

Upland Software, Inc.
Form 10-K
March 15, 2019

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

FORM 10-K

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

For the fiscal year ended December 31, 2018

OR

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

Commission File Number 001-36720

Upland Software, Inc.

(Exact name of registrant as specified in its charter)

Delaware 27-2992077

(State or other jurisdiction of (I.R.S. Employer
incorporation or organization) Identification Number)

401 Congress Ave., Suite 1850

Austin, Texas 78701

(512) 960-1010

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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

Title of each class	Name of each exchange on which registered
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Common Stock, par value \$0.0001 per share	The Nasdaq Global Market
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Securities registered pursuant to Section 12(g) of the Act:

None

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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.

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Large accelerated filer " Accelerated filer x

Non-accelerated filer " Smaller reporting company "

Emerging growth company x

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. x

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

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately \$568 million based upon the closing price of \$34.37 of such common stock on the Nasdaq Global Market on June 29, 2018 (the last business day of the registrant's most recently completed second fiscal quarter). Shares of common stock held as of June 29, 2018 by each director and executive officer of the registrant, as well as shares held by each holder of 10% of the common stock known to the registrant, have been excluded for purposes of the foregoing calculation.

This determination of affiliate status is not a conclusive determination for other purposes.

As of March 1, 2019, 21,494,738 shares of the registrant's Common Stock were outstanding.

Documents incorporated by reference:

Certain portions, as expressly described in this Annual Report on Form 10-K, of the registrant's Proxy Statement for the 2019 Annual Meeting of the Stockholders, to be filed not later than 120 days after the end of the year covered by this Annual Report, are incorporated by reference into Part III of this Annual Report where indicated.

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PART I

Special Note Regarding Forward Looking Statements

This Annual Report on Form 10-K contains “forward-looking statements” within the meaning of Section 27A of the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”).

Forward-looking statements generally relate to future events or our future financial or operating performance.

Forward-looking statements may be identified by the use of forward-looking words such as “anticipate,” “believe,” “may,” “will,” “continue,” “seek,” “estimate,” “intend,” “hope,” “predict,” “could,” “should,” “would,” “project,” “plan,” “expect” or

plural of these words or similar expressions, although not all forward-looking statements contain these words. These forward-looking statements include, but are not limited to, statements concerning the following:

- our financial performance and our ability to achieve or sustain profitability or predict future results;
- our plans regarding future acquisitions and our ability to consummate and integrate acquisitions;
- our ability to obtain financing in the future on acceptable terms or at all;
- our expectations with respect to revenue, cost of revenue and operating expenses in future periods;
- our ability to attract and retain customers;
- our ability to successfully enter new markets and manage our international expansion;
- our ability to comply with privacy laws and regulations;
- our ability to deliver high-quality customer service;
- the growth of demand for enterprise work management applications;
- our plans regarding, and our ability to effectively manage, our growth;
- maintaining our senior management team and key personnel;
- our ability to maintain and expand our direct sales organization;
- the performance of our resellers;
- our ability to adapt to changing market conditions and competition;
- our ability to adapt to technological change and continue to innovate;
- economic and financial conditions;
- our ability to integrate our applications with other software applications;
- maintaining and expanding our relationships with third parties;
- costs associated with defending intellectual property infringement and other claims;
- our ability to maintain, protect and enhance our brand and intellectual property;
- our expectations with regard to trends, such as seasonality, which affect our business;
- our expectations with regard to revenue from perpetual licenses and professional services;
- our beliefs regarding the sufficient duration of our patents;
- our plans with respect to foreign currency exchange risk and inflation;
- our beliefs regarding how our applications benefit customers and what our competitive strengths are; and
- other risk factors included under “Risk Factors” in this Annual Report on Form 10-K.
- the operation and reliability of our third-party data centers; and
- our expectations as to the payment of dividends;

You should not rely upon forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this Annual Report on Form 10-K primarily on our current expectations and projections about future events and trends that we believe may affect our business, financial condition, results of operations, and prospects. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties, and other factors, including those described in the section titled “Risk Factors” and elsewhere in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Annual Report on Form 10-K. We cannot assure you that the results, events, and circumstances reflected in the forward-looking statements will be achieved or occur, and actual results, events, or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made in this Annual Report on Form 10-K relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this Annual Report on Form 10-K to reflect events or circumstances after the date of this Annual Report on Form 10-K or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions, or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, or investments we may make. All references to “Upland,” “we,” “us” or “our” mean Upland Software, Inc.

Item 1. Business

Upland provides cloud-based enterprise work management software that enables organizations to plan, manage and execute projects and work. Our software applications address enterprise work challenges in the following enterprise solution categories:

Customer Experience Management. Upland Customer Experience Management, or CXM, solutions enable organizations to manage customer relationships across multiple channels - including email, short message service, or SMS, multimedia messaging service, or MMS, web, social, and mobile apps. Upland products within this solution suite include Upland Mobile Messaging, Rant & Rave, Adestra, and RightAnswers.

Sales Enablement. Upland Sales Enablement solutions enable sales organizations to automate delivery of processes, sales activities, content, systems, and metrics at multiple stages of the sales process. Upland products within this solution suite include Qvidian, RO Innovation, and LeadLander.

Professional Services Automation. Upland Professional Services Automation, or PSA, solutions enable service organizations to manage professional services delivery and related functions. Upland products within this solution suite include Tenrox, RightAnswers, FileBound, RO Innovation, and Qvidian.

Project and Financial Management. Upland Project and Financial Management solutions enable enterprises to manage project portfolios and track, analyze and manage information technology (“IT”), cloud, and telecom spending. Upland products within this solution suite include PowerSteering, Eclipse PPM, RightAnswers, and ComSci.

Enterprise Knowledge Management. Upland Enterprise Knowledge Management, or KM, solutions enable knowledge-sharing across different departments within an enterprise. Upland products within this solution suite include RightAnswers, Tenrox, and PowerSteering.

Secure Document Services. Upland Secure Document Services solutions enable enterprises to manage and automate document intensive business processes with data security through scan and fax platforms, data monitoring and breach prevention capabilities, and the automated routing of content to its final destination. Upland products within this solution suite include AccuRoute, FileBound, and InterFAX.

Document Lifecycle Automation. Upland Document Lifecycle solutions enable users to digitize, organize, automate, integrate, analyze and optimize high volume processes. Upland products within this solution suite include AccuRoute, FileBound, Qvidian, and RO Innovation.

Our customers currently use our applications in the following functional areas:

Project Management. Business leaders and Project Management Offices, or PMOs, use our applications to optimize project portfolios, balance capacity against demand, improve financial-based decision making, align execution of projects to strategy across large organizations, and manage the entire project delivery lifecycle. Our applications deliver value to project management across a variety of use cases including continuous improvement, enterprise IT, new product development, and services departments along with industry depth in higher education, public sector, and healthcare IT.

Information Technology. IT departments use our applications to manage a variety of IT activities and resources across the enterprise. Our applications help information technology departments ensure they are delivering against the objectives of the business by helping them select and prioritize the right investments, gain greater control of resource demand and allocation, and track and report benefit realization. Our applications enable executives to gain better insight into IT spending to help prevent cost overruns and understand the nature of consumption.

Business Operations. Different functional departments use our applications to streamline operations and accelerate business performance across their value chain. Upland solutions in this area range from supply chain collaboration and factory management, back office document and vendor management, to applications that improve sales responsiveness.

Sales and Marketing. Sales and marketing teams employ our applications to drive growth through deeper customer engagement, reduced sales cycle times, and overall improved collaboration between sales, marketing, and other customer-facing functions. We offer applications that help organizations to build their online and mobile brand presence, engage their target audiences across multiple communications channels, collaborate on the creation and publication of content, and gain increased control over marketing workflows, activities, and budgets.

Call Center. Customer service and support environments use our applications to enable agents to resolve issues and to engage customers. We offer applications that improve customer experience and reduce call volume and cycle times through customer self-service tools and Voice of Customer, or VoC, technology that captures customer sentiment in real-time. Upland also offers tools that improve call center agent productivity by providing more direct access to knowledge and to customer sentiment thereby improving both inbound call outcomes and proactive outbound success. Additional solutions help call center leadership to manage agent performance and measure real-time performance relative to call resolution and customer sentiment, improve performance through gamification, and gather agent feedback to keep employee engagement high.

Human Resources and Legal. Human resources, or HR, legal departments, and law firms use our applications to improve collaboration and operational control and streamline routine processes. We offer applications that automate document management and workflow including, contracts, records, and other documentation that require enhanced security and compliance requirements. Other applications support HR-specific workflows including onboarding, employee management, termination, HR support, and time and expense management.

Through a series of acquisitions and integrations, we have built a diverse family of software applications under the Upland brand that are delivered through seven enterprise solution suites, each of which addresses a specific enterprise work management need. For the twelve months ended December 31, 2018, compared to the twelve months ended December 31, 2017, our total revenue grew from \$98.0 million to \$149.9 million, representing a 53% period-over-period growth rate. For the twelve months ended December 31, 2018, compared to the twelve months ended December 31, 2017, our subscription and support revenue grew from \$85.5 million to \$136.6 million, representing a 60% period-over-period growth rate. See Note 12 Revenue Recognition, of the Notes to Consolidated Financial Statements for more information regarding our revenue as it relates to domestic and foreign operations. To support continued growth, we intend to continue to pursue acquisitions within our core enterprise solution suites of complementary technologies and businesses. This will expand our customer base and market access, resulting in increased benefits of scale. Consistent with our growth strategy, we have made a total of 20 acquisitions in the 7 years ending December 31, 2018.

The operating platform that we use to transform acquired companies and maintain a consistently high level of operating performance is called UplandOne. This platform consists of six key areas:

High-Touch Customer Success Program. Customer success is a continuous journey based on open communication and establishing clear goals towards value realization and maximum customer success. To achieve this, we have institutionalized a set of unique customer commitments and deliverables we call the Upland Customer Success Program that includes onboarding and training, a dedicated customer success representative, upgraded success plans, quarterly virtual user conferences, periodic executive outreach and Net Promoter Score, or NPS, surveys, and an ongoing customer feedback loop.

Quality-Focused R&D. Our approach to R&D at Upland is straight-forward: prioritize customer need, leverage a metrics-driven agile approach with visibility and accountability, and deploy the most up-to-date development systems to ensure quality is built into every step of development.

Customer-Driven Innovation. Customer feedback is at the heart of the Upland customer experience. New features are added and prioritized in our product roadmaps, and then fine-tuned, based on direct customer input. Requests from our Premier Success Plan customers are given additional priority weighting for new features and minor issue resolution. Product feedback outlets include customer success account management, quarterly virtual user conferences, annual customer advisory boards, and Upland's online communities.

Expert Professional Services. Through our Professional Services organization, Upland is committed to delivering the most value from a customer's Upland investment in the shortest possible time. Once we engage on a project, we dedicate a team to the planning, configuration, integration, launch, administration and maintenance of the application. 24x7 Global Support. Upland Global support includes: prioritized issue escalation and resolution; online and phone support, 24/7/365; access to a community to share and discuss best practices, support tips, training materials, and custom reports; a knowledge-base with alerts, service recommendations, and troubleshooting content; unlimited case submissions and real-time case updates; and full support across the globe. For customers

that have more urgent support requirements, Upland Premier Success Plans provide enhanced response times and availability for the most severe support requests.

Enterprise Cloud Platform. Upland's products run on an enterprise-class cloud environment - delivering power, reliability, and flexibility. We utilize Amazon Web Services, or AWS, for all our cloud-based products and move acquired products to AWS in connection with our acquisition integration program. Upland's cloud technology gives customers the freedom from legacy applications without having to compromise security or scalability. Our applications are scalable and can support large deployments while maintaining required performance levels.

Our operating results in a given period can fluctuate based on the mix of subscription and support, perpetual license, and professional services revenue. For the twelve months ended December 31, 2018, 2017 and 2016, our subscription and support revenue accounted for 91%, 87% and 88% of total revenue, respectively. Historically, we have sold certain of our applications under perpetual licenses, which also are paid in advance. For the twelve months ended December 31, 2018, 2017 and 2016, our perpetual license revenue accounted for 3%, 4% and 2% of total revenue, respectively. The support agreements related to our perpetual licenses are typically one-year in duration and entitle the customer to support and unspecified upgrades. The revenue related to such support agreements is included as part of our subscription and support revenue. Professional services revenue consists of fees related to implementation, data extraction, integration and configuration, and training on our applications. For the twelve months ended December 31, 2018, 2017 and 2016, our professional services revenue accounted for 6%, 9% and 10% of total revenue, respectively.

Our Competitive Strengths

We believe the following competitive strengths are keys to our success:

Large, diversified customer base. Our customer base is highly diverse and spans a broad array of industries, including financial services, retail, technology, manufacturing, legal, education, consumer goods, media, telecommunications, government, non-profit, food and beverage, healthcare and life sciences. We service customers of varying size, ranging from large global corporations and government agencies to small- and medium-sized businesses. We have over 9,000 customers, with no customer accounting for more than 3% of our revenue.

Diversified family of software solutions. We offer a family of cloud-based enterprise work management software solutions that addresses a broad range of enterprise needs. We believe this benefits our customers as compared to many of our cloud-based competitors who offer only a single point solution for a more limited and discrete need.

Recurring revenue model with high visibility. We believe we have an attractive operating model due to the recurring nature of our subscription revenue, which results in greater visibility and predictability of future revenue and enhances our ability to effectively manage our business. In addition, the cloud-based nature of our model accommodates significant additional business volume with limited incremental costs, providing us with opportunities to improve our operating margins.

Proven M&A capability. We have a proven ability to successfully identify, acquire and integrate complementary businesses to grow our company, as evidenced by the 20 acquisitions we have completed since the beginning of 2012. We believe that our acquisition experience and strategy give us a competitive advantage in identifying additional opportunities to expand our family of software applications to better serve our customers.

Experienced, proven management team. Our management team has significant operating experience and previously occupied key leadership roles at both private and public companies. In addition, our management's extensive knowledge of the industry and experience in building businesses has enabled us to quickly establish a leading position within the enterprise software market.

Cloud-based delivery. We deliver our software applications and functionality primarily through the cloud, with no hardware or software installation required by our customers. This delivery model allows us to provide reliable, cost-effective applications to our customers, add subscribers with minimal incremental effort and deploy new functionality and upgrades quickly and efficiently. We

believe our cloud-based delivery model provides us with a competitive advantage over legacy processes and on-premise systems.

Commitment to customer success. We have a dedicated customer success organization whose mission is to drive adoption, value realization, retention, and loyalty across our customer base. Our focus on enabling our customers' success is a key reason our annual net dollar retention rate, as defined in "Item 7. - Management's Discussion and Analysis" herein, was 98% as of December 31, 2018. Our commitment to customer success has enabled us to expand our footprint within customer organizations and facilitate the ongoing adoption of our enterprise software applications. We utilize NPS methodology to track our progress and drive continuous improvement.

Our Strategy for Growth

We believe the key elements of our strategy for growth are as follows:

Acquire complementary software businesses. We intend to pursue acquisitions of complementary technologies, products, and businesses to expand our product families and customer base, and to provide access to new markets and increased benefits of scale. Our experienced corporate development team continually monitors a pipeline of potential acquisition candidates, many of which are smaller in scale or address only limited enterprise challenges, which often operate outside the scope of some of our larger competitors. We believe that our acquisition experience and strategy give us a competitive advantage in identifying additional opportunities to expand our family of cloud-based applications to better serve our customers. We intend to prioritize acquisitions within the solution categories we currently offer.

Increase sales to existing customers. We believe there is a significant opportunity to expand the adoption of our applications within our existing customer organizations, particularly within divisions or departments that have not previously used our applications. We also intend to cross-sell additional applications to our existing customers, as very few of our customers currently use more than one of our applications. In addition, we intend to add new applications to our family of applications that will address additional functions within the enterprise spectrum. We believe these initiatives will significantly increase the value of our platform to our customers, further strengthen our competitive position, and drive increased adoption of multiple applications by our customers.

Add new customers. We maintain direct sales and marketing capabilities to further grow our customer base. We also maintain indirect sales channels through alliances with strategic partners that can leverage our applications with their complementary services and technologies. In addition, we continue to expand the range of integrations between our software and third-party applications and platforms, which we believe make our applications more attractive to a broader audience of potential customers.

Expand globally. We believe there is an opportunity to grow sales of our applications globally. During the years ended December 31, 2018, 2017, and 2016, approximately 22%, 18%, and 16%, respectively, of our revenue was derived from sales outside the United States. Over the next several years, we plan to continue to evaluate growth opportunities outside the United States through selective acquisitions, the hiring of additional sales personnel, and entering into strategic partnerships.

Improve and enhance applications. We intend to continue to invest in research and development and work closely with our customers to identify and improve new applications, features and functionalities that address customer requirements across the enterprise spectrum. We also intend to continue to expand the breadth of our applications with additional analytics, third-party integrations, and social and mobile capabilities to meet the evolving needs of today's knowledge workers.

