with this Agreement shall be settled exclusively by final and binding arbitration in Massachusetts, in accordance with the rules of the American Arbitration Association then in effect. Judgment may be entered on the arbitrator’s award in any court having jurisdiction. In the event the Covered Person prevails in an action or proceeding brought to enforce the terms of this Agreement or to enforce and collect on any non-de minimis judgment entered pursuant to this Agreement, the Covered Person shall be entitled to recover all costs and reasonable attorney’s fees.

(g) No Assignment of Benefits The rights of any person to payments or benefits under this Agreement shall not be made subject to option or assignment, either by voluntary or involuntary assignment or by operation of law, including (without limitation) bankruptcy, garnishment, attachment or other creditor’s process, and any action in violation of this subsection (g) shall be void.

(h) Employment Taxes Subject to Section 5, all payments made pursuant to this Agreement will be subject to withholding of applicable income and employment taxes.

(i) Assignment by Company The Company may assign its rights under this Agreement to an affiliate and an affiliate may assign its rights under this Agreement to another affiliate of the Company or to the Company; provided, however, that no assignment shall be made if the net worth of the assignee is less than the net worth of the Company at the time of the assignment. In the case of any such assignment, the term "Company" when used in a section of the Agreement shall mean the corporation that actually employs the Covered Person.

(j) Counterparts This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together will constitute one and the same instrument.

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the date first above written.

Progress Software Corporation

By: ____________________________________ By: ____________________________________

Exhibit 10.21

[Date]

Dear:

The purpose of this letter is to confirm that your employment with Progress Software Corporation (the "Company") will terminate on [__________] (the "Termination Date").

1. **Employment Termination Benefits**

Upon the Termination Date, you will be entitled to the following, subject to the terms and conditions of this letter:

(a) Salary: The Company will issue a payment to you on the Termination Date equal to the total amount of your outstanding wages accrued through such date, less applicable deductions and withholdings, in accordance with the Company's regular payroll practices.

(b) Medical and Dental Benefits: Immediately following the Termination Date, you will have the right to continue your medical and dental coverage by electing COBRA in accordance with and subject to the provisions set forth in the enclosed Benefits Information Attachment. A separate package detailing COBRA will be mailed to your home shortly after your Termination Date. Your eligibility for COBRA is *not* contingent on your satisfaction or compliance with the conditions set forth below. It is important to highlight that, as described in the attached Benefits Information Attachment, you must complete the COBRA application you will receive from Aetna to continue your medical and dental coverage beyond your Termination Date.

(c) Outplacement. You will be entitled to seek outplacement services, at the Company's expense, from CareerArc.

(d) Expense Reimbursement: The Company will reimburse you for all actual reasonable and customary business expenses incurred by you (in the furtherance of Company business) on or prior to the Termination Date in accordance with the Company's regular expense reimbursement policies. In order to qualify for reimbursement, reimbursement requests for all such expenses must be submitted by [30 days after Termination Date].

(e) Other Benefits: Except as otherwise expressly stated in this letter or the enclosed Benefits Information Attachment, all of your benefits as an employee of the Company will terminate as of the Termination Date. You will be provided with more detailed information concerning your conversion options with respect to certain benefits under separate cover.

2. **Severance Benefits**

In addition to the benefits provided in Paragraph 2 of this letter, provided that you execute the Separation Agreement and Release in the form attached hereto as Exhibit A (the "SAR"), and return it to me within five (5) business days of the Termination Date, then, in consideration for such execution and the rights and obligations included in the SAR, the Company will provide the following additional payments and benefits:

(a) Salary Continuation. For a period of twelve (12) months after the Termination Date (the "Severance Period"), the Company will continue to pay you at the rate of pay equivalent to your annual Target Compensation (which shall mean $[_________]) in accordance with the Company's normal payroll practices and procedures and subject to all applicable deductions and withholdings

even if you obtain a position as an employee or consultant and/or commence working as an employee or consultant during the Severance Period. Such payment shall commence on the first payroll date after the Termination Date. Solely for purposes of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), each installment payment is considered a separate payment. No service will be required of you during the Salary Continuation Period. No vacation or floating holidays will accrue during the Salary Continuation Period.