Customers

We service customers ranging from large global corporations and government agencies to small- and medium-sized businesses. Our customers operate in a wide variety of industries, including financial services, retail, technology, manufacturing, legal, education, consumer goods, media, telecommunications, government,

non-profit, food and beverage, healthcare and life sciences, chemicals, and travel and hospitality. For the year ended December 31, 2018 approximately 80% of our recurring revenue was generated from what we consider to be major accounts, those customers with contracted annual recurring revenue of \$25,000 or more. No customer represented more than 3% of our revenue for the year ended December 31, 2018.

Sales

We sell primarily through a direct sales organization comprised of inside sales and field sales personnel. In addition to our direct sales organization, we have an indirect sales organization that sells to distributors and value-added resellers. We employ a land-and-expand go-to-market strategy. After we demonstrate the value of an initial application to a customer, our sales and account management teams work to expand the adoption of that initial application across the customer, and cross-sell additional applications to address other enterprise work management needs of the customer. Our customer success organization supports our direct sales efforts by managing the post-sale customer lifecycle. Our subscription agreements are typically sold either on a per-seat basis or on a minimum contracted volume basis with overage fees billed in arrears, depending on the application being sold. Contract terms typically range from one to three years and are prepaid annually in advance.

Marketing

Our marketing activities are designed to build awareness of the Upland brand and the solutions we offer, generate thought leadership, and create demand, resulting in leads and opportunities for our sales organizations. We focus a significant portion of our marketing activities on our existing installed base of customers to drive expansion and cross-sell opportunities. Our marketing programs target decision makers and influencers who participate in a buying cycle, including the chief information officer, the chief marketing officer, the chief financial officer, the director of process excellence, and other key technology and business managers. Our principal marketing programs include: use of our website to provide information about us and our software applications, as well as educational opportunities for potential customers;

field marketing events for customers and prospective customers;

participation in, and sponsorship of, executive events, trade shows, and industry events;

our online virtual user conferences;

integrated digital marketing campaigns, including email, online advertising, blogs, and webinars;

public relations, analyst relations, and social media initiatives; and

sales representatives who respond to incoming leads to convert them into new sales opportunities.

Customer Success

Our customer success organization is structured to manage all aspects of our post-sale customer lifecycle. This organization consists of dedicated teams with a mission to drive adoption of our products, value realization, retention, and loyalty across our customer base. Our customer success organization has four core functional areas with strategic focus on customer relationship management:

Customer Care. Our customer care team assists customers throughout their lifecycle with the Upland family of applications by making service offerings available to all customers as part of their standard customer agreements, including webinars, virtual user conferences, and online community engagement.

Professional Services. Our professional services team is responsible for coordinating all activities relating to the implementation, transition, and on-boarding of new customers and assisting new customers with the addition of new applications to their accounts. Typical professional services engagements vary in length from a few weeks to several months depending on the size and scope of the engagement and are in addition to services provided under our standard customer agreement and are fee-

based. In addition, our project managers and consultants work closely with our customers to provide services that help customers maximize the utility of our applications.

Account Management. We assign each customer an account team with a relationship manager who functions as the customer's single point of contact and advocate within Upland. Our account management teams are trained on all of our applications and work closely with the relationship manager to ensure that our customers receive high-quality consultative service.

Customer Support. We offer support from all of our office locations to help our customers maximize the return on their investment in our applications. We provide 24/7/365 customer support around the world through our online customer support portal. In addition, our customer support team manages and administers the Upland customer community forum and knowledge base repository.

Our customer success organization manages programs to reinforce the ongoing business value of our applications. These service offerings include:

Health Checks and Program Reviews where we engage core users and business buyer sponsors to deliver a detailed scorecard and recommendation report.

Advisory and Retained Services that provide our customers with access to a specific customer success contact with priority scheduling and periodic checkpoints.

System Deployment and Adoption Analysis programs to analyze system configuration and usage patterns, resulting in best practice recommendations on improving user adoption and compliance.

Consumption Review and Recommendations designed to deliver best practice recommendations for implementation strategy and a roadmap proposal for aligning the system with customers' evolving process maturity to increase application usage.

Premier Success Plans that provide a bundled services, support, and product experience offering with three tiers (standard, gold and platinum) designed to provide maximum customer value.

Executive Outreach where we promote open communication between the Upland leadership team, which is fully committed to making sure customers are delighted with their Upland experience, and customer executives.

Technology and Operations

Our cloud-based family of applications utilizes a multi-tenant architecture and our customers access our applications using a secure Internet connection through a standard web browser. Our applications are easy to deploy, highly configurable, scalable, flexible, and secure, and provide our customers with a modern and intuitive user experience. We have partnered with AWS to provide the hardware and infrastructure necessary to provide our services to our customers. AWS facilities provide 24/7/365 security, biometric access controls, redundant networking, power and environmental systems, and monitoring. Upland Software designs and operates the infrastructure architecture with fully redundant subsystems, highly available configurations, and defense in depth security zones.

Our applications are built on highly available and modular architectures that balance customer workloads across multiple servers. This allows us to provide a flexible method for scaling customers without impacting other parts of the architectural environment while maintaining the high levels of uptime our customers require.

Our family of applications offers high levels of security through logical data segregation of each customer's data from the data of other customers and through limiting access to our platform to only those individuals authorized by our customers. In addition, sensitive customer data is encrypted "at rest" and "in transit" over secure connections to redundant storage in a secondary location.

We maintain a formal and comprehensive security program designed to help preserve the security and integrity of customer data, protect against security threats or data breaches, and prevent unauthorized access to data.

Competition

The overall markets we serve are rapidly evolving and subject to changing technology, shifting customer needs, and frequent introductions of new applications. The intensity and nature of our competition varies significantly across our range of enterprise applications. We compete against larger enterprise software companies that provide a full suite of Software as a Service, or SaaS, solutions focused on the functional areas we serve or the problems our solutions address. We face competition both from point solution providers, including legacy on-premise enterprise systems, and other cloud-based software vendors that may address one or more of the functional elements of our applications. In addition, we face competition from manual processes and traditional tools, such as paper-based procedures, spreadsheets, and email.

We believe the principal competitive factors in our market include the following:

- breadth and depth of application functionality;
- ease of deployment and use of applications;
- total cost of ownership;
- levels of customer support satisfaction;
- brand awareness and reputation;
- capability for configurability, integration, scalability, and reliability of applications;
- ability to innovate and respond to customer needs rapidly; and
- level of integration among applications and with other enterprise systems.

We believe that we compete favorably on these factors. Our ability to remain competitive will largely depend on the strength of our applications, the effectiveness of our sales and marketing efforts, the quality of our customer success organization, and our ability to acquire complementary technologies, products, and businesses to enhance the features and functionality of our applications.

Intellectual Property and Proprietary Rights

We rely on a combination of trademark, copyright, trade secret, and patent laws in the United States and other jurisdictions as well as confidentiality procedures and contractual provisions to protect our intellectual property.

Backlog

Backlog represents future billings under our non-cancelable agreements that have not been invoiced or paid and, accordingly, not recorded in deferred revenue. Until such time as these amounts are invoiced or paid, they are not recorded in revenues, deferred revenue or elsewhere in our consolidated financial statements. As of December 31, 2018 our backlog was approximately \$65.7 million.

Our subscription contracts are generally 1 to 3 years in length, and therefore the substantial majority of our backlog is expected to be recognized as revenue within the one-year contract term. Revenue for any period is a function of revenue recognized from deferred revenue, backlog under contracts in existence at the beginning of the period, as well as contract renewals and new customer contracts during the period. As a result, our backlog at the beginning of any period is not necessarily indicative of our future performance. Our presentation of backlog may differ from other companies in our industry.

Employees

As of December 31, 2018, we had 667 employees, with the majority of our employees located in the United States, Canada and the United Kingdom. None of our employees are covered by a collective bargaining agreement. We have never experienced a strike or similar work stoppage, and we consider our relations with our employees to be good.

Available Information

We were incorporated in Delaware in 2010. Our principal executive offices are located at 401 Congress Avenue, Suite 1850, Austin, TX 78701. Our telephone number at that location is (512) 960-1010. Our website address is www.uplandsoftware.com. Information on our website is not part of this report and should not be relied upon in determining whether to make an investment decision. The inclusion of our website address in this report does not include or incorporate by reference into this report any information on our website.

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge through our website as soon as reasonably practicable after they are electronically filed with or furnished to the SEC. Additionally, the SEC maintains an internet site that contains reports, proxy, information statements, and other information. The address of the SEC's website is www.sec.gov.

Item 1A. Risk Factors

Risks Related to Our Business

Our growth depends on our ability to retain existing customers, secure additional subscriptions, and cross-sell opportunities from existing customers, while nonrenewals and downgrades could harm our future operating results. In order to improve our operating results, it is important that our customers renew or upgrade their agreements with us when the applicable contract term expires, and also purchase additional applications from us. Typically contract terms are one to three years for subscription agreements, and one year for perpetual license agreements. Upon expiration, customers can renew their existing subscriptions, upgrade their subscriptions to add more seats or additional minimum contracted volume, downgrade their subscriptions to fewer seats or lower minimum contracted volume, or not renew. A renewal constitutes renewing an existing contract for an application under the same terms, and an upgrade includes purchasing additional seats or volume under an existing contract. We may also cross-sell additional applications to existing customers. Our ability to grow revenue and achieve profitability depends, in part, on customer renewals, customer upgrades, and cross-sales to existing customers exceeding downgrades and non-renewals. However, we may not be able to increase our penetration within our existing customer base as anticipated, and we may not otherwise retain subscriptions from existing customers. Our customers may choose to not renew or upgrade their subscriptions, or may downgrade, because of several factors, including dissatisfaction with our prices, features or performance relative to competitive offerings, reductions in our customers' spending levels, unused seats or volume, or limited adoption or use of our applications. In addition, we may not be successful in cross-selling new applications to our existing customers. If our customers do not upgrade or renew their subscriptions or purchase additional applications from us, or if they downgrade their subscriptions, our revenue may grow more slowly than expected or may decline, and our financial performance may be adversely affected.

Any failure to offer high-quality customer service may adversely affect our relationships with our customers and our financial results.

Our customers depend on our customer success organization to manage the post-sale customer lifecycle, including to implement new applications for our customers, provide training and ongoing education services, and resolve technical issues relating to our applications. We may be unable to respond quickly enough to accommodate short-term increases in demand for our customer success services. We also may be unable to modify the format of our customer success services to compete with changes in similar services provided by our competitors. Increased customer demand for these services, without corresponding revenue, could increase costs and adversely affect our operating results. In addition, our sales process is highly dependent on the reliable functional operation of our applications, our business reputation, and positive recommendations from our existing customers. Any failure to maintain high-quality customer service, or a market perception that we do not maintain high-quality customer service, could adversely affect our reputation, our ability to sell our applications to existing and prospective customers, and our business, operating results, and financial position.

If we fail to manage our growth effectively, we may be unable to execute our business plan and maintain high levels of customer satisfaction.

We have recently experienced a period of rapid growth in our personnel and operations. In particular, we increased our number of full-time employees from three as of December 31, 2011 to 667 as of December 31, 2018, and have also increased the size of our customer base. In addition, our revenue grew from \$712,000 in 2011 to \$149.9 million in 2018. Acquisitions are a primary component of our growth strategy, and as a result, we anticipate that we will continue to experience further rapid growth in our personnel and operations in the future. Our growth has placed, and future growth will place, a significant strain on our managerial, administrative, operational, financial, and other resources. To manage the expected growth of our personnel and operations, we will need to continue to improve our operational, financial and management controls, and our reporting systems and procedures. Failure to effectively manage our growth could result in difficulty or delays in deploying our applications, declines in quality or customer satisfaction, increases in costs, and difficulties in introducing new features or other operational difficulties, and any of these difficulties could adversely impact our business performance and results of operations.

We have made, and expect to continue to make, acquisitions as a primary component of our growth strategy. We may not be able to identify suitable acquisition candidates or consummate acquisitions on acceptable terms, or we may be unable to successfully integrate acquisitions, which could disrupt our operations and adversely impact our business and operating results.

A primary component of our growth strategy has been to acquire complementary businesses to grow our company. For example, we acquired the businesses of PowerSteering Software, Inc., Tenrox Inc., and LMR Solutions, LLC dba EPM Live in 2012; the businesses of FileBound Solutions, Inc. and Marex Group Inc., ComSci, LLC, and Clickability Inc. in 2013; the businesses of Solution Q Inc. and Mobile Commons, Inc. in 2014; Ultriva Inc. in 2015; and the businesses of LeadLander, Inc., HipCricket, Inc., and Advanced Processing and Imaging, Inc. in 2016. In 2017, we acquired the businesses of Omtool, Ltd., RightAnswers, Inc., Waterfall International, Inc., and Qvidian Corporation. In 2018, we acquired the businesses of Interfax Communications Ltd, References-Online, Inc., Rapide Communication Ltd. (“Rant & Rave”), and Aestra Ltd. We intend to continue to pursue acquisitions of complementary technologies, products, and businesses as a primary component of our growth strategy to enhance the features and functionality of our applications, expand our customer base, provide access to new markets, and increase benefits of scale. Acquisitions involve certain known and unknown risks that could cause our actual growth or operating results to differ from our expectations. For example:

- we may not be able to identify suitable acquisition candidates or to consummate acquisitions on acceptable terms;
- we may pursue international acquisitions, which inherently pose more risks than domestic acquisitions;
- we compete with others to acquire complementary products, technologies, and businesses, which may result in decreased availability of, or increased price for, suitable acquisition candidates;
- we may not be able to obtain the necessary financing, on favorable terms or at all, to finance any or all of our potential acquisitions;
- we may ultimately fail to consummate an acquisition even if we announce that we plan to acquire a technology, product, or business; and
- acquired technologies, products, or businesses may not perform as we expect, and we may fail to realize anticipated revenue and profits.

In addition, our acquisition strategy may divert management’s attention away from our existing business, resulting in the loss of key customers or employees, and expose us to unanticipated problems or legal liabilities, including responsibility as a successor for undisclosed or contingent liabilities of acquired businesses or assets.

If we fail to conduct due diligence on our potential targets effectively, we may, for example, not identify problems at target companies or fail to recognize incompatibilities or other obstacles to successful integration. Our inability to successfully integrate future acquisitions could impede us from realizing all of the benefits of those acquisitions and could severely weaken our business operations. The integration process may disrupt our business and, if new technologies, products, or businesses are not implemented effectively, may preclude the realization of

the full benefits expected by us and could harm our results or operations. In addition, the overall integration of new technologies, products, or businesses may result in unanticipated problems, expenses, liabilities, and competitive responses. The difficulties of integrating an acquisition include, among other things:

- issues in integrating the target company's technologies, products, or businesses with ours;
- incompatibility of marketing and administration methods;
- maintaining employee morale and retaining key employees;
- integrating the cultures of both companies;
- preserving important strategic customer relationships;
- consolidating corporate and administrative infrastructures and eliminating duplicative operations; and
- coordinating and integrating geographically separate organizations.

In addition, even if the operations of an acquisition are integrated successfully, we may not realize the full benefits of the acquisition, including the synergies, cost savings, or growth opportunities that we expect. These benefits may not be achieved within the anticipated time frame, or at all.

Further, acquisitions may cause us to:

- issue common stock that would dilute our current stockholders' ownership percentage;
- use a substantial portion of our cash resources;
- increase our interest expense, leverage, and debt service requirements if we incur additional debt to pay for an acquisition;
- assume liabilities for which we do not have indemnification from the former owners; further, indemnification obligations may be subject to dispute or concerns regarding the creditworthiness of the former owners;
- record goodwill and non-amortizable intangible assets that are subject to impairment testing and potential impairment charges;
- experience volatility in earnings due to changes in contingent consideration related to acquisition earn-out liability estimates;
- incur amortization expenses related to certain intangible assets;
- lose existing or potential contracts as a result of conflict of interest issues;
- become subject to adverse tax consequences or deferred compensation charges;
- incur large and immediate write-offs; or
- become subject to litigation.

We depend on our senior management team and the loss of one or more key personnel, or an inability to attract and retain highly skilled personnel may impair our ability to grow our business.

Our success depends, in part, upon the continued services of our key executive officers, including John T. McDonald, Michael D. Hill, and Timothy W. Mattox, as well as other key personnel. We do not have employment agreements with most of our executive officers or other key personnel that require them to continue to work for us for any specified period; therefore, they may terminate employment with us at any time with no advance notice. The replacement of our senior management team or other key personnel likely would involve significant time and costs, and the loss of these employees may significantly delay or prevent the achievement of our business objectives.

We face intense competition for qualified individuals from numerous technology and software companies. If we fail to attract and retain suitably qualified individuals, including software engineers and sales personnel, our ability to implement our business plan and develop and maintain our applications could be adversely affected. As a result, our ability to compete would decrease, our operating results would suffer, and our revenue would decrease.

Failure to maintain and expand our sales organization may negatively impact our revenue growth.

We sell our applications primarily through a direct sales organization comprised of inside sales and field sales personnel. In addition, we have an indirect sales organization, which sells to distributors and value-added resellers. Growing sales to both new and existing customers is, in part, dependent on our ability to maintain and expand our

sales force. Identifying, recruiting and training additional sales personnel requires significant time, expense, and attention. It can take several quarters or longer before our sales representatives are fully-trained and productive. Our business may be adversely affected if our efforts to expand and train our sales organization do not generate a corresponding increase in revenue. In particular, if we are unable to hire, develop, and retain sales personnel, or if our new sales personnel are unable to achieve expected sales productivity levels in a reasonable period of time or at all, our revenue may grow more slowly than expected or decline and our business may be harmed.

Because we generally recognize revenue from our customers over the terms of their agreements but incur most costs associated with generating such agreements in advance, rapid growth in our customer base may increase our losses in the short-term.

Expenses associated with acquiring customers, such as the expenses related to our sales organizations and related commissions, are generally expensed as incurred, while most of our revenue is recognized ratably over the life of the applicable agreements. Therefore, increased sales will result in our recognition of more costs than revenue during the early periods covered by such agreements, even in cases where the agreements are expected to be profitable for us over their full terms. As a result, even if we are successful in increasing our customer base, our short-term operating results may suffer.

We recognize revenue from customers over the term of the related agreement; therefore, downturns or upturns in our business may not be immediately reflected in our operating results.

We recognize revenue from customer agreements ratably over the terms of these agreements. As a result, a significant portion of the revenue we report in each quarter is generated from customer agreements entered into during previous periods, which is reflected as deferred revenue on our balance sheet. Consequently, a decline in new or renewed agreements, or a downgrade of renewed agreements to fewer seats or less minimum contracted volume, in any one quarter may not be fully reflected in our revenue in that quarter. Such a decline, however, will negatively affect our revenue in future quarters. Accordingly, the effect of significant downturns in sales and market acceptance of our applications, and potential changes in our pricing policies or rates of renewals, may not be fully reflected in our results of operations until future periods. Similarly, it would be difficult for us to rapidly increase our revenue through new sales, renewals, and upgrades of existing customer agreements, or through additional cross-selling opportunities, in a given period due to the timing of revenue recognition inherent in our subscription model.

Perpetual license revenue is unpredictable, and a material increase or decrease in perpetual license revenue from period to period can produce substantial variation in the total revenue and earnings we recognize in a given period. Perpetual license revenue reflects the revenue recognized from sales of perpetual licenses relating to our workflow automation and enterprise content management applications to new customers and additional licenses for such applications to existing customers. We generally recognize the license fee portion of the arrangement in advance. Perpetual licenses of our workflow automation and enterprise content management applications are sold through third-party resellers, and as such, the timing of sales of perpetual licenses is difficult to predict with the timing of recognition of associated revenue unpredictable. A material increase or decrease in the sale of perpetual licenses from period to period could produce substantial variation in the revenue we recognize. Accordingly, comparing our perpetual license revenue on a period to period basis may not be a meaningful indicator of a trend or future results.

Our quarterly operating results may fluctuate in the future. As a result, we may fail to meet or exceed the expectations of research analysts or investors, which could cause our stock price to decline, and you may lose part or all of your investment.

Our quarterly operating results may fluctuate as a result of a variety of factors, many of which are outside of our control. Accordingly, the results of any one quarter may not fully reflect the underlying performance of our business and should not be relied upon as an indication of future performance. If our quarterly operating results or outlook fall below the expectations of research analysts or investors, the price of our common stock could decline substantially. Fluctuations in our quarterly operating results or outlook may be due to a number of factors, including, but not limited to:

- the extent to which our existing customers purchase additional seats or volume for our applications, and the timing and terms of those purchases;
- the extent to which our existing customers renew their customer agreements for our applications and the timing and terms of those renewals;
- the extent to which we cross-sell additional applications to our existing customers and the timing and terms of such cross-selling;
- the addition or loss of customers, including through acquisitions or consolidations;
- the extent to which new customers are attracted to our applications to satisfy their enterprise work management needs;
- the rate of adoption and market acceptance of enterprise work management applications;
- the mix of our revenue, particularly between product and professional services revenue, for which the timing of revenue recognition is substantially different;
- changes in the gross profit we realize on our applications and professional services due to our differing revenue recognition policies applicable to subscription, product, and professional services revenue and other variables;
- the extent to which we enter into multi-year contracts, in which the support fees are typically paid in advance;
- the announcement or adoption of new regulations and policy mandates or changes to existing regulations and policy mandates;
- future accounting pronouncements or changes in our accounting policies;
- unforeseen litigation and intellectual property infringement;
- the number and size of new customers and the number and size of renewals in a particular period;
- changes in our pricing policies or those of our competitors;
- the mix of applications sold during a period;
- the timing and expenses related to the acquisition of technologies, products, or businesses, and potential future charges for impairment of goodwill from such acquisitions;
- the amount and timing of operating expenses, including those related to the maintenance and expansion of our business, operations and infrastructure;
- the amount and timing of expenses related to the development of new products and technologies, including enhancements to our applications;
- the amount and timing of commissions earned by our sales personnel;
- the timing and success of new applications introduced by us or new offerings offered by our competitors;
- the length of our sales cycles;
- changes in the competitive dynamics of our industry, including consolidation among competitors, customers, or strategic collaborators;
- our ability to manage our existing business and future growth, including increases in the number of customers using our applications;

the seasonality of our business or cyclical fluctuations in our industry;
the timing and expenses related to any international expansion efforts we may undertake and the success of such efforts;
various factors related to disruptions in access and delivery of our cloud-based applications, errors or defects in our applications, privacy and data security, and exchange rate fluctuations, each of which is described elsewhere in these risk factors; and
general economic, industry, and market conditions.

We may need financing in the future, and any additional financing may result in restrictions on our operations or substantial dilution to our stockholders. We may seek to renegotiate or refinance our loan facility, and we may be unable to do so on acceptable terms or at all.

We have funded our operations since inception primarily through equity financings, cash from operations, and cash available under our loan facility. We may need to raise funds in the future, for example, to expand our business, acquire complementary businesses, develop new technologies, respond to competitive pressures, or react to unanticipated situations. We may try to raise additional funds through public or private financings, strategic relationships, or other arrangements. Our ability to obtain debt or equity funding will depend on a number of factors, including market conditions, our operating performance, and investor interest. Additional funding may not be available to us on acceptable terms or at all. If adequate funds are not available, we may be required to reduce expenditures, including curtailing our growth strategies, reducing our product-development efforts, or foregoing acquisitions. If we succeed in raising additional funds through the issuance of equity or convertible securities, it could result in substantial dilution to existing stockholders. If we raise additional funds through the issuance of debt securities or preferred stock, these new securities would have rights, preferences, and privileges senior to those of the holders of our common stock. In addition, any debt financing obtained by us in the future or issuance of preferred stock could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions. Additionally, we may need to renegotiate the terms of our loan facility, and our lender may be unwilling to do so, or may agree to such changes subject to additional restrictive covenants on our operations and ability to raise capital.

Our loan facility contains operating and financial covenants that may restrict our business and financing activities. On December 12, 2018, we expanded into a \$400.0 million loan facility with Wells Fargo Capital Finance. The facility is comprised of a \$285.0 million term loan, a \$30.0 million revolving credit facility and a \$30.0 million delayed draw term loan for acquisitions, of which none has been drawn to date. Additionally, the facility provides for an uncommitted \$55.0 million accordion loan to further support future acquisitions and an allowance of \$20.0 million of subordinated seller notes for acquisitions.

Our obligations and the obligations of the co-borrowers and any guarantors under the Wells Fargo loan facility are secured by a security interest in substantially all of our assets and assets of the co-borrowers' and of any guarantors, including intellectual property. The terms of the credit facility limits, among other things, our ability to

- sell, lease, license or otherwise dispose of assets;
- undergo a change in control;
- consolidate or merge with or into other entities;
- make or own loans, investments and acquisitions;
- create, incur or assume guarantees in respect of obligations of other persons;
- create, incur or assume liens and other encumbrances; or
- pay dividends or make distributions on, or purchase or redeem, our capital stock.

Furthermore, the Wells Fargo loan facility requires us and our subsidiaries to comply with certain financial covenants. The operating and other restrictions and covenants in the loan facility, and in any future financing arrangements that we may enter into, may restrict our ability to finance our operations, engage in certain business activities, or expand or fully pursue our business strategies, or otherwise limit our discretion to manage our business. Our ability to comply with these restrictions and covenants may be affected by events beyond our control, and we may not be able to meet those restrictions and covenants. A breach of any of the restrictions and covenants could result in a default under the loan facility or any future financing arrangements, which could cause any outstanding indebtedness under the loan facility or under any future financing arrangements to become immediately due and payable, and result in the termination of commitments to extend further credit.

If we are unable to increase market awareness of our company and our applications, our revenue may not continue to grow, or may decline.

Market awareness of our company and our applications is essential to our ability to generate new leads for expanding our business and our continued growth. If we fail to sufficiently invest in our marketing programs or they are unsuccessful in creating market awareness of our company and our applications, our revenue may grow more slowly than expected or may decline, and our financial performance may be adversely affected.

The markets in which we participate are intensely competitive, and if we do not compete effectively, our operating results could be adversely affected.

The overall market for enterprise work management software is rapidly evolving and subject to changing technology, shifting customer needs and frequent introductions of new applications. The intensity and nature of our competition varies significantly across our family of enterprise work management software applications. Many of our competitors and potential competitors are larger and have greater brand name recognition, longer operating histories, larger marketing budgets, and significantly greater resources than we do. Some of our smaller competitors may offer applications on a stand-alone basis at a lower price than our price due to lower overhead or other factors, while some of our larger competitors may offer applications at a lower price in an attempt to cross-sell additional products in the future or retain a customer using a different application.

We believe there are a limited number of direct competitors that provide a comprehensive enterprise work management software offering. However, we face competition both from point solution providers, including legacy on-premise enterprise systems, and other cloud-based work management software vendors that may address one or more of the functional elements of our applications, but are not designed to address a broad range of enterprise work management needs. In addition, we face competition from manual processes and traditional tools, such as paper-based techniques, spreadsheets, and email.

If our competitors' products, service, or technologies become more accepted than our enterprise work management applications, if they are successful in bringing their products or services to market earlier than ours, or if their products or services are more technologically capable than ours, our revenues could be adversely affected.

Mergers of, or other strategic transactions by, our competitors could weaken our competitive position or reduce our revenue.

If one or more of our competitors were to merge or partner with another of our competitors, the change in the competitive landscape could adversely affect our ability to compete effectively. In order to take advantage of customer demand for cloud-based software applications, vendors of legacy systems are expanding their cloud-based enterprise workplace management applications through acquisitions and internal development. A potential result of such expansion is that certain of our current or potential competitors may be acquired by third parties with greater available resources and the ability to further invest in product improvements and initiate or withstand substantial price competition. Our competitors also may establish or strengthen cooperative relationships with our current or future value-added resellers, third-party consulting firms or other parties with whom we have relationships, thereby limiting our ability to promote our applications. Disruptions in our business caused by these events could reduce our revenue.

Our growth and long-term success depends, in part, on our ability to expand our international sales and operations. As our operations have expanded, we have established and currently maintain offices in the United States, Canada, and the United Kingdom. We have limited experience in operating in foreign jurisdictions and expect to continue to expand our relationship with international customers. Managing a global organization is difficult, time-consuming and expensive. Because of our limited experiences with international operations, any international efforts that we may undertake may not be successful in creating demand for our applications outside of the U.S. or in effectively selling subscriptions to our solutions in all of the international markets that we enter. In addition, conducting international operations subjects us to risks, including the following:

- uncertain political and economic climates;
- lack of familiarity and burdens of complying with foreign laws, accounting and legal standards, regulatory requirements, tariffs and other barriers;
- unexpected changes in regulatory requirements, taxes, trade laws, tariffs, export quotas, custom duties or other trade restrictions;
- lack of experience in connection with the localization of our applications, including translation into foreign languages and adaptation for local practices, and associated expenses and regulatory requirements;
- difficulties in adapting to differing technology standards;
- different pricing environments, longer sales cycles and accounts receivable payment cycles and difficulties in collecting accounts receivable;
- difficulties in managing and staffing international operations, including differing legal and cultural expectations for employee relationships, and increased travel, infrastructure and legal compliance costs associated with international operations;
- fluctuations in exchange rates that may increase the volatility of our foreign-based revenue and expenses;
- potentially adverse tax consequences, including the complexities of foreign value-added tax, goods and services tax and other transactional taxes;
- reduced or varied protection for intellectual property rights in some countries;
- difficulties in managing and adapting to differing cultures and customs;
 - data privacy laws that require customer data to be stored and processed in a designated territory subject to laws different than the United States;
- sales and customer service challenges associated with operating in different countries;
- data privacy laws that require certain opt-in steps and restrict use and sharing of personally identifiable information than those required by the U.S. privacy laws;
- new and different sources of competition as well as laws and business practices favoring local competitors and local employees;
- compliance with anti-bribery laws, including compliance with the Foreign Corrupt Practices Act;
- increased financial accounting and reporting burdens and complexities; and
- restrictions on the repatriation of earnings.

Further, our international expansion efforts may be hindered by lower levels of cloud adoption and increased price sensitivity for our applications or other cloud-based offerings in international markets. As a result of these and other factors, international expansion may be more difficult, take longer, and not generate the results we anticipate, which could negatively impact our growth and business.

Fluctuations in the exchange rate of foreign currencies could result in losses on currency transactions.

Our customers are generally invoiced in the currency of the country in which they are located. In addition, we incur a portion of our operating expenses in foreign currencies, including Canadian dollars, British pounds and Euros, and in the future, as we expand into other foreign countries, we expect to incur operating expenses in other foreign currencies. As a result, we are exposed to foreign exchange rate fluctuations as the financial results of our international operations are translated from the local functional currency into U.S. dollars upon consolidation. A decline in the U.S. dollar relative to foreign functional currencies would increase our non-U.S. revenue and improve our operating results. Conversely, if the U.S. dollar strengthens relative to foreign functional currencies, our revenue and operating results would be adversely affected. We have not previously engaged in foreign currency hedging. If we decide to hedge our foreign currency exchange rate exposure, we may not be able to hedge effectively due to lack of experience, unreasonable costs, or illiquid markets.

Our sales cycles can be lengthy and variable, which may cause changes in our operating results.

Our sales cycle can vary substantially from customer to customer. A number of factors influence the length and variability of our sales cycles, including, for example:

- the need to educate potential customers about the uses and benefits of our applications;
- the duration of the commitment customers make in their agreements with us, which are typically one to three years;
- the discretionary nature of potential customers' purchasing and budget cycles and decisions;
- the competitive nature of potential customers' evaluation and purchasing processes;
- the functionality demands of potential customers;
- fluctuations in the enterprise work management needs of potential customers;
- the announcement or planned introduction of new products by us or our competitors; and
- the purchasing approval processes of potential customers.

Our sales cycles can make it difficult to predict the quarter in which revenue from a new customer may first be recognized. We may incur significant sales and marketing expenses and invest significant time and effort in anticipation of a sale that may never occur or only occur in a smaller amount or at a later date than anticipated. Delays inherent to our sales cycles could cause significant variability in our revenue and operating results for any particular period. We have a limited history with our pricing models, and as a result, we may be forced to change the prices we charge for our applications or the pricing models upon which they are based.

We have limited experience with respect to determining the optimal prices and pricing models for certain of our applications and certain geographic markets. As the markets for our applications mature, or as competitors introduce products or services that compete with ours, including bundling competing offerings with additional products or services, we may be unable to attract new customers at the same price or based on the same pricing models as we have used historically. As a result, in the future we may be required to reduce our prices, which could adversely affect our financial performance. In addition, we may offer volume price discounts based on the number of seats purchased by a customer or the number of our applications purchased by a customer, which would effectively reduce the prices we charge for our applications. Also, we may be unable to renew existing customer agreements or enter into new customer agreements at the same prices or upon the same terms that we have historically, which could have a material adverse effect on our financial position.

Any disruption of service at the data centers that house our equipment and deliver our applications or with our hosting service provider could harm our business.

Our reputation and ability to attract, retain, and serve our customer is dependent upon the reliable performance of our computer systems and those of third parties that we utilize in our operations. These systems may be subject to damage or interruption from earthquakes, adverse weather conditions, other natural disasters, terrorist attacks, power loss, telecommunications failures, computer viruses, computer denial of service attacks, or other attempts to harm these systems. Interruptions in these systems, or with the Internet in general, could make our service unavailable or degraded or otherwise hinder our ability to deliver application data to our customers. Service

interruptions, errors in our software, or the unavailability of computer systems used in our operations could diminish the overall attractiveness of our applications to existing and potential customers.