(b) Medical and Dental Benefits. If you elect COBRA coverage (as explained in the Benefits Information Attachment), the Company will pay the COBRA premiums (less the amount you would have otherwise been required to contribute for your health benefits if you had continued on the Company's medical and dental plans with your current coverage elections) until the earlier of (i) twelve months after the Termination Date, or (ii) the date when you become eligible for substantially equivalent health insurance coverage in connection with new employment. Although your eligibility for COBRA (as described in the Benefits Information Attachment) is *not* contingent on your execution of the SAR, the Company's obligation to pay the COBRA premiums in accordance with this paragraph *is* contingent upon your execution of the SAR.

(c) FY Bonus. You will remain eligible to receive a pro-rata portion (based on the number of days employed with the Company during FY) of your bonus for the fiscal year ended November 30, ____ pursuant to the Company's Corporate Bonus Plan (the "Bonus Program"), such payment, if any, to be made at the attainment level applicable to other members of the Chief Executive Officer Staff otherwise in accordance with the terms of, and at the time provided in, the Bonus Program.

(d) Company Equity. All restricted stock units and stock options held by you which were granted prior to the Termination Date under the Company's stock option plans which would otherwise become fully vested, nonforfeitable and not subject to any restrictions during the one year period following the Termination Date shall instead become fully vested, nonforfeitable and not subject to any restrictions as of the Termination Date. For the avoidance of doubt, the attached Personnel Grant Status Report lists all RSUs and stock options that were vested by the passage of time through the Termination Date plus those that will be accelerated and vested by operation of this subparagraph. No other RSUs, stock options and Performance Share Units, including without limitation, PSUs issued to you relating to FY performance or under the Company's Long Term Incentive Plan, shall vest or be accelerated as a result of this subparagraph. Unvested RSUs and stock options that do not vest as a result of this subparagraph and PSUs, including those PSUs relating to FY performance and under the Company's Long Term Incentive Plan, will be cancelled on the Termination Date. Vested options must be exercised within ninety (90) days of the Separation Date; provided, that if you are subject to a trading blackout during such 90 days then you may exercise your vested options until the later of (i) the expiration of such 90 days, or (ii) ten (10) days after the end of the blackout period, whenever occurring, even if such blackout period continues beyond the ninety (90) day period; provided, that, in no event shall any vested option extend beyond the expiration date of such option. Vested but unexercised options will be cancelled on the date that is ninety (90) days following the Termination Date, except as provided in the prior sentence.

Nothing in this letter will serve to amend or modify the terms of your Employee Proprietary Information and Confidentiality Agreement.

Except as otherwise expressly stated in this letter or in the SAR, this document, together with its enclosures, supersedes and replaces any prior understandings or agreements, whether oral, written or implied between you and the Company regarding the matters described in this letter. It also represents the

entire consideration being offered to you in connection with the cessation of your employment with the Company.

The terms set forth in this letter, the SAR and the enclosed Benefits Information Attachment, to the extent applicable, represent the entire consideration being offered to you in connection with the termination of your employment with the Company.

Please acknowledge your acceptance of these terms by signing in the space below.

Sincerely,

ACKNOWLEDGED AND AGREED TO:

Date

SEPARATION AGREEMENT AND RELEASE

THIS SEPARATION AND RELEASE AGREEMENT (this "Agreement") is made as of [__________], between Progress Software Corporation, a Delaware corporation (the "Company"), and [_________] (the "Executive").

R E C I T A L S

A. The Executive has served as the [_______________] of the Company.

B. The Company and the Executive have agreed that the employment of the Executive with the Company shall terminate on [________________].

C. The Company has agreed to provide the Executive with certain severance benefits in connection with the Executive's termination of employment, as set forth in the letter, dated as of [_____________], from the Company to the Executive (the "Termination Letter").

D. The Executive accepts the terms of the Agreement.

In consideration of the mutual covenants herein contained and in consideration of the severance and benefits provided in the Termination Letter, the parties agree as follows.

1. Covenants of the Executive. In consideration for, among other things, the severance and other payments provided in the Termination Letter, Executive agrees to the following covenants.