Our servers and those of third parties we use in our operations are vulnerable to computer viruses, physical or electronic break-ins, and similar disruptions. We have implemented security protocols within our applications; however, we have no assurance that our systems are completely secure. Our insurance does not cover expenses related to disruptions to our service or unauthorized access to our applications. Any significant disruption to our service or access to our systems could result in a loss of customers and adversely affect our business and results of operation. We utilize our own communications and computer hardware systems located either in our facilities or in that of a third-party Web hosting provider. In addition, we utilize third-party hosting services in connection with our business operations and have migrated our applications to Amazon Web Services (AWS), a third-party hosting platform. Problems faced by us or our third-party hosting providers, including technological or business-related disruptions, could adversely impact the experience of our customers.

If we fail to adequately manage our data center or hosting infrastructure capacity, our existing customers may experience service outages, and our new customers may experience delays in the deployment of our applications. We have experienced significant growth in the number of seats and volume of data that our hosting infrastructure supports. We seek to maintain sufficient excess capacity in our operations infrastructure to meet the needs of all of our customers. We also seek to maintain excess capacity to facilitate the rapid provision of new customer deployments and the expansion of existing customer deployments. However, obtaining new data center infrastructure requires lead time. If we do not accurately predict our infrastructure capacity requirements with sufficient lead time, our customers could experience service impairment that may subject us to financial penalties and liabilities and cause us to lose customers. If our data center infrastructure capacity fails to keep pace with increased subscriptions, customers may experience delays or reductions in the quality of our service as we seek to obtain additional capacity, which could harm our reputation and harm our business. As we add data center or hosting infrastructure capacity and support personnel in advance of anticipated growth, our cost of product revenue will increase, and if the anticipated revenue growth does not occur, our product gross profit will be adversely affected both in terms of absolute dollars and as a percentage of total revenues in any particular quarterly or annual period.

Actual or perceived security vulnerabilities in our solutions and services or cyberattacks on our networks could have a material adverse impact on our business, results of operations and financial condition.

Our applications involve the storage and transmission of our customers' proprietary and confidential information, including personal or identifying information regarding their employees and customers. Any security breaches, unauthorized access, unauthorized usage, virus, or similar breach or disruption could result in loss of confidential information, damage to our reputation, early termination of our contracts, litigation, regulatory investigations, indemnity obligations, or other liabilities. If our security measures or those of our third-party data centers, such as Amazon Web Services) are breached as a result of third-party action, employee error, malfeasance or otherwise, resulting in unauthorized access to customer data, our reputation will be damaged, our business may suffer, and we could incur significant liability. Unauthorized parties may attempt to misappropriate or compromise our confidential information or that of third parties, create system disruptions, product or service vulnerabilities or cause shutdowns. These perpetrators of cyberattacks also may be able to develop and deploy viruses, worms, malware and other malicious software programs that directly or indirectly attack our products, services or infrastructure (including our third party cloud service providers). Because the techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until they are launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. Any or all of these issues could negatively affect our ability to attract new customers, cause existing customers to elect not to renew or upgrade their subscriptions, result in reputational damage, or subject us to third-party lawsuits, regulatory fines, or other action or liability, which could adversely affect our operating results. In addition, to the extent we are diverting our resources to address and mitigate these vulnerabilities, it may hinder our ability to deliver and support our solutions and customers in a timely manner. Despite our efforts to build secure services, we can make no assurance that we will be able to detect, prevent, timely and adequately address, or mitigate the negative effects of cyberattacks or other security breaches.

Our success depends on our ability to adapt to technological change and continue to innovate.

The overall market for enterprise work management software is rapidly evolving and subject to changing technology, shifting customer needs, and frequent introductions of new applications. Our ability to attract new customers and increase revenue from existing customers will depend, in large part, on our ability to develop or acquire new applications and enhance and improve existing applications. To achieve market acceptance for our applications, we must effectively anticipate and offer applications that meet changing customer demands in a timely manner.

Customers may require features and capabilities not offered by our current applications. We may experience difficulties that could delay or prevent our development, acquisition, or implementation of new applications and enhancements.

If we are unable to successfully develop or acquire new enterprise work management capabilities and functionality, enhance our existing applications to anticipate and meet customer preferences, sell our applications into new markets, or adapt to changing industry standards in enterprise work management, our revenue and results of operations would be adversely affected.

Adverse economic conditions may reduce our customers' ability to spend money on information technology or enterprise work management software, or our customers may otherwise choose to reduce their spending on information technology or enterprise work management software, which may adversely impact our business.

Our business depends on the overall demand for information technology and enterprise work management software spend and on the economic health of our current and prospective customers. If worldwide economic conditions become unstable, our existing customers and prospective customers may re-evaluate their decision to purchase our applications. Weak global economic conditions or a reduction in information technology or enterprise work management software spending by our customers could harm our business in a number of ways, including longer sales cycles and lower prices for our applications.

We rely on third-party software that is required for the development and deployment of our applications, which may be difficult to obtain or which could cause errors or failures of our applications.

We rely on software licensed from or hosted by third parties to offer our applications. In addition, we may need to obtain licenses from third parties to use intellectual property associated with the development of our applications, which might not be available to us on acceptable terms, or at all. Any loss of the right to use any software required for the development, maintenance, and delivery of our applications could result in delays in the provision of our applications until equivalent technology is either developed by us or, if available, is identified, obtained and integrated, which could harm our business. Any errors or defects in third-party software could result in errors or a failure of our applications, which could harm our business.

If our applications contain serious errors or defects, we may lose revenue and market acceptance, and we may incur costs to defend or settle product-related claims.

Complex software applications such as ours often contain errors or defects, particularly when first introduced or when new versions or enhancements are released. Our current and future applications may contain serious defects.

Since our customers use our applications for critical business purposes, defects or other performance problems could negatively impact our customers and could result in:

- loss or delayed market acceptance and sales;
- breach of warranty or other claims for damages;
- sales credits or refunds for prepaid amounts related to unused subscription services;
- canceled contracts and loss of customers;
- diversion of development and customer service resources; and
- injury to our reputation.

The costs incurred in correcting any material errors or defects might be substantial and could adversely affect our operating results. Although our customer agreements typically contain provisions designed to limit our exposure

to certain of the claims above, existing or future laws or unfavorable judicial decisions could negate these limitations. Even if not successful, a breach of warranty or other claim brought against us would likely be a distraction to management, time-consuming and costly to resolve, and could seriously damage our reputation in the marketplace, making it harder for us to sell our applications. Additionally, our errors and omissions insurance may be inadequate or may not be available in the future on acceptable terms, or at all, and our policy may not cover all claims made against us. Further, defending a suit, regardless of its merit, could be costly and divert management's attention.

If we fail to integrate our applications with other software applications and competitive or adjacent offerings that are developed by others, or fail to make our applications available on mobile and other handheld devices, our applications may become less marketable, less competitive or obsolete, and our operating results could be harmed.

Our applications integrate with a variety of other software applications, and also with competing and adjacent third-party offerings. We need to continuously modify and enhance our platform to adapt to changes in cloud-enabled hardware, software, networking, browser and database technologies. Any failure of our applications to integrate effectively with other software applications and product offerings could reduce the demand for our applications or result in customer dissatisfaction and harm to our business. If we are unable to respond to changes in the applications and tools with which our applications integrate in a cost-effective manner, our applications may become less marketable, less competitive, or obsolete. Competitors may also impede our attempts to create integration between our applications and competitive offerings, which may decrease demand for our applications. In addition, an increasing number of individuals within organizations are utilizing devices other than personal computers, such as mobile phones, tablets and other handheld devices, to access the Internet and corporate resources and to conduct business. If we cannot effectively make our applications available on these devices, we may experience difficulty attracting and retaining customers.

If we fail to develop and maintain relationships with third parties, our business may be harmed.

Our business depends in part on the development and maintenance of technology integration, joint sales, and reseller relationships. Maintaining relationships with third parties requires significant time and resources, as does integrating third-party content and technology. Further, third parties may not perform as expected under any relationships into which we may enter, and we may have disagreements or disputes with third parties that could negatively affect our brand and reputation. If we are unsuccessful in establishing or maintaining relationships with third parties, our ability to compete in the marketplace or to grow our revenue could be impaired, and our operating results could suffer.

Our use of open source software could negatively affect our ability to sell our applications and subject us to possible litigation.

A portion of our applications incorporate open source software, and we expect to continue to incorporate open source software in the future. Few of the licenses applicable to open source software have been interpreted by courts, and their application to the open source software integrated into our proprietary software may be uncertain. Moreover, we cannot provide any assurance that we have not incorporated additional open source software in our applications in a manner that is inconsistent with the terms of the license or our current policies and procedures. If we fail to comply with these licenses, we may be subject to certain requirements, including requirements that we offer our applications that incorporate the open source software for no cost, that we make available source code for modifications or derivative works we create based upon, incorporating or using the open source software, and that we license such modifications or derivative works under the terms of applicable open source licenses. If an author or other third party that distributes such open source software were to allege that we had not complied with the conditions of one or more of these licenses, we could be required to incur significant legal expenses defending against such allegations and could be subject to significant damages, enjoined from the sale of our applications that contained the open source software, and required to comply with the foregoing conditions, which could disrupt the distribution and sale of some of our applications. In addition, there have been claims challenging the ownership of open source software against companies that incorporate open source software into their products. As a result, we could be subject to suits by parties claiming infringement due to the reliance by our applications on certain open source software. Litigation could be costly for us to defend, have a negative effect on our operating results and

financial condition, or require us to devote additional research and development resources to change our applications. Certain of our operating results and financial metrics are difficult to predict as a result of seasonality.

We have historically experienced seasonality in terms of when we enter into customer agreements. We sign a significantly higher percentage of agreements with new customers, and renew agreements with existing customers, in the fourth quarter of each calendar year as our customers tend to follow budgeting cycles at the end of the calendar year. Our cash flow from operations has historically been higher in the first quarter of each calendar year than in other quarters. This seasonality is reflected to a much lesser extent, and sometimes is not immediately apparent, in our revenue, due to the fact that we defer revenue recognition. In addition, seasonality may be difficult to observe in our financial results during periods in which we acquire businesses, as such results typically are most significantly impacted by such acquisitions. We expect this seasonality to continue, or possibly increase in the future, which may cause fluctuations in our operating results and financial metrics. If our quarterly operating results or outlook fall below the expectations of research analysts or investors, the price of our common stock could decline substantially.

We could incur substantial costs as a result of any claim of infringement of another party's intellectual property rights. In recent years, there has been significant litigation involving patents and other intellectual property rights in our industry. Companies providing software are increasingly bringing and becoming subject to suits alleging infringement of proprietary rights, particularly patent rights, and to the extent we gain greater market visibility, we face a higher risk of being the subject of intellectual property infringement claims. We do not have a significant patent portfolio, which could prevent us from deterring patent infringement claims through our own patent portfolio, and our competitors and others may now and in the future have significantly larger and more mature patent portfolios than we have. The risk of patent litigation has been amplified by the increase in the number of a type of patent holder, which we refer to as a non-practicing entity, whose sole business is to assert such claims and against whom our own intellectual property portfolio may provide little deterrent value. We could incur substantial costs in prosecuting or defending any intellectual property litigation. If we sue to enforce our rights or are sued by a third-party that claims that our applications infringe its rights, the litigation could be expensive and could divert our management resources. Moreover, our acquisition strategy could expose us to additional risk of intellectual property litigation as we acquire new businesses with diverse software offerings and intellectual property assets.

In addition, in most instances, we have agreed to indemnify our customers against claims that our applications infringe the intellectual property rights of third parties. Our business could be adversely affected by any significant disputes between us and our customers as to the applicability or scope of our indemnification obligations to them. Any intellectual property litigation to which we might become a party, or for which we are required to provide indemnification, may require us to do one or more of the following:

- cease selling or using applications that incorporate the intellectual property that we allegedly infringe;
- make substantial payments for legal fees, settlement payments or other costs or damages;
- obtain a license, which may not be available on reasonable terms or at all, to sell or use the relevant technology; or
- redesign the allegedly infringing applications to avoid infringement, which could be costly, time-consuming or impossible.

If we are required to make substantial payments or undertake any of the other actions noted above as a result of any intellectual property infringement claims against us or any obligation to indemnify our customers for such claims, such payments or actions could harm our business.

We could incur substantial costs in protecting our intellectual property from infringement, and any failure to protect our intellectual property could impair our business.

Our success and ability to compete depend, in part, upon our intellectual property. We seek to protect the source code for our proprietary software and other proprietary technology and information under a combination of copyright, trade secrets, and patent law, and we seek to protect our brands through trademark law. Our policy is to

enter into confidentiality agreements, or agreements with confidentiality provisions, with our employees, consultants, vendors, and customers, and to control access to our software, documentation, and other proprietary information. Despite these precautions, it may be possible for unauthorized parties to copy our software or other proprietary technology or information, or to develop similar software independently.

Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy aspects of our applications or to obtain and use information that we regard as proprietary. Policing unauthorized use of our applications is difficult, and we are unable to determine the extent to which piracy of our software exists or will occur in the future. Litigation may be necessary in the future to enforce our intellectual property rights, protect our trade secrets, determine the validity and scope of the proprietary rights of others, or defend against claims of infringement or invalidity. Such litigation could be costly, time-consuming, and distracting to management, result in a diversion of resources or the narrowing or invalidation of portions of our intellectual property, and have a material adverse effect on our business, operating results, and financial condition. Furthermore, our efforts to enforce our intellectual property rights may be met with defenses, counterclaims, and countersuits attacking the validity and enforceability of our intellectual property rights or alleging that we infringe the counterclaimant's own intellectual property. These steps may be inadequate to protect our intellectual property. Third parties may challenge the validity or ownership of our intellectual property, and these challenges could cause us to lose our rights, in whole or in part, to such intellectual property or narrow its scope such that it no longer provides meaningful protection. We will not be able to protect our intellectual property if we are unable to enforce our rights or if we do not detect unauthorized use of our intellectual property. Despite our precautions, it may be possible for unauthorized third parties to copy our products and use information that we regard as proprietary to create products and services that compete with ours. Some license provisions protecting against unauthorized use, copying, transfer, and disclosure of our applications may be unenforceable under the laws of certain jurisdictions and foreign countries. Further, the laws of some countries do not protect proprietary rights to the same extent as the laws of the United States. To the extent we expand our international activities, our exposure to unauthorized copying, transfer, and use of our applications and proprietary technology or information may increase.

There can be no assurance that our means of protecting our proprietary rights will be adequate or that our competitors will not independently develop similar technology. If we fail to meaningfully protect our intellectual property, our business, brands, operating results and financial condition could be materially harmed.

Unanticipated challenges by tax authorities could harm our future results.

We are subject to income taxes in the United States and various non-U.S. jurisdictions. We may be subject to income tax audits by various tax jurisdictions throughout the world, many of which have not established clear guidance on the tax treatment of cloud-based companies. The application of tax laws in such jurisdictions may be subject to diverging and sometimes conflicting interpretations by tax authorities in these jurisdictions. Although we believe our income tax liabilities are reasonably estimated and accounted for in accordance with applicable laws and principles, an adverse resolution of one or more uncertain tax positions in any period could have a material impact on the results of operations for that period.

Taxing authorities may successfully assert that we should have collected or, in the future, should collect additional sales and use taxes, and we could be subject to liability with respect to past or future sales, which could adversely affect our results of operations.

We have not historically filed sales and use tax returns or collected sales and use taxes in all jurisdictions in which we have sales, based on our belief that such taxes are not applicable. Taxing authorities may seek to impose such taxes on us, including for past sales, which could result in penalties and interest. Any such tax assessments may adversely affect the results of our operations.

Taxing authorities could reallocate our taxable income among our subsidiaries, which could increase our consolidated tax liability.

We conduct integrated operations internationally through subsidiaries in various tax jurisdictions pursuant to transfer pricing arrangements between our subsidiaries and between our subsidiaries and us. If two or more affiliated companies are located in different countries, the tax laws or regulations of each country generally require that transfer prices be the same as those between unrelated companies dealing at arms' length and that contemporaneous

documentation is maintained to support the transfer prices. While we believe that we operate in compliance with applicable transfer pricing laws and intend to continue to do so, our transfer pricing procedures are not binding on applicable tax authorities. If tax authorities in any of these countries were to successfully challenge our transfer prices as not reflecting arms' length transactions, they could require us to adjust our transfer prices and thereby reallocate our income to reflect these revised transfer prices, which could result in a higher tax liability to us. Such reallocations may subject us to interest and penalties that would increase our consolidated tax liability, and could adversely affect our financial condition, results of operations, and cash flows.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

As of December 31, 2018, we had federal net operating loss carryforwards of approximately \$204.8 million and research and development credit carryforwards of approximately \$3.5 million, which begin expiring in 2019. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code, if a corporation undergoes an "ownership change," the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes, such as research tax credits, to offset its post-change income and taxes may be limited. In general, an "ownership change" occurs if there is a cumulative change in our ownership by "5% shareholders" that exceeds 50 percentage points over a rolling three-year period. Similar rules apply under state tax laws. Based on analysis of acquired net operating losses and credits, utilization of our net operating losses and research and development credits will be subject to annual limitations. The annual limitation will result in the expiration of \$82.6 million of federal net operating losses and \$3.5 million of research and development credit carryforwards before utilization. In the event that it is determined that we have in the past experienced additional ownership changes, or if we experience one or more ownership changes as a result of future transactions in our stock, then we may be further limited in our ability to use our net operating loss carryforwards and other tax assets to reduce taxes owed on the net taxable income that we earn. Any such limitations on the ability to use our net operating loss carryforwards and other tax assets could adversely impact our business, financial condition, and operating results. As of December 31, 2018 we also had foreign net operating loss carryforwards of approximately \$24.8 million, which carry forward indefinitely.