(a) Return and Protection of Company Property. Executive agrees to return to the Company all Company documents and property (except as set forth above) no later than five (5) days after the Termination Date and to abide by the terms of his Employee Proprietary Information and Confidentiality Agreement dated as of [__________] (the "Proprietary Information Agreement").

(b) Cooperation. Executive agrees to make himself available to the Company after the Termination Date either by telephone or in person upon reasonable notice and with reasonable accommodation to the Executive's personal and business affairs, to assist the Company in connection with any matter relating to services performed by Executive on behalf of the Company prior to the Termination Date. The Executive, also upon reasonable notice and with reasonable accommodation to his personal and business affairs, further agrees to cooperate with the Company in the defense or prosecution of any claims or actions now in existence or which may be brought or threatened in the future against or on behalf of the Company, its directors, shareholders, officers, or employees and which relates to the aforesaid services, including without limitation, by meeting with the Company's counsel and appearing to testify truthfully in any proceeding without the necessity of a subpoena. The Company shall reimburse the Executive for his reasonable documented travel expenses incurred in connection with such cooperation. Notwithstanding the aforesaid, the Executive's obligations set forth above shall not apply to any matter in which the Executive's interests are materially adverse to those of the Company. Reimbursements of expenses shall be paid within thirty (30) days of the Company's receipt of an invoice from the Executive or his designee for the same. Any reimbursement in one calendar year shall not affect the amount that may be reimbursed in any other calendar year and a reimbursement (or right thereto) may not be exchanged or liquidated for another benefit or payment. Any business expense reimbursements subject to Section 409A of the Internal Revenue Code shall be made no later than the end of the calendar year following the calendar year in which such business expense is incurred by Executive. The Executive shall submit any such expense requests in a sufficiently timely manner so as to permit the Company to comply with the previous sentence.

(c) Non-Competition.

(i) Executive recognizes the highly competitive nature of the Company's business and that Executive's position with the Company and access to and use of the Company's confidential records and proprietary information renders the Executive special and unique. Executive hereby agrees that for a period of twelve (12) months from the Termination Date (the "Restricted Period"), he shall not, directly or indirectly, own, manage, operate, join, control, participate in, invest in or otherwise be connected or associated with, in any manner, including as an officer, director, employee, independent contractor, stockholder, member, partner, consultant, advisor, agent, proprietor, trustee or investor, any Competing Business (as defined below); *provided*, however, that (i) ownership of two percent (2%) or less of the stock or other securities of a publicly traded corporation and (ii) passive ownership of less than a five percent (5%) interest as a limited partner of a venture capital fund, private equity fund or similar investment vehicle or ownership of shares in a mutual fund shall not constitute a breach of this Section, in each case under this clause (ii), with respect to which the Executive has no role in the review, selection or management of any investments. For purposes hereof, the term, "Competing Business," shall mean [________________________].

(ii) Notwithstanding the foregoing, if the Executive seeks employment with any subsidiary, division, affiliate or unit of a Competing Business (a "Related Unit") and if that Related Unit does not compete with the Company or any subsidiary or other affiliate (a "Noncompeting Related Unit"), the Executive may request a waiver of this Section 1(c) with respect to employment with such Noncompeting Related Unit. The Company shall not unreasonably withhold its agreement to such a waiver; *provided* that in no event may the Executive, engage in or assist in the activities of any Related Unit that competes with the Company or any subsidiary or other affiliate at any time during the Restricted Period.

(iii) Executive acknowledges that the business of the Company is worldwide in scope and therefore understands and agrees that this section 1(c) applies to anywhere within the United States of America. Executive further agrees that the nature of the Company's confidential information and the goodwill relationship that were developed for the Company during the Executive's employment support the continuation of the restrictions pursuant to this Section for twelve (12) months. Notwithstanding the foregoing, if a court determines that the geographic scope of this Section or the length of the Restricted Period is excessive, the parties agree that this Section should be enforced to the maximum extent that the court determines to be permissible.

(iv) The parties agree that, throughout his employment with the Company, the Executive has been obligated to render personal services of a special, unique, unusual, extraordinary and intellectual character, thereby giving this Agreement special value, and, in the event of a breach or threatened breach of the covenants of the Executive in this Section 1, the injury or imminent injury to the value and the goodwill of the Company's business could not be reasonably or adequately compensated in damages in an action at law. Accordingly, the Executive acknowledges that, in addition to any other remedies that may be awarded, the Company shall be entitled to specific performance, injunctive relief or any other equitable remedy against the Executive, without the posting of a bond, in the event of any breach or threatened breach of any provision of this Agreement by the Executive.

(d) Non-Disparagement. Executive agrees that during the Restricted Period, except as required by law or to enforce the terms of this Agreement, Executive shall not make any disparaging statements about the Company (including for these purposes any subsidiary or affiliate), its officers, directors, employees, products or services. For purposes of this Agreement, statements in the course of testimony in a legal or regulatory proceeding or in response to an inquiry by a governmental or other regulatory entity shall be considered to be "required by law."

(e) Release.

(i) In consideration of the severance and other benefits provided in the Termination Letter, Executive, on behalf of himself and his heirs, administrators, executors, successors and assigns, hereby voluntarily releases and forever discharges the Company, its past, present and future subsidiaries and affiliates, and its and their respective past, present and future directors, officers, agents, shareholders, attorneys and employees and all of their respective heirs, successors, predecessors, and assigns, (collectively the "Releasees") of and from any and all claims, suits, liabilities, demands, debts, damages, costs, obligations, agreements and causes of action of any kind whatsoever, at law, in equity or otherwise known or unknown, or on any other basis which Executive has or may have, either now or at any time before now, against the Company, including but not limited to any claims based on Executive's employment with the Company or the termination of Executive's employment with the Company or any other relation with the Company, any claims of wrongful discharge, any claims of intentional or negligent misrepresentation, any claims of discrimination, any claims under the Worker Adjustment and Retraining Notification Act (WARN) of 1988, the Equal Pay Act, the Fair Labor Standards Act, the Employee Retirement Income Security Act of 1974, federal Family and Medical Leave Act; the federal Sarbanes-Oxley Act; and any claims under the common law or any statute including, without implication of limitation, Title VII of the Civil Rights Act of 1964, the Civil Rights Act of 1991, the Americans with Disabilities Act, the Rehabilitation Act of 1973, the Massachusetts Fair Employment Practices Act, Mass. Gen. Laws ch. 151B, § 1 et seq., the Massachusetts Civil Rights Act, Mass. Gen. Laws ch.12, § 11H et seq., the Massachusetts Equal Rights Act, Mass. Gen. Laws ch. 93, § 102 and Mass. Gen. Laws ch. 214, § 1C, the Massachusetts Labor and Industries Act, Mass. Gen. Laws ch. 149, § 1 et seq., the Massachusetts Privacy Act, Mass. Gen. Laws ch. 214, § 1B et seq., and the Massachusetts Family and Medical Leave Act, Mass. Gen. Laws ch. 149, § 52D et seq as these statutes have been from time to time amended, and any and all other federal, state, county or local ordinances, statutes or regulations, all as may be amended, and any other claim relating to or arising out of Executive's employment with or separation from the Company. Executive also hereby waives any claim for attorneys' fees or costs and any claim for reinstatement. Further, except for benefits under any Company benefit plans that have vested or will vest according to the terms of those plans, the Company does not have, and shall not have, any obligation to provide Executive with any payments, benefits, or consideration other than the payments set forth in this Agreement. This release, however, does not apply to Executive's right to seek enforcement of the terms of this Agreement.

(ii) Notwithstanding the generality of the preceding paragraph, the above release and waiver of claims applies only to the extent permitted by law and, in the event any charge or claim is permitted by law, Executive expressly waives his right to recover any relief, damages, and/or monetary benefit as a result of any such charge or claim.

(iii) In addition, Executive does not intend to release the following: (a) any rights that Executive may have under any directors and officers insurance policy that Executive may have been covered under while an employee of the Company; and (b) any rights that Executive may have to indemnification under any provision of the Company's bylaws and/or the Company's certificate of incorporation.