Changes in laws or regulations related to the Internet may diminish the demand for our applications, and any failure of the Internet infrastructure could have a negative impact on our business.

We deliver our cloud-based applications through the Internet. Federal, state or foreign government bodies or agencies have in the past adopted, and may in the future adopt, laws or regulations affecting data privacy and the use of the Internet. In addition, government agencies or private organizations may begin to impose taxes, fees, or other charges for accessing the Internet or on commerce conducted via the Internet. Increased enforcement of existing laws and regulations, as well as any laws, regulations, or changes that may be adopted or implemented in the future, could limit the growth of the use of cloud-based applications or communications generally, result in a decline in the use of the Internet and the viability of cloud-based applications such as ours, and reduce the demand for our applications.

The success of our enterprise work management software applications depends on the development and maintenance of the Internet infrastructure. This includes maintenance of a reliable network backbone with the necessary speed, data capacity and security, as well as the timely development of complementary products for providing reliable Internet access and services. The Internet has experienced, and is likely to continue to experience, significant growth in the amount of traffic and may be unable to support such demands. In addition, problems caused by viruses, worms, malware, and similar programs may harm the performance of the Internet. Any outages and delays in the Internet could reduce the level of usage of our services, which could materially adversely affect our business, financial condition, results of operations, and prospects.

Privacy concerns and laws or other domestic or foreign regulations may reduce the effectiveness of our applications and adversely affect our business.

Our customers can use our applications to collect, use, and store personal or identifying information regarding their customers and employees. Federal, state and foreign government bodies and agencies have adopted, are considering adopting, or may adopt laws and regulations regarding the collection, use, storage, and disclosure of personal information obtained from individuals. The costs of compliance with, and other burdens imposed by, such laws and regulations that are applicable to the businesses of our customers may limit the use and adoption of our

applications and reduce overall demand, or lead to significant fines, penalties or liabilities for any noncompliance with such privacy laws. For example, the European Union and many countries in Europe have stringent privacy laws and regulations that may impact our ability to profitably operate in certain European countries. Furthermore, privacy concerns may cause our customers to resist providing the personal data necessary to allow them to use our applications effectively. Even the perception of privacy concerns, whether or not valid, may inhibit market adoption of our applications in certain industries. All of these domestic and international legislative and regulatory initiatives may adversely affect our customers' ability to process, handle, store, use, and transmit demographic and personal information from their customers and employees, which could reduce demand for our applications.

In addition to government activity, privacy advocacy groups and the technology and other industries are considering various new, additional, or different self-regulatory standards that may place additional burdens on us. If the processing of personal information were to be curtailed in this manner, our applications would be less effective, which may reduce demand for our applications and adversely affect our business.

We are subject to governmental export and import controls that could impair our ability to compete in international markets due to licensing requirements and subject us to liability if we are not in compliance with applicable laws. Our applications are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, and various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls. Exports of our applications must be made in compliance with these laws and regulations. If we fail to comply with these laws and regulations, we and certain of our employees could be subject to substantial civil or criminal penalties, including: the possible loss of export or import privileges; fines, which may be imposed on us and responsible employees or managers; and, in extreme cases, the incarceration of responsible employees or managers. Obtaining the necessary authorizations, including any required license, for a particular sale may be time-consuming, is not guaranteed, and may result in the delay or loss of sales opportunities. In addition, changes in our applications or changes in applicable export or import regulations may create delays in the introduction and sale of our applications in international markets, prevent our customers with international operations from deploying our applications, or, in some cases, prevent the export or import of our applications to certain countries, governments, or persons altogether. Any change in export or import regulations, shift in the enforcement or scope of existing regulations, or change in the countries, governments, persons or technologies targeted by such regulations, could also result in decreased use of our applications, or in our decreased ability to export or sell our applications to existing or potential customers with international operations. Any decreased use of our applications or limitation on our ability to export or sell our applications would likely adversely affect our business.

Furthermore, we incorporate encryption technology into certain of our applications. Various countries regulate the import of certain encryption technology, including through import permitting and licensing requirements, and have enacted laws that could limit our ability to distribute our applications or could limit our customers' ability to implement our applications in those countries. Encrypted applications and the underlying technology may also be subject to export control restrictions. Governmental regulation of encryption technology and regulation of imports or exports of encryption products, or our failure to obtain required import or export approval for our applications, when applicable, could harm our international sales and adversely affect our revenue. Compliance with applicable regulatory requirements regarding the export of our applications, including with respect to new releases of our applications, may create delays in the introduction of our applications in international markets, prevent our customers with international operations from deploying our applications throughout their globally-distributed systems or, in some cases, prevent the export of our applications to some countries altogether.

Moreover, U.S. export control laws and economic sanctions programs prohibit the shipment of certain products and services to countries, governments, and persons that are subject to U.S. economic embargoes and trade sanctions. Even though we take precautions to prevent our applications from being shipped or provided to U.S. sanctions targets, our applications and services could be shipped to those targets or provided by third parties despite such precautions. Any such shipment could have negative consequences, including government investigations, penalties and reputational harm.

If we are unable to implement and maintain effective internal controls over financial reporting in the future, investors may lose confidence in the accuracy and completeness of our financial reports, and the market price of our common stock may be negatively affected.

As a public company, we are required to maintain internal controls over financial reporting and to report any material weaknesses in such internal controls. Section 404 of the Sarbanes-Oxley Act requires that we evaluate and determine the effectiveness of our internal controls over financial reporting. Our independent registered public accounting firm will not be required to formally attest to the effectiveness of our internal control over financial reporting until the later of our second annual report or the first annual report required to be filed with the SEC following the date we are no longer an “emerging growth company” as defined in the JOBS Act. If we have a material weakness in our internal controls over financial reporting, we may not detect errors on a timely basis, and our financial statements may be materially misstated. We are in the process of designing and implementing the internal controls over financial reporting required to comply with this obligation, which process will be time consuming, costly and complicated. We may need additional finance and accounting personnel with certain skill sets to assist us with the reporting requirements we will encounter as a public company and to support our anticipated growth. In addition, implementing internal controls may distract our officers and employees, entail substantial costs to modify our existing processes, and take significant time to complete.

In the future, if we identify material weaknesses in our internal controls over financial reporting, if we are unable to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner, if we are unable to assert that our internal controls over financial reporting are effective, or if our independent registered public accounting firm is not required to express an opinion due to the provisions of the JOBS Act or is unable to express an opinion as to the effectiveness of our internal controls over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports; the market price of our common stock could be negatively affected; and we could become subject to investigations by the stock exchange on which our securities are listed, the Securities and Exchange Commission (SEC), or other regulatory authorities, which could require additional financial and management resources.

We incur significant costs and demands upon management as a result of complying with the laws and regulations affecting public companies, which could harm our operating results.

As a public company, we will incur significant legal, accounting, investor relations, and other expenses, including costs associated with public company reporting requirements. We also have incurred and will incur costs associated with current corporate governance requirements, including requirements under Section 404 and other provisions of the Sarbanes-Oxley Act, as well as rules implemented by the SEC and the exchange on which we list our common stock. These rules and regulations may substantially increase our legal and financial compliance costs and to make some activities more time-consuming and costly. As a public company, it is more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to incur substantially higher costs to obtain coverage or to accept reduced policy limits and coverage. As a result, it may be more difficult for us to attract and retain qualified individuals to serve on our board of directors or as our executive officers.

We are an “emerging growth company,” and any decision on our part to comply with certain reduced disclosure requirements applicable to emerging growth companies could make our common stock less attractive to investors. We are an “emerging growth company,” as defined in the JOBS Act and, for as long as we continue to be an emerging growth company, we may choose to take advantage of certain exemptions from various reporting requirements applicable to other public companies including, but not limited to: not being required to have our internal control over financial reporting audited by our independent registered public accounting firm pursuant to Section 404 of the Sarbanes-Oxley Act; reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements; and exemptions from the requirements to hold a nonbinding advisory vote on executive compensation and to obtain stockholder approval of any golden parachute payments not previously approved. We may take advantage of these provisions until such time that we are no longer an “emerging growth company.” We will cease to be an “emerging growth company” upon the earliest of December 31, 2019 or the date on which we have, during the previous three-year period, issued more than \$1 billion in non-convertible debt securities. To the extent we take advantage of any of these reduced reporting burdens in this Annual Report or in future filings, the information that we provide our security holders may be different than you might get from other

public companies in which you hold equity interests. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock, and our stock price may be more volatile. Under Section 107(b) of the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We are choosing to “opt out” of such extended transition period, however, and as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. Section 107 of the JOBS Act provides that our decision to opt out of the extended transition period for complying with new or revised accounting standards is irrevocable. The requirements of being a public company may strain our resources and divert management’s attention.

The uncertainty surrounding the implementation and effect of Brexit may cause increased economic volatility, affecting our operations and business.

On June 23, 2016, voters in the United Kingdom (“UK”) approved an advisory referendum to withdraw from membership in the European Union (“E.U.”), this proposed exit (referred to as Brexit) could cause disruptions to, and create uncertainty surrounding, our business in the UK and E.U., including affecting our relationships with our existing and future customers, suppliers and employees. As a result, Brexit could have an adverse effect on our future business, financial results and operations. The formal process for the UK leaving the E.U. began in March 2017, when the UK served notice to the European Council under Article 50 of the Treaty of Lisbon. The long-term nature of the UK’s relationship with the E.U. is unclear and there is considerable uncertainty as to when any relationship will be agreed upon and implemented. The announcement of Brexit has resulted in significant volatility in global stock market and currency exchange rate fluctuations that resulted in strengthening of the U.S. dollar relative to other foreign currencies in which we conduct business. The political and economic instability created by Brexit has caused and may continue to cause significant volatility in global financial markets and uncertainty regarding the regulation of data protection in the UK. Brexit could also have the effect of disrupting the free movement of goods, services, and people between the UK, the E.U., and elsewhere. The effects of Brexit will depend on any agreements the UK makes to retain access to E.U. markets either during a transitional period or more permanently. Brexit could lead to legal uncertainty and potentially divergent national laws and regulations as the UK determines which E.U. laws to replace or replicate. Further, uncertainty around these and related issues could lead to adverse effects on the economy of the UK and the other economies in which we operate. There can be no assurance that any or all of these events will not have a material adverse effect on our business operations, results of operations and financial condition.

Risks Related to Ownership of Our Common Stock

The market price of our common stock may be volatile, which could result in substantial losses for investors.

The market price of our common stock could be subject to significant fluctuations. Some of the factors that may cause the market price of our common stock to fluctuate include:

- actual or anticipated changes in the estimates of our operating results that we provide to the public, our failure to meet these projections or changes in recommendations by securities analysts that elect to follow our common stock;
- price and volume fluctuations in the overall equity markets from time to time;
- significant volatility in the market price and trading volume of comparable companies;
- changes in the market perception of enterprise work management software generally or in the effectiveness of our applications in particular;
- disruptions in our services due to computer hardware, software or network problems;
- announcements of technological innovations, new products, strategic alliances or significant agreements by us or by our competitors;
- announcements of new customer agreements or upgrades and customer downgrades or cancellations or delays in customer purchases;
- litigation involving us;

- our ability to successfully consummate and integrate acquisitions;
- investors' general perception of us;
- recruitment or departure of key personnel;
- sales of our common stock by us or our stockholders;
- fluctuations in the trading volume of our shares or the size of our public float;
- and

• general economic, legal, industry and market conditions and trends unrelated to our performance.

In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been brought against that company. Because of the potential volatility of our stock price, we may become the target of securities litigation in the future. If we were to become involved in securities litigation, it could result in substantial costs, divert management's attention and resources from our business and adversely affect our business.

If securities or industry analysts do not publish, or cease publishing, research or reports about us, our business or our market, if they publish negative evaluations of our stock, or if we fail to meet the expectations of analysts, the price of our stock and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts may publish about us, our business, our market or our competitors. If few analysts commence coverage of us, the trading price of our stock would likely decrease if one or more of the analysts covering our business downgrade their evaluation of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline.

Furthermore, if our operating results fail to meet analysts' expectations our stock price would likely decline.

Sales of a substantial number of shares of our common stock in the public market by our existing stockholders could cause our stock price to fall.

The price of our common stock could decline if there are substantial sales of our common stock in the public stock market. On December 12, 2018, we filed a shelf registration statement on Form S-3. If we sell a significant amount of stock at one time, our stock price could be negatively impacted by such sale. We also have registered shares of common stock that we may issue under our stock-based compensation plans, which can be freely sold in the public market upon issuance. Our 2014 Equity Incentive Plan provides for automatic increases to the number of shares available for issuance thereunder and we undertake each year to add those shares to a registration statement on Form S-8. These increases could have a negative effect on our stock price as the holders of such shares elect to sell their shares.

Our existing directors, executive officers and principal stockholders have substantial control over us, which could limit your ability to influence the outcome of key transactions, including a change of control.

As of December 31, 2018, our directors, executive officers, principal stockholders and their affiliates beneficially owned or controlled, directly or indirectly, a majority of our outstanding common stock. As a result, these stockholders, acting together, could have significant influence over the outcome of matters submitted to our stockholders for approval, including the election or removal of directors, any amendments to our certificate of incorporation or bylaws and any merger, consolidation or sale of all or substantially all of our assets, and over the management and affairs of our company. This concentration of ownership may also have the effect of delaying or preventing a change in control of our company or discouraging others from making tender offers for our shares and might affect the market price of our common stock.

Because we do not expect to pay any dividends on our common stock for the foreseeable future, our investors may never receive a return on their investment.

We do not anticipate that we will pay any cash dividends to holders of our common stock in the foreseeable future. Instead, we plan to retain any earnings to maintain and expand our existing operations. In addition, our ability to pay cash dividends is currently limited by the terms of our existing loan facility, which prohibits our payment of dividends on our capital stock without prior consent, and any future credit facility may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. Accordingly,

investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any return on their investment.

Anti-takeover provisions in our amended and restated certificate of incorporation and our amended and restated bylaws, as well as provisions of Delaware law, might discourage, delay or prevent a change in control of our company or changes in our board of directors or management and, therefore, depress the trading price of our common stock. Provisions in our certificate of incorporation and bylaws, as amended and restated, will contain provisions that may depress the market price of our common stock by acting to discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares of our common stock. These provisions may also prevent or frustrate attempts by our stockholders to replace or remove members of our board of directors or our management. These provisions include the following:

- our certificate of incorporation provides for a classified board of directors with staggered three-year terms so that not all members of our board of directors are elected at one time;

- directors may be removed by stockholders only for cause;

- our board of directors has the right to elect directors to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;

- special meetings of our stockholders may be called only by our Chief Executive Officer, our board of directors or holders of not less than the majority of our issued and outstanding capital stock limiting the ability of minority stockholders to take certain actions without an annual meeting of stockholders;

- our stockholders may not act by written consent unless the action to be effected and the taking of such action by written consent are approved in advance by our board of directors and, as a result, a holder, or holders, controlling a majority of our capital stock would generally not be able to take certain actions without holding a stockholders' meeting;

- our certificate of incorporation prohibits cumulative voting in the election of directors. This limits the ability of minority stockholders to elect director candidates;

- stockholders must provide timely notice to nominate individuals for election to the board of directors or to propose matters that can be acted upon at an annual meeting of stockholders and, as a result, these provisions may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us; and

- our board of directors may issue, without stockholder approval, shares of undesignated preferred stock, making it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock from engaging in certain business combinations with us.

Any provision of our certificate of incorporation and bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock and could also affect the price that some investors are willing to pay for our common stock. The existence of the foregoing provisions and anti-takeover measures could limit the price that investors might be willing to pay in the future for shares of our common stock. They could also deter potential acquirers of our company, thereby reducing the likelihood that you could receive a premium for your common stock in an acquisition.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our principal corporate offices are located in Austin, Texas, where we occupy approximately 9,900 square feet of space under a lease that expires in June 2025. We also lease office facilities domestically located in California, Massachusetts, Nebraska, New Jersey and Ohio. Internationally we lease office space in Australia, Canada, Ireland, Israel and the United Kingdom. We believe that our properties are generally suitable to meet our needs for the foreseeable future. In addition, to the extent we require additional space in the future, we believe that it would be readily available on commercially reasonable terms.

Item 3. Legal Proceedings

From time to time, we may become involved in legal proceedings arising in the ordinary course of our business. We are not presently a party to any legal proceedings that we believe would, individually or taken together, have a material adverse effect on our business, operating results, financial condition, 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

Market Information

Our common stock is traded on the NASDAQ Global Market, or Nasdaq, under the symbol "UPLD".

As of March 1, 2019, the last reported sales price of our common stock on the Nasdaq Global Market was \$35.28 and there were 39 stockholders of record of our common stock, including Broadridge, which holds shares of our common stock on behalf of an indeterminate number of beneficial owners.

We have never declared or paid dividends on our common stock. We do not expect to pay dividends on our common stock for the foreseeable future. Instead, we anticipate that all of our earnings will be used for the operation and growth of our business. Any future determination to declare cash dividends would be subject to the discretion of our board of directors and would depend upon various factors, including our results of operations, financial condition and liquidity requirements, restrictions that may be imposed by applicable law and our contracts, and other factors deemed relevant by our board of directors. In addition, the terms of our loan facility currently restrict our ability to pay dividends.

Performance Graph

Notwithstanding any statement to the contrary in any of our filings with the SEC, the following information shall not be deemed "filed" with the SEC or "soliciting material" under the Securities Exchange Act of 1934 and shall not be incorporated by reference into any such filings irrespective of any general incorporation language contained in such filing.

The following graph compares the total cumulative stockholder return on our common stock with the total cumulative return of the Nasdaq Computer Technology Index (the "Computer Technology Index") and the S&P 500 Composite Index during the period commencing on November 6, 2014, the initial trading day of our common stock, and ending on December 31, 2018. The graph assumes a \$100 investment at the beginning of the period in our common stock, the stocks represented in the S&P 500 Composite Index and the stocks represented in Computer Technology Index, and reinvestment of any dividends. The Computer Technology Index is designed to represent a cross section of widely-held U.S. corporations involved in various phases of the computer industry. The Computer Technology Index is market-value (capitalization) weighted, based on the aggregate market value of its 27 component stocks. Historical stock price performance should not be relied upon as an indication of future stock price performance.

Recent Sales of Unregistered Securities

In November 2016, the Company issued 24,587 shares of common stock valued at approximately \$200,000 as a result of the escrow release in connection with the acquisition of Ultriva, Inc.

Issuer Purchases of Equity Securities

None.

Equity Compensation Plan Information

For information regarding securities authorized for issuance under equity compensation plans, see Part III, Item 12 of this Annual Report on Form 10-K.

Item 6. Selected Financial Data

The following selected historical consolidated financial data below should be read in conjunction with Item 7: “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” our consolidated financial statements and the related notes appearing in Item 8: “Financial Statements and Supplementary Data” of this Annual Report on Form 10-K to fully understand factors that may affect the comparability of the information presented below.

The consolidated statements of operations data for the years ended December 31, 2018, 2017, and 2016 and the selected consolidated balance sheet data as of December 31, 2018 and December 31, 2017 are derived from our audited consolidated financial statements appearing in Item 8: “Financial Statements and Supplementary Data” of this Annual Report on Form 10-K. The statement of operations data for the years ended December 31, 2015 and 2014 and the selected consolidated balance sheet data as of December 31, 2016, 2015, and 2014 are derived from our consolidated financial statements not included in this Annual Report on Form 10-K. To obtain further information about our historical results, including our historical acquisitions, for which results of operations are included in our consolidated financial statements beginning on the dates of acquisition, you should read the following selected consolidated financial data in conjunction with our consolidated financial statements and related notes, the information in the section of this filing titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the other financial information included elsewhere in this filing. Our historical results are not necessarily indicative of the results to be expected in the future, and our interim results are not necessarily indicative of the results to be expected in the future.

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	Year Ended December 31,				
	2018(1)	2017	2016	2015	2014
(dollars in thousands, except share and per share data)					
Consolidated Statements of Operations Data:					
Revenue:					
Subscription and support	\$136,578	\$85,467	\$65,552	\$57,193	\$48,625
Perpetual license	3,902	4,346	1,650	2,805	2,787
Total product revenue	140,480	89,813	67,202	59,998	51,412
Professional services	9,405	8,139	7,565	9,913	13,162
Total revenue	149,885	97,952	74,767	69,911	64,574
Cost of revenue:					
Subscription and support	42,881	28,454	22,734	19,586	14,042
Professional services	5,708	5,193	4,831	7,085	9,079
Total cost of revenue	48,589	33,647	27,565	26,671	23,121
Gross profit	101,296	64,305	47,202	43,240	41,453
Operating expenses:					
Sales and marketing	20,935	15,307	12,160	12,965	14,670
Research and development	21,320	15,795	14,919	15,778	26,165
Refundable Canadian tax credits	(406)	(542)	(513)	(470)	(1,094)
General and administrative	32,041	23,291	18,286	18,201	13,561
Depreciation and amortization	14,272	6,498	5,291	4,534	4,310
Acquisition-related expenses	18,728	15,092	5,583	2,455	2,186
Total operating expenses	106,890	75,441	55,726	53,463	59,798
Loss from operations	(5,594)	(11,136)	(8,524)	(10,223)	(18,345)
Other expense:					
Interest expense, net	(13,273)	(6,582)	(2,781)	(1,858)	(1,951)
Other income (expense), net	(1,781)	289	(678)	(544)	101
Total other expense	(15,054)	(6,293)	(3,459)	(2,402)	(1,850)
Loss before provision for income taxes	(20,648)	(17,429)	(11,983)	(12,625)	(20,195)
Benefit from (provision for) income taxes	9,809	(1,296)	(1,530)	(1,039)	78
Net loss	(10,839)	(18,725)	(13,513)	(13,664)	(20,117)
Preferred stock dividends and accretion	—	—	—	—	(1,524)
Net loss attributable to common shareholders	\$(10,839)	\$(18,725)	\$(13,513)	\$(13,664)	\$(21,641)
Net loss per common share:					
Net loss per common share, basic and diluted	\$(0.54)	\$(1.02)	\$(0.82)	\$(0.91)	\$(4.43)
Weighted-average common shares outstanding, basic and diluted	19,985,528	18,411,247	16,472,799	14,939,601	4,889,901

(1) We adopted the new revenue standard on January 1, 2018 using the modified retrospective method. Revenue for the twelve months ended December 31, 2018 increased \$0.2 million as a result of the application of the new revenue standard. In addition, sales commissions, included in 'Sales and marketing', decreased \$2.4 million due to the requirement under then new standard to capitalize costs associated with obtaining a contract. During the twelve months ended December 31, 2018, the effect on earnings per share of the adoption of ASC 606 was an increase in earnings per share of \$0.13. Refer to Note 2. Summary of Significant Accounting Policies and Note 12. Revenue Recognition to our consolidated financial statements for further discussion regarding the adoption of ASC 606.

	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(dollars in thousands)				
Consolidated Balance Sheet Data:					
Cash and cash equivalents	\$16,738	\$22,326	\$28,758	\$18,473	\$30,988
Property and equipment, net	2,827	2,927	4,356	6,001	3,930
Intangible assets, net	179,572	70,043	28,512	31,526	34,751
Goodwill	225,322	154,607	69,097	47,422	45,146
Total assets	483,198	281,259	150,588	122,414	135,686
Deferred revenue	58,204	45,377	23,799	19,939	21,376
Total liabilities	395,891	189,844	91,575	62,144	64,289
Total stockholders' equity (deficit)	87,307	91,415	59,013	60,270	71,397

	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(dollars in thousands, except %)				
Other Financial Data:					
Annualized recurring revenue value at year-end ⁽¹⁾	\$131,919	\$106,099	\$63,968	\$58,918	\$56,800
Annual net dollar retention rate ⁽²⁾	98	% 93	% 95	% 90	% 96
Adjusted EBITDA ⁽³⁾	\$53,105	\$30,316	\$12,616	\$4,143	\$4,213

(1) Annualized recurring revenue value at year-end. The value as of December 31 equals the monthly value of our recurring revenue contracts measured as of December 31 multiplied by 12. This measure excludes the revenue value of certain uncontracted overage fees and on-demand service fees. See "Management's Discussion and Analysis of Financial Condition and Results of Operations-Key Metrics" for additional discussion of this key metric.

(2) Annual net dollar retention rate. We define annual net dollar retention rate as of December 31 as the aggregate annualized recurring revenue value at December 31 from those customers that were also customers as of December 31 of the prior fiscal year, divided by the aggregate annualized recurring revenue value from all customers as of December 31 of the prior fiscal year. This measure excludes the revenue value of certain uncontracted overage fees and on-demand service fees. See "Management's Discussion and Analysis of Financial Condition and Results of Operations-Key Metrics" for additional discussion of this key metric.

(3) Adjusted EBITDA. We monitor our Adjusted EBITDA to help us evaluate the effectiveness and efficiency of our operations. Adjusted EBITDA is a non-GAAP financial measure. We define Adjusted EBITDA as net income (loss), calculated in accordance with GAAP, plus net income (loss) from discontinued operations, depreciation and amortization expense, interest expense, net, other expense (income), net, provision for income taxes, stock-based compensation expense, acquisition-related expenses, stock-based compensation expense granted to related party vendors, non-recurring litigation costs, and purchase accounting adjustments for deferred revenue.

The following table presents a reconciliation of net loss to Adjusted EBITDA:

	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(dollars in thousands)				
Net loss	\$(10,839)	\$(18,725)	\$(13,513)	\$(13,664)	\$(20,117)
Depreciation and amortization expense	21,347	11,914	9,794	8,451	7,457
Interest expense, net	13,273	6,582	2,781	1,858	1,951
Other expense (income), net	1,781	(289)	678	544	(101)
Provision for income taxes	(9,809)	1,296	1,530	1,039	(78)
Stock-based compensation expense	14,130	9,977	4,333	2,741	1,077
Acquisition-related expense	18,728	15,092	5,583	2,455	2,186
Stock-based compensation expense - related party vendor	—	—	—	—	11,220
Non-recurring litigation costs	—	—	25	406	256
Purchase accounting deferred revenue discount	4,494	4,469	1,405	313	362
Adjusted EBITDA	\$53,105	\$30,316	\$12,616	\$4,143	\$4,213

We believe that Adjusted EBITDA provides useful information to management, investors and others in understanding and evaluating our operating results for the following reasons:

Adjusted EBITDA is widely used by investors and securities analysts to measure a company's operating performance without regard to items that can vary substantially from company to company depending upon their financing, capital structures and the method by which assets were acquired;

our management uses Adjusted EBITDA in conjunction with GAAP financial measures for planning purposes, in the preparation of our annual operating budget, as a measure of our operating performance, to assess the effectiveness of our business strategies and to communicate with our board of directors concerning our financial performance because Adjusted EBITDA eliminates the impact of items that we do not consider indicative of our core operating performance; and

- Adjusted EBITDA provides more consistency and comparability with our past financial performance, facilitates period-to-period comparisons of our operations and also facilitates comparisons with other companies, many of which use similar non-GAAP financial measures to supplement their GAAP results.

Adjusted EBITDA should not be considered as an alternative to net loss or any other measure of financial performance calculated and presented in accordance with GAAP. The use of Adjusted EBITDA as an analytical tool has limitations such as:

depreciation and amortization are non-cash charges, and the assets being depreciated or amortized will often have to be replaced in the future and Adjusted EBITDA does not reflect cash requirements for such replacements; however, much of the depreciation and amortization currently reflected relates to amortization of acquired intangible assets as a result of business combination purchase accounting adjustments, which will not need to be replaced in the future;

Adjusted EBITDA may not reflect changes in, or cash requirements for, our working capital needs or contractual commitments;

Adjusted EBITDA does not reflect the potentially dilutive impact of stock-based compensation;

Adjusted EBITDA does not reflect interest or tax payments that could reduce cash available for use; and

other companies, including companies in our industry, might calculate Adjusted EBITDA or similarly titled measures differently, which reduces their usefulness as comparative measures.

Because of these limitations, you should consider Adjusted EBITDA together with other financial performance measures, including various cash flow metrics, net loss and our other GAAP results.

The following tables present stock-based compensation, depreciation and amortization included in the respective line items in our Consolidated Statement of Operations:

	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(dollars in thousands)				
Stock-based compensation:					
Cost of revenue	\$654	\$436	\$44	\$42	\$49
Research and development	1,250	796	204	203	61
Sales and marketing	533	232	105	65	39
General and administrative	11,693	8,513	3,980	2,431	928
Total	\$14,130	\$9,977	\$4,333	\$2,741	\$1,077

	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(dollars in thousands)				

Depreciation:					
Cost of revenue	\$1,644	\$1,904	\$2,030	\$1,800	\$1,303
Depreciation and amortization	607	712	657	452	987
Total	\$2,251	\$2,616	\$2,687	\$2,252	\$2,290

	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(dollars in thousands)				

Amortization:					
Cost of revenue	\$5,431	\$3,512	\$2,473	\$2,116	\$1,844
Depreciation and amortization	13,665	5,786	4,634	4,083	3,323
Total	\$19,096	\$9,298	\$7,107	\$6,199	\$5,167

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

You should read the following discussion of our financial condition and results of operations in conjunction with the consolidated financial statements and the notes thereto included elsewhere in this Annual Report on Form 10-K. The following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report on Form 10-K, particularly in Item 1A: "Risk Factors."

This section and other parts of this Annual Report on Form 10-K contain forward-looking statements that involve risks and uncertainties. Forward-looking statements may be identified by the use of forward-looking words such as "anticipate," "believe," "may," "will," "continue," "seek," "estimate," "intend," "hope," "predict," "could," "should," "would," "expect" or the negative or plural of these words or similar expressions, although not all forward-looking statements contain these words. Forward-looking statements are not guarantees of future performance and our actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such differences include, but are not limited to, those discussed in the subsection entitled Item 1A: "Risk Factors" above, which are incorporated herein by reference. The following discussion should be read in conjunction with the consolidated financial statements and notes thereto included in Item 8: "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K. All information presented herein is based on our fiscal calendar. Unless otherwise stated, references in this report to particular years or quarters refer to our fiscal years ended December 31 and the associated quarters of those fiscal years. We assume no obligation to revise or update any forward-looking statements for any reason, except as required by law.

Overview

We provide cloud-based enterprise work management software. We define enterprise work management software as software applications that enable organizations to plan, manage and execute projects and work. Our family of applications enables users to manage their projects, professional workforce and IT investments, automate document-intensive business processes, and effectively engage with their customers, prospects, and community via the web and mobile technologies.

The continued growth of an information-based economy has given rise to a large and growing group of knowledge workers who operate in dynamic work environments as part of geographically dispersed and virtual teams. We believe that manual processes and legacy on-premise enterprise systems are insufficient to address the needs of the modern work environment. In order for knowledge workers to be successful, they need to interact with intuitive enterprise work systems in a collaborative way, including real-time access. Today, legacy processes and systems are being disrupted and replaced by cloud-based enterprise work management software that improves visibility, collaboration and productivity.

In response to these changes, we are providing organizations and their knowledge workers with software applications that better align resources with business objectives and increase visibility, governance, collaboration, quality of customer experience, and responsiveness to changes in the business environment. This results in increased work capacity, higher productivity, better execution, and greater levels of customer engagement. Our applications are easy-to-use, scalable, and offer real-time collaboration for knowledge workers distributed on a local or global scale.

Our software applications address enterprise work challenges in the following enterprise solution categories:

Customer Experience Management. Upland Customer Experience Management, or CXM, solutions enable organizations to manage customer relationships across multiple channels - including email, SMS, MMS, web, social, and mobile apps. Upland products within this solution suite include Upland Mobile Messaging, Rant & Rave, Adestra, and RightAnswers.

Sales Enablement. Upland Sales Enablement solutions enable sales organizations to automate delivery of processes, sales activities, content, systems, and metrics at multiple stages of the sales process. Upland products within this solution suite include Qvidian, RO Innovation, and LeadLander.

Professional Services Automation. Upland Professional Services Automation, or PSA, solutions enable services organizations to manage professional services delivery and related functions. Upland products within this solution suite include Tenrox, RightAnswers, FileBound, RO Innovation, and Qvidian.

Project and Financial Management. Upland Project and Financial Management solutions enable enterprises to manage project portfolios and track, analyze and manage IT, cloud, and telecom spending. Upland products within this solution suite include PowerSteering, Eclipse PPM, RightAnswers, and ComSci.

Enterprise Knowledge Management. Upland Enterprise Knowledge Management, or KM, solutions enable knowledge-sharing across different departments within an organization. Upland products within this solution suite include RightAnswers, Tenrox, and PowerSteering.

Secure Document Services. Upland Secure Document Services solutions enable organizations to manage and automate document intensive business processes with security of data through scan and fax platforms, data monitoring and breach prevention capabilities, and the automated routing of content to its final destination. Upland products within this solution suite include AccuRoute, FileBound, and InterFAX.

Document Lifecycle Automation. Upland Document Lifecycle solutions enable users to digitize, organize, automate, integrate, analyze and optimize high volume processes. Upland products within this solution suite include AccuRoute, FileBound, Qvidian, and RO Innovation.