(iv) Nothing in this Agreement shall prohibit or restrict Executive from (a) providing information to, or otherwise assisting in, an investigation by the Massachusetts Commission Against Discrimination ("MCAD"), the United States Congress, the Securities and Exchange Commission ("SEC"), the Equal Employment Opportunity Commission ("EEOC"), the National Labor Relations Board ("NLRB") or any other federal regulatory or law enforcement agency or self-regulatory organization ("SRO") and/or (b) testifying, participating, or otherwise assisting in a proceeding relating to

an alleged violation of any federal law relating to fraud or any rule or regulation of the MCAD, SEC, EEOC, NLRB or any SRO.

(v) Executive represents and warrants that he has received all leave (paid or unpaid), compensation, wages, bonuses, commissions, and/or benefits to which he may be entitled and that no other leave (paid or unpaid), compensation, wages, bonuses, commissions, and/or benefits are due to Executive, except as provided in the Termination Agreement. Executive furthermore affirms that he has no known workplace injuries or occupational diseases and have not been denied any leave requested under the Family and Medical Leave Act.

(vi) Executive hereby acknowledges that he has been given a reasonable time to consider this Agreement before executing it. If this Agreement is not signed by Executive and returned to the Company so that the Company receives it no later than the close of business on the date that is five business days after the Termination Date, then the severance benefits provided in this Agreement will not be provided to Executive by the Company. In the event that Executive executes and returns this Agreement by the date that is five days after the Termination Date, acknowledges that such decision was entirely voluntary and that he had the opportunity to consider the terms and conditions set forth in this Agreement for the entire period, then the severance benefits provided in the Termination Letter will be provided to Executive by the Company.

(vii) Except as expressly set forth in this Agreement, no representations of any kind or character have been made to Executive by the Company, or by any of their respective directors, officers, employees, representatives, or attorneys, to induce the execution of this release. Executive further acknowledges that the only representations made to Executive in order to obtain my consent to this Agreement are set forth in this Agreement, and that Executive is signing this Agreement voluntarily and without coercion, intimidation or threat of retaliation. **Executive further acknowledges that he has been advised to consult with an attorney before signing this Agreement and that he has had an opportunity to seek the advice of legal counsel and that the terms of this release have been completely read by Executive and that those terms are fully understood by Executive.**

2. Successors

(a) Company's Successors. Any successor to the Company (whether direct or indirect and whether by purchase, lease, merger, consolidation, liquidation or otherwise) or to all or substantially all of the Company's business and/or assets shall assume the obligations under this Agreement and agree expressly to perform the obligations under this Agreement in the same manner and to the same extent as the Company would be required to perform such obligations in the absence of a succession. For all purposes under this Agreement, the term "Company" shall include any successor to the Company's business and/or assets which executes and delivers the assumption agreement described in this subsection (a) which becomes bound by the terms of this Agreement by operation of law.

(b) Executive's Successors. The terms of this Agreement and all rights of the Executive's hereunder shall inure to the benefit of, and be enforceable by, the Executive's personal or legal representatives, executors, administrators, successors, heirs, distributes, devisees and legatees.

3. Notice. Notices and all other communications contemplated by this Agreement shall be in writing and shall be deemed to have been duly given when personally delivered or when mailed by U.S. registered or certified mail, return receipt requested and postage prepaid. In the case of the Executive, mailed notices shall be addressed to him or her at the home address which he or she most recently communicated to the Company in writing. In the case of the Company, mailed notices shall be addressed to its corporate headquarters, and all notices shall be directed to the attention of its Legal Department.

4. Miscellaneous Provisions

(a) Waiver. No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed in writing and signed by the Executive and by an authorized officer of the Company (other than the Executive). No waiver by either party of any breach of, or compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(b) Entire Agreement. Except with respect to the terms of the Termination Letter, which is incorporated in its entirety herein, no agreements, representations or understandings (whether oral or written and whether express or implied) which are not expressly set forth in this Agreement have been made or entered into by either party with respect to the subject matter hereof.

(c) Choice of Law. The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the Commonwealth of Massachusetts. Any dispute arising under or in connection with this Agreement or related to any matter which is the subject of this Agreement shall be subject to the exclusive jurisdiction of the state and/or federal courts located in Massachusetts.