We sell our software applications primarily through a direct sales organization comprised of inside sales and field sales personnel. In addition to our direct sales organization, we have an indirect sales organization, which sells to distributors and value-added resellers. We employ a land-and-expand go-to-market strategy. After we demonstrate the value of an initial application to a customer, our sales and account management teams work to expand the adoption of that initial application across the customer, as well as cross-sell additional applications to address other enterprise work management needs of the customer. Our customer success organization supports our direct sales efforts by managing the post-sale customer lifecycle.

Our subscription agreements are typically sold either on a per-seat basis or on a minimum contracted volume basis with overage fees billed in arrears, depending on the application being sold. We service customers ranging from large global corporations and government agencies to small- and medium-sized businesses. We have more than 9,000 customers with over 1,000,000 users across a broad range of industries, including financial services, retail, technology, manufacturing, legal, education, consumer goods, media, telecommunications, government, non-profit, food and beverage, healthcare and life sciences.

Through a series of acquisitions and integrations, we have established a diverse family of software applications under the Upland brand and in the product solution categories listed above, each of which addresses a specific enterprise work management need. Our revenue has grown from \$22.8 million in 2012 to \$149.9 million in 2018, representing a 558% period-over-period growth rate. Historically, our revenues have been primarily generated in the United States, however, as a result of acquisitions made over the past three years of companies with more international presence, domestic revenue as a percentage of total revenue has decreased. During the year ended December 31, 2018 domestic revenue as a percent of total revenue decreased to 78% compared to 84% during the year ended December 31, 2016. We expect this trend to continue in 2019 as a result of the acquisitions of Rant & Rave and Adestra during the fourth quarter of 2018, as a majority of each company's operations reside outside the United States. See Note 12 Revenue Recognition in the Notes to Consolidated Financial Statements for more information regarding our revenue as it relates to domestic and foreign operations.

Our operating results in a given period can fluctuate based on the mix of subscription and support, perpetual license and professional services revenue. For the years ended December 31, 2018, 2017 and 2016, our subscription and support revenue accounted for 91%, 87%, and 88%, respectively of our total revenue. Historically, we have sold certain of our applications under perpetual licenses, which also are paid in advance. For the years ended December 31, 2018, 2017 and 2016, our perpetual license revenue accounted for 3%, 4%, and 2% of our total revenue, respectively. The support agreements related to our perpetual licenses are one-year in duration and entitle the customer to support and unspecified upgrades. The revenue related to such support agreements is included as part of our subscription and support revenue. Professional services revenue consists of fees related to implementation, data extraction, integration and configuration and training on our applications. For the years ended

December 31, 2018, 2017 and 2016, our professional services revenue accounted for 6%, 9%, and 10%, respectively. To support continued growth, we intend to pursue acquisitions of complementary technologies, products and businesses. This will expand our product families, customer base, and market access, resulting in increased benefits of scale. We will prioritize acquisitions within our current enterprise solution categories as described in Item 1. Business herein. Consistent with our growth strategy, we have made a total of sixteen acquisitions in the six years ending December 31, 2018.

2018 Acquisitions

Interfax. On March 21, 2018, the Company's wholly owned subsidiary, PowerSteering Software Limited, a limited liability company organized and existing under the laws of England and Wales ("PowerSteering UK"), completed its purchase of the shares comprising the entire issued share capital of Interfax Communications Limited ("Interfax"), an Irish-based software company providing secured cloud-based messaging solutions, including enterprise cloud fax and secure document distribution. In connection with this acquisition, the Company also acquired certain assets related to Interfax's business from a United States based reseller of Interfax's products. The purchase price consideration paid for Interfax was \$33.6 million in cash at closing, net of cash acquired of \$1.4 million, and a \$5.0 million cash holdback payable over 18 months (subject to reduction for indemnification claims). Revenues recorded since the acquisition date through December 31, 2018 were approximately \$12.1 million.

In addition, in connection with the acquisition of Interfax, certain assets and customer relationships of their U.S. reseller ("Marketech") were purchased for \$2.0 million, excluding potential future earn-out payments valued at \$0.3 million tied to additional performance-based goals.

RO Innovation. On June 28, 2018, the Company completed its purchase of RO Innovation, Inc. ("RO Innovation"), a cloud-based customer reference solution for creating, deploying, managing, and measuring customer reference and sales enablement content. The purchase price consideration paid was approximately \$12.3 million in cash payable at closing, net of cash acquired of \$0.2 million, a \$1.8 million cash holdback payable in 12 months (subject to reduction for indemnification claims) and potential future earn-out payments for up to \$7.5 million valued at \$0.0 million as of the acquisition date based on the probability of attainment of future performance-based goals. Revenues recorded since the acquisition date through December 31, 2018 were approximately \$3.0 million.

Rant & Rave. On October 3, 2018, the Company's wholly owned subsidiary, PowerSteering UK, completed its purchase of the shares comprising the entire issued share capital of Rapide Communication LTD, a private company limited by shares organized and existing under the laws of England and Wales doing business as Rant & Rave ("Rant & Rave"), a leading provider of cloud-based customer engagement solutions. The purchase price paid for Rant & Rave was \$58.5 million in cash at closing, net of cash acquired, and a \$6.5 million cash holdback payable in 12 months (subject to indemnification claims). Revenues recorded since the acquisition date through December 31, 2018 were approximately \$5.4 million.

Adestra. On December 12, 2018, the Company completed its purchase of Adestra Ltd. ("Adestra"), a leading provider of enterprise-grade email marketing, transaction and automation software. The purchase price paid was \$56.0 million in cash paid at closing, net of cash acquired, and a \$4.2 million cash holdback payable in 12 months (subject to indemnification claims). Revenues recorded since the acquisition date through December 31, 2018 were approximately \$0.6 million.

2017 Acquisitions

Omtool. On January 11, 2017, Upland completed its acquisition of Omtool, Ltd. ("Omtool"), an enterprise document capture, fax, and workflow solution company. The purchase price paid for Omtool was \$19.3 million (net of cash acquired).

RightAnswers. On April 21, 2017, the Company acquired RightAnswers, Inc. ("RightAnswers"), a cloud-based knowledge management system. The purchase price was \$17.4 million, in cash at closing (net of \$0.1 million cash acquired) and a \$2.5 million cash holdback payable in one year (subject to indemnification claims), and excludes potential future earn-out payments valued at \$4.0 million tied to additional performance-based goals, towards which \$1.0 million was paid in September 2017 and an additional final payment of \$2.0 million was paid during the year ended December 31, 2018.

Waterfall. On July 13, 2017, the Company acquired Waterfall International Inc. (“Waterfall”), a cloud-based mobile messaging platform. The purchase price consideration paid was approximately \$24.4 million in cash at closing (net of \$0.4 million of cash acquired) and a \$1.5 million cash holdback payable in 18 months (subject to indemnification claims). The foregoing excludes an additional potential \$3.0 million in earnout payments tied to performance-based conditions, towards which \$2.2 million was paid during the year ended December 31, 2018 based on the final earn-out calculation.

Qvidian. On November 16, 2017, the Company acquired Qvidian Corporation (“Qvidian”), a provider of cloud-based RFP and sales-proposal automation software. The purchase price consideration paid by the Company was \$50 million, of which \$30 million came from cash on-hand and \$20 million from our credit facility.

2016 Acquisitions

LeadLander. On January 7, 2016, Upland completed its purchase of substantially all of the assets of LeadLander, Inc. (“LeadLander”), a website analytics provider. The purchase price consideration paid was approximately \$8.0 million in cash payable at closing (net of \$0.4 million of cash acquired) and a \$1.2 million cash holdback payable in 12 months (subject to indemnification claims). In addition to the cash consideration described above, the Asset Purchase Agreement included a contingent share consideration component pursuant to which Upland issued an aggregate of \$2.4 million in common stock on July 25, 2016. The Company also paid additional consideration of \$2.4 million in March 2017 in cash to the selling shareholders of LeadLander based on the achievement of certain revenue targets during 2016 and 2017 and no further payments are expected to be made as of December 31, 2018.

HipCricket. On March 14, 2016, Upland completed its purchase of substantially all of the assets of HipCricket, Inc. (“HipCricket”), a cloud-based mobile messaging software provider. The consideration paid to the seller consisted of our issuance of one million shares of our common stock and the transfer of our EPM Live product business. The value of the shares on the closing date of the transaction was approximately \$5.7 million, and the fair value of our EPM Live product business was approximately \$5.9 million. Prior to the transaction, HipCricket was owned by an affiliate of ESW Capital, LLC, which is a shareholder of Upland. Raymond James & Co. provided a fairness opinion to Upland in connection with the transaction.

Advanced Processing & Imaging. On April 27, 2016, Upland acquired Advanced Processing & Imaging, Inc., a content management platform driving workflow in governments and schools. The purchase price consideration consisted of \$4.1 million in cash payable at closing (net of \$0.1 million of cash acquired), and a \$0.8 million cash holdback payable in 12 months (subject to indemnification claims).

Key Metrics

In addition to the GAAP financial measures described below in “Components of Operating Results,” we regularly review the following key metrics to evaluate and identify trends in our business, measure our performance, prepare financial projections and make strategic decisions (in thousands of dollars, except %):

	Year Ended December 31,		
	2018	2017	2016
Other Financial Data:			
Annualized recurring revenue value at year-end ⁽¹⁾	\$131,919	\$106,099	\$63,968
Annual net dollar retention rate ⁽²⁾	98	% 93	% 95
Adjusted EBITDA ⁽³⁾	\$53,105	\$30,316	\$12,616

Annualized recurring revenue value at year-end. The value as of December 31 equals the monthly value of our recurring revenue contracts measured as of December 31 multiplied by 12. This measure excludes the revenue value of uncontracted overage fees and on-demand service fees. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations-Key Metrics” for additional discussion of this key metric.

Annual net dollar retention rate. We define annual net dollar retention rate as of December 31 as the aggregate annualized recurring revenue value at December 31 from those customers that were also customers as of December 31 of the prior fiscal year, divided by the aggregate annualized recurring revenue value from all customers as of December 31 of the prior fiscal year. This measure excludes the revenue value of uncontracted overage fees and on-demand service fees. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations-Key Metrics” for additional discussion of this key metric.

Adjusted EBITDA. We monitor our Adjusted EBITDA to help us evaluate the effectiveness and efficiency of our operations. Adjusted EBITDA is a non-GAAP financial measure. We define Adjusted EBITDA as net income (loss), calculated in accordance with GAAP, plus net income (loss) from discontinued operations, depreciation and amortization expense, interest expense, net, other expense (income), net, provision for income taxes, stock-based compensation expense, acquisition-related expenses, non-recurring litigation costs, and purchase accounting adjustments for deferred revenue. Prior to the filing of the Annual Report on Form 10-K for the year ended December 31, 2017, we did not include purchase accounting adjustments for deferred revenue as a component of Adjusted EBITDA, and as such, prior year Adjusted EBITDA amounts for years ended prior to December 31, 2017 presented herein have been recast to reflect the inclusion of purchase accounting adjustments for deferred revenue. The following table presents a reconciliation of net loss from continuing operations, the most comparable GAAP measure, to Adjusted EBITDA for each of the periods indicated (in thousands).

	Year Ended December 31,		
	2018	2017	2016
Net loss	\$(10,839)	\$(18,725)	\$(13,513)
Depreciation and amortization expense	21,347	11,914	9,794
Interest expense, net	13,273	6,582	2,781
Other expense (income), net	1,781	(289)	678
Provision for income taxes	(9,809)	1,296	1,530
Stock-based compensation expense	14,130	9,977	4,333
Acquisition-related expense	18,728	15,092	5,583
Non-recurring litigation costs	—	—	25
Purchase accounting deferred revenue discount	4,494	4,469	1,405
Adjusted EBITDA	\$53,105	\$30,316	\$12,616

We believe that Adjusted EBITDA provides useful information to management, investors and others in understanding and evaluating our operating results for the following reasons:

Adjusted EBITDA is widely used by investors and securities analysts to measure a company’s operating performance without regard to items that can vary substantially from company to company depending upon their financing, capital structures and the method by which assets were acquired;

our management uses Adjusted EBITDA in conjunction with GAAP financial measures for planning purposes, in the preparation of our annual operating budget, as a measure of our operating performance, to assess the effectiveness of our business strategies and to communicate with our board of directors concerning our financial performance because Adjusted EBITDA eliminates the impact of items that we do not consider indicative of our core operating performance;

- Adjusted EBITDA provides more consistency and comparability with our past financial performance, facilitates period-to-period comparisons of our operations and also facilitates comparisons with other companies, many of which use similar non-GAAP financial measures to supplement their GAAP results; and

Adjusted EBITDA should not be considered as an alternative to net loss or any other measure of financial performance calculated and presented in accordance with GAAP. The use of Adjusted EBITDA as an analytical tool has limitations such as:

depreciation and amortization are non-cash charges, and the assets being depreciated or amortized will often have to be replaced in the future and Adjusted EBITDA does not reflect cash requirements for such replacements; however, much of the depreciation and amortization currently reflected relates to amortization of acquired intangible assets as a result of business combination purchase accounting adjustments, which will not need to be replaced in the future;

Adjusted EBITDA may not reflect changes in, or cash requirements for, our working capital needs or contractual commitments;

Adjusted EBITDA does not reflect the potentially dilutive impact of stock-based compensation;

Adjusted EBITDA does not reflect interest or tax payments that could reduce cash available for use; and, other companies, including companies in our industry, might calculate Adjusted EBITDA or similarly titled measures differently, which reduces their usefulness as comparative measures.

Because of these limitations, you should consider Adjusted EBITDA together with other financial performance measures, including various cash flow metrics, net loss and our other GAAP results.

Components of Operating Results

Revenue

Subscription and support revenue. We derive our subscription revenue from fees paid to us by our customers for use of our cloud-based applications. We recognize the revenue associated with subscription agreements ratably over the term of the agreement as the customer receives and consumes the benefits of the cloud services through the contract period. Our subscription agreements are typically one to three years.

Our support revenue consists of maintenance fees associated with our perpetual licenses and hosting fees paid to us by our customers. Typically, when purchasing a perpetual license, a customer also purchases maintenance for which we charge a fee, priced as a percentage of the perpetual license fee. Maintenance agreements include the right to support and unspecified upgrades. We recognize the revenue associated with maintenance ratably over the term of the contract. In limited instances, at the customer's option, we may host the software purchased by a customer under a perpetual license on systems at our third-party data centers.

Perpetual license revenue. Perpetual license revenue reflects the revenue recognized from sales of perpetual licenses to new customers and additional perpetual licenses to existing customers. We generally recognize the license fee portion of the arrangement up-front at a point in time when the software is made available to the customer.

Professional services revenue. Professional services revenue consists of fees related to implementation, data extraction, integration and configuration and training on our applications. We generally recognize the revenue associated with these professional services over time as services are performed. Revenues for fixed price services are generally recognized over time applying input methods to estimate progress to completion. Revenues for consumption-based services are generally recognized as the services are performed.

Cost of Revenue

Cost of product revenue. Cost of product revenue consists primarily of personnel and related costs of our customer success and cloud operations teams, including salaries, benefits, bonuses, payroll taxes, stock-based compensation, and allocated overhead, as well as software license fees, hosting costs, Internet connectivity, and depreciation expenses directly related to delivering our applications. We expect that cost of revenues may increase in the future depending on the growth rate of our new customers and billings and our need to support the implementation, hosting and support of those new customers. We intend to continue to invest additional resources in

expanding the delivery capability of our applications. As we add hosting infrastructure capacity and support personnel in advance of anticipated growth, our cost of product revenue will increase, and if such anticipated revenue growth does not occur, our product gross profit will be adversely affected both in terms of absolute dollars and as a percentage of total revenues in any particular quarterly or annual period. Our cost of product revenue is generally expensed as the costs are incurred.

Cost of professional services revenue. Cost of professional services revenue consists primarily of personnel and related costs, including salaries, benefits, bonuses, payroll taxes, stock-based compensation, and allocated overhead, as well as the costs of contracted third-party vendors and reimbursable expenses. As most of our personnel are employed on a full-time basis, our cost of professional services revenue is largely fixed in the short-term, while our professional services revenue may fluctuate, leading to fluctuations in professional services gross profit. We expect that cost of professional services as a percentage of total revenues could fluctuate from period to period depending on the growth of our professional services business, the timing of sales of applications, and any associated costs relating to the delivery of services. Our cost of professional services revenue is generally expensed as costs are incurred.

Operating Expenses

Our operating expenses are classified into six categories: sales and marketing, research and development, refundable Canadian tax credits, general and administrative, depreciation and amortization and acquisition-related expenses. For each category, other than refundable Canadian tax credits and depreciation and amortization, the largest expense component is personnel and related costs, which includes salaries, employee benefit costs, bonuses, commissions, stock-based compensation, and payroll taxes. Operating expenses also include allocated overhead costs for facilities, which are allocated to each department based on relative department headcount. Operating expenses are generally recognized as incurred.