(d) Assignment by Company. The Company may assign its rights under this Agreement to an affiliate and an affiliate may assign its rights under this Agreement to another affiliate of the Company or to the Company; provided, however, that no assignment shall be made if the net worth of the assignee is less than the net worth of the Company at the time of the assignment. In the case of any such assignment, the term "Company" when used in a section of the Agreement shall mean the corporation that actually employs the Executive.

(e) Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together will constitute one and the same instrument.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the date first above written.

Progress Software Corporation

By: ___________________________

____

Exhibit 21.1

Subsidiaries of Progress Software Corporation

Jurisdiction	Name
North America	
California	Savvion, Inc.
Canada	Progress Software Corporation of Canada Ltd.
Delaware	Apama Inc.
Delaware	DataRPM LLC
Delaware	Kinvey LLC
Delaware	Persistence Software LLC
Delaware	Progress Software International LLC
Delaware	Progress Software Denmark A/S
Delaware	Progress Software Germany GmbH
Massachusetts	Oak Park Realty LLC
Massachusetts	Oak Park Realty Two LLC
Massachusetts	Progress Security Corporation
Pennsylvania	Genesis Development Corporation
EMEA	
Austria	Progress Software GesmbH
Belgium	Progress Software NV
Bulgaria	Progress Software EAD
Bulgaria	Trident Acquisition EAD
Denmark	Progress Software A/S
Finland	Progress Software Oy
France	Progress Software S.A.S.
Germany	Progress Software GmbH
Ireland	Progress Software Technologies Limited
Ireland	SPK Acquisitions Limited
Italy	Progress Software Italy S.r.l.
Netherlands	Progress Software B.V.
Netherlands	Progress Software Europe B.V.
Norway	Progress Software A/S
Poland	Progress Software Sp. z.o o.
South Africa	Progress Software (Pty) Ltd
Spain	IONA Technologies Spain SL
Spain	Progress Software S.L.
Sweden	Progress Software Svenska AB
Switzerland	Progress Software AG
United Kingdom	Apama (UK) Limited
United Kingdom	Trident Acquisition Limited
United Kingdom	Progress Software Limited
Latin America	
Brazil	Progress Software do Brasil Ltda.

Asia Pacific	
Australia	Progress Software Pty. Ltd.
China	Progress (Shanghai) Software System Company Limited
Hong Kong	IONA Technologies China Limited
Hong Kong	Progress Software Corporation Limited
India	DataRPM India Private Limited
India	Progress Software Development Private Limited
India	Progress Software Solutions India Private Limited
India	Telerik India Private Limited
Japan	Progress Software Japan KK
Malaysia	Progress Software (M) Sdn. Bhd.
Singapore	Progress Software Corporation (S) Pte. Ltd.

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 33-50654, 33-96320, 333-41403, 333-80571, 333-98035, 333-101239, 333-122962, 333-146233 and 333-150555 on Form S-8 and No. 333-133724 on Form S-3 of our reports dated January 27, 2020, relating to the financial statements of Progress Software Corporation, and the effectiveness of Progress Software Corporation's internal control over financial reporting, appearing in this Annual Report on Form 10-K of Progress Software Corporation for the year ended November 30, 2019.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
January 27, 2020

Exhibit 31.1

CERTIFICATION

I, Yogesh K. Gupta, certify that:

1. I have reviewed this Annual Report on Form 10-K of Progress Software Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure control and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):

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: January 27, 2020

/s/ YOGESH K. GUPTA

Yogesh K. Gupta
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION

I, Paul A. Jalbert, certify that:

1. I have reviewed this Annual Report on Form 10-K of Progress Software Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure control and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):

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: January 27, 2020

/s/ PAUL A. JALBERT

Paul A. Jalbert
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

Certification 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 on Form 10-K of Progress Software Corporation (the Company) for the year ended November 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the Report), each of the undersigned, Yogesh K. Gupta, President and Chief Executive Officer, and Paul A. Jalbert, Chief Financial Officer, of the Company, certifies, to the best knowledge and belief of the signatory, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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.

/s/ YOGESH K. GUPTA	/s/ PAUL A. JALBERT
President and Chief Executive Officer	Chief Financial Officer
Date: January 27, 2020	Date: January 27, 2020