Sales and marketing. Sales and marketing expenses primarily consist of personnel and related costs for our sales and marketing staff, including salaries, benefits, commissions, bonuses, payroll taxes, stock-based compensation and allocated overhead, as well as costs of promotional events, corporate communications, online marketing, product marketing and other brand-building activities. We expense sales commissions when the initial customer contract is signed and upon any renewal as our obligation to pay a sales commission arises at these times. Sales and marketing expenses may fluctuate as a percentage of total revenues for a variety of reasons including due to the timing of such expenses, in any particular quarterly or annual period.

Research and development. Research and development expenses primarily consist of personnel and related costs of our research and development staff, including salaries, benefits, bonuses, payroll taxes, stock-based compensation, allocated overhead, and costs of certain third-party contractors. Research and development costs related to the development of our software applications are generally recognized as incurred. For example, we are parties to a technology services agreement pursuant to which we generally recognize expenses for services as they are received. See Note 15 Related Party Transactions, of the Notes to Consolidated Financial Statements for more information regarding how expenses under such agreement are recognized. We have devoted our product development efforts primarily to enhancing the functionality, and expanding the capabilities, of our applications.

Refundable Canadian tax credits. Investment tax credits are accounted for as a reduction of research and development costs. Credits are accrued in the year in which the research and development costs of the capital expenditures are incurred, provided that we are reasonably certain that the credits will be received. The investment tax credit must be examined and approved by the tax authorities, and it is possible that the amounts granted will differ from the amounts recorded.

General and administrative. General and administrative expenses primarily consist of personnel and related costs for our executive, administrative, finance, information technology, legal, accounting and human resource staff, including salaries, benefits, bonuses, payroll taxes, stock-based compensation, allocated overhead, professional fees, and other corporate expenses. We have recently incurred, and expect to continue to incur, additional expenses as we grow our operations, including potentially higher legal, corporate insurance, accounting and auditing expenses, and the additional costs of enhancing and maintaining our internal control environment. General and administrative

expenses may fluctuate as a percentage of revenue, and overtime we expect that general and administrative expenses will decrease as a percent of revenue due to operational efficiencies.

Depreciation and amortization. Depreciation and amortization expenses primarily consist of depreciation and amortization of acquired intangible assets as a result of business combination purchase accounting adjustments. The valuation of identifiable intangible assets reflects management's estimates based on, among other factors, use of established valuation methods. Customer relationships are valued using an income approach, which estimates fair value based on the earnings and cash flow capacity of the subject asset and are amortized over a seven to ten-year period. The value of the trade name intangibles are determined using a relief from royalty method, which estimates fair value based on the value the owner of the asset receives from not having to pay a royalty to use the asset and are amortized over mostly a three-year period. Developed technology is valued using a cost-to-recreate approach and is amortized over a four- to seven-year period.

Acquisition-related expenses. Acquisition-related expenses consist of one-time costs in connection with each of our acquisitions, including legal fees, accounting fees, financing fees, transformation costs, integration costs, and other transactional fees and bonuses. We intend to continue executing our focused strategy of acquisitions to enhance the features and functionality of our applications, expand our customer base, and provide access to new markets and increased benefits of scale.

Total Other Expense

Total other expense consists primarily of amortization of deferred financing costs over the term of the related loan facility, revaluation of contingent consideration, and interest expense on outstanding debt, including amortization of debt issuance costs.

Income Taxes

Because we have not generated domestic net income in any period to date, we have recorded a full valuation allowance against our domestic net deferred tax assets, exclusive of tax deductible goodwill. We have historically not recorded any material provision for federal or state income taxes, other than deferred taxes related to tax deductible goodwill and current taxes in certain separate company filing states. The balance of the tax provision for the years ended December 31, 2018, 2017, and 2016, outside of tax deductible goodwill and current taxes in separate filing states, is related to foreign income taxes, primarily operations of our Canadian and UK subsidiaries. Realization of any of our domestic deferred tax assets depends upon future earnings, the timing and amount of which are uncertain. Based on analysis of acquired net operating losses, utilization of our net operating losses will be subject to annual limitations due to the ownership change rules under the Internal Revenue Code of 1986, as amended, or the Code, and similar state provisions. In the event we have subsequent changes in ownership, the availability of net operating losses and research and development credit carryovers could be further limited.

Results of Operations

Consolidated Statements of Operations Data

The following tables set forth our results of operations for the specified periods, as well as our results of operations for the specified periods as a percentage of revenue. The period-to-period comparisons of results of operations are not necessarily indicative of results for future periods (dollars in thousands, except share and per share data).

	Year Ended December 31,					
	2018		2017		2016	
	Amount	Percent of Revenue	Amount	Percent of Revenue	Amount	Percent of Revenue
Revenue:						
Subscription and support	\$ 136,578	91%	\$ 85,467	87%	\$ 65,552	88%
Perpetual license	3,902	3%	4,346	4%	1,650	2%
Total product revenue	140,480	94%	89,813	91%	67,202	90%
Professional services	9,405	6%	8,139	9%	7,565	10%
Total revenue	149,885	100%	97,952	100%	74,767	100%
Cost of revenue:						
Subscription and support (1)(2)	42,881	29%	28,454	29%	22,734	30%
Professional services	5,708	3%	5,193	5%	4,831	7%
Total cost of revenue	48,589	32%	33,647	34%	27,565	37%
Gross profit	101,296	68%	64,305	66%	47,202	63%
Operating expenses:						
Sales and marketing (1)	20,935	14%	15,307	16%	12,160	16%
Research and development (1)	21,320	14%	15,795	16%	14,919	20%
Refundable Canadian tax credits	(406)	—%	(542)	(1)%	(513)	(1)%
General and administrative (1)	32,041	21%	23,291	24%	18,286	24%
Depreciation and amortization	14,272	10%	6,498	7%	5,291	7%
Acquisition-related expenses	18,728	12%	15,092	15%	5,583	9%
Total operating expenses	106,890	71%	75,441	77%	55,726	75%
Gain (loss) from operations	(5,594)	(3)%	(11,136)	(11)%	(8,524)	(12)%
Other Expense:						
Interest expense, net	(13,273)	(9)%	(6,582)	(7)%	(2,781)	(4)%
Other income (expense), net	(1,781)	(1)%	289	1%	(678)	(1)%
Total other expense	(15,054)	(10)%	(6,293)	(6)%	(3,459)	(5)%
Loss before provision for income taxes	(20,648)	(13)%	(17,429)	(17)%	(11,983)	(17)%
Provision for income taxes	9,809	6%	(1,296)	(2)%	(1,530)	(1)%
Net loss ⁽³⁾	(10,839)	(7)%	(18,725)	(19)%	(13,513)	(18)%
Net loss per common share:						
Loss from continuing operations per common share, basic and diluted	\$(0.54)		\$(1.02)		\$(0.82)	
Weighted-average common shares outstanding, basic and diluted (3)	19,985,528		18,411,247		16,472,799	

(1) Includes stock-based compensation. See 'Item 6. Selected Financial Data' herein for a detail of stock based compensation by operating expense line item.

(2) Includes depreciation and amortization of \$7,075,000, \$5,416,000, and \$4,503,000 in 2018, 2017, and 2016, respectively.

See Note 8 Net Loss Per Share, of the Notes to Consolidated Financial Statements included elsewhere in this 10-K (3) for a discussion and reconciliation of historical net loss attributable to common stockholders and weighted average shares outstanding for historical basic and diluted net loss per share calculations.

Comparison of Years Ended December 31, 2018 and December 31, 2017

Revenue

	Year Ended December 31, 2018		2017		Change	
	Amount	Percent of Revenue	Amount	Percent of Revenue	Amount	% Change
	(dollars in thousands)					
Revenue:						
Subscription and support	\$136,578	91%	\$85,467	87%	\$51,111	60%
Perpetual license	3,902	3%	4,346	4%	(444)	(10)%
Total product revenue	140,480	94%	89,813	91%	50,667	56%
Professional services	9,405	6%	8,139	9%	1,266	16%
Total revenue	\$149,885	100%	\$97,952	100%	\$51,933	53%

Total revenue was \$149.9 million in 2018, compared to \$98.0 million in 2017, an increase of \$51.9 million, or 53%. Of the increase in total revenue, \$51.9 million was due to the acquisitions we closed after January 11, 2017.

Subscription and support revenue was \$136.6 million in 2018, compared to \$85.5 million in 2017, an increase of \$51.1 million, or 60%. Of the increase in subscription and support revenue, \$48.8 million was due to the acquisitions we closed after January 11, 2017. The organic subscription and support revenue increased by \$2.3 million, or 3%.

Perpetual license revenue was \$3.8 million in 2018, compared to \$4.3 million in 2017, a decrease of \$0.5 million, or 10%. The acquisitions we closed after January 11, 2017 contributed a \$0.3 million increase in perpetual license revenue. The organic perpetual revenue declined by \$0.8 million, or 19%.

Professional services revenue was \$9.4 million in 2018, compared to \$8.1 million in 2017, an increase of \$1.3 million, or 16%. The acquisitions we closed after January 11, 2017 contributed a \$2.8 million increase to professional services revenue. The organic professional services revenue declined by \$1.5 million, or 21%.

Cost of Revenue and Gross Profit Percentage

	Year Ended December 31, 2018		2017		Change	
	Amount	Percent of Revenue	Amount	Percent of Revenue	Amount	% Change
	(dollars in thousands)					
Cost of revenue:						
Subscription and support ⁽¹⁾	\$42,881	29%	\$28,454	29%	\$14,427	51%
Professional services	5,708	3%	5,193	5%	515	10%
Total cost of revenue	48,589	32%	33,647	34%	14,942	44%
Gross profit	\$101,296	68%	\$64,305	66%	\$36,991	58%

⁽¹⁾ Includes depreciation and amortization expense as follows:

Depreciation	\$1,644	1%	\$1,904	2%	\$(260)	(14)%
Amortization	\$5,431	4%	\$3,512	4%	\$1,919	55%

Cost of subscription and support revenue was \$42.9 million in 2018, compared to \$28.5 million in 2017, an increase of \$14.4 million, or 51%. The acquisitions closed after January 11, 2017 contributed to a \$15.6 million increase in cost of subscription and support revenue. Of the \$15.6 million increase, \$6.8 million was due to mobile messaging costs associated with the Waterfall and Rant & Rave acquisitions, \$2.8 million increase in personnel and related costs, \$2.1 million increase in depreciation and amortization costs, \$1.7 million was due to telephony costs

related to the acquisition of Interfax, \$1.1 million was due to hosting and infrastructure costs, and the remaining \$1.1 million from miscellaneous costs. The organic portion of our business contributed to a \$1.2 million decrease. Of the \$1.2 million decrease, \$0.4 million was due to a decrease in depreciation and amortization expense primarily due to a decrease in amortization expense of acquired intangible assets created from our purchase business combinations accounting, \$0.3 million was related to personnel and related costs, most of which were the result of our planned operating efficiencies, \$0.3 million was related to contractor costs, and the remaining \$0.2 million was related to miscellaneous costs.

Cost of professional services revenue was \$5.7 million in 2018, compared to \$5.2 million in 2017, an increase of \$0.5 million, or 10%. The acquisitions we closed after January 11, 2017 contributed a \$1.5 million increase in cost of professional services revenue. Of the \$1.5 million increase, \$1.2 million was attributable to personnel and related costs, \$0.2 million is attributable to contractor fees, and the remaining \$0.1 million was due to miscellaneous expenses. Cost of professional services revenue for organic business decreased \$1.0 million driven by a \$0.7 million reduction in personnel and related costs, \$0.2 million attributable to the reduction of contractor fees and a \$0.1 million reduction in miscellaneous expenses, most of which are the result of our planned operating efficiencies.

Operating Expenses

Sales and Marketing Expense

	Year Ended December 31,		Change
	2018	2017	
	Amount	Percent of Revenue	Amount % Change
(dollars in thousands)			
Sales and marketing	\$20,935	14%	\$15,307 16% \$5,628 37%

Sales and marketing expense was \$20.9 million in 2018, compared to \$15.3 million in 2017, an increase of \$5.6 million, or 37%. The acquisitions we closed after January 11, 2017 contributed an increase of \$5.4 million in sales and marketing expense comprised of \$4.6 million of personnel and related costs, \$0.5 million of increased general marketing spend, and the remaining \$0.3 million was driven by miscellaneous costs. The organic business contributed a \$0.2 million increase to sales and marketing expense, which was attributable primarily to an increase in personnel and related costs.

Research and Development Expense

	Year Ended December 31,		Change
	2018	2017	
	Amount	Percent of Revenue	Amount % Change
(dollars in thousands)			
Research and development:			
Research and development	\$21,320	14%	\$15,795 16% \$5,525 35%
Refundable Canadian tax credits	(406)	—%	(542) —% 136 (25)%
Total research and development	\$20,914	14%	\$15,253 16% \$5,661 37%

Research and development expense was \$21.3 million in 2018, compared to \$15.8 million in 2017, an increase of \$5.5 million, or 35%. The \$5.0 million increase from acquisitions closed after January 11, 2017 was comprised of \$3.8 million in personnel and related costs, \$1.0 million in contractor fees, and \$0.2 million of miscellaneous expenses.

The organic portion of our business contributed to a \$0.5 million increase in research and development costs primarily from increased stock compensation expense.

Refundable Canadian tax credits were \$0.4 million in 2018, or flat compared to \$0.5 million in 2017.

General and Administrative Expense

	Year Ended December 31,		Change			
	2018	2017	Amount	% Change		
	Amount	Percent of Revenue	Amount	Percent of Revenue		
	(dollars in thousands)					
General and administrative	\$32,041	21%	\$23,291	24%	\$8,750	38%

General and administrative expense was \$32.0 million in 2018, compared to \$23.3 million in 2017, an increase of \$8.7 million, or 38%. The acquisitions we closed after January 11, 2017 contributed a \$1.6 million dollar increase to general and administrative expense, which \$0.9 million was related to personnel and related expense, \$0.4 million was related to administrative fees, and the remaining \$0.3 million was related to miscellaneous expenses. General and administrative costs for the organic portion of our business increased by \$7.1 million which was related to increases of \$3.2 million in non-cash stock compensation expense, \$2.1 million in personnel and related expense, \$1.0 million in contractor spend, \$0.5 million in third party software and equipment, and \$0.3 million in miscellaneous expenses.

Depreciation and Amortization Expense

	Year Ended December 31,		Change			
	2018	2017	Amount	% Change		
	Amount	Percent of Revenue	Amount	Percent of Revenue		
	(dollars in thousands)					
Depreciation and amortization:						
Depreciation	\$607	1%	\$712	1%	\$(105)	(15)%
Amortization	13,665	9%	5,786	6%	7,879	136%
Total depreciation and amortization	\$14,272	10%	\$6,498	7%	\$7,774	120%

Depreciation and amortization expense was \$14.3 million in 2018, compared to \$6.5 million in 2017, an increase of \$7.8 million, or 120%. The acquisitions we closed after January 11, 2017 contributed a \$8.4 million increase with the majority resulting from amortization of acquired intangible assets created from our purchase business combinations accounting. The organic portion of our business saw a \$0.6 million decrease in depreciation and amortization cost primarily due to a decrease in amortization expense of acquired intangible assets created from our purchase business combinations accounting.

Acquisition-related Expense

	Year Ended December 31,		Change			
	2018	2017	Amount	% Change		
	Amount	Percent of Revenue	Amount	Percent of Revenue		
	(dollars in thousands)					
Acquisition-related expense	\$18,728	12%	\$15,092	15%	\$3,636	24%

Acquisition-related expense was \$18.7 million in 2018, compared to \$15.1 million in 2017, an increase of \$3.6 million, or 24%. The Company made four acquisitions during both 2018 and 2017, respectively. We typically incur acquisition-related expenses for the first year subsequent to each acquisition, with the majority of these cost being incurred within 6 months from the date of acquisition. These expenses can vary based on the size and timing of each transaction. Acquisition-related expenses incurred during the twelve months ended December 31, 2018 increased primarily as a result of the increased size of the four acquisitions made in 2018 compared to the four acquisitions closed in 2017. Cumulative purchase consideration for the 2018 acquisitions was \$178.6 million compared to \$123.2 million for our 2017 acquisitions. In addition, while our 2017 and 2018 transactions closed

throughout each respective year, the three acquisitions closed in 2016, totaling \$31.6 million in purchase consideration, occurred during the first half 2016. As a result, we incurred more acquisition related expenses corresponding to prior year acquisitions during the twelve months ended December 31, 2018 compared to the same period in 2017.

Other Expense, net

	Year Ended December 31,		Change	
	2018	2017	Amount	% Change
	Amount	Percent of Revenue	Amount	Percent of Revenue
	(dollars in thousands)			
Other Expense:				
Interest expense, net	\$(13,273)	(9)%	\$(6,582)	(7)%
Other income (expense), net	(1,781)	(1)%	289	1%
Total other expense	\$(15,054)	(10)%	\$(6,293)	(6)%

Interest expense was \$13.3 million in 2018, compared to \$6.6 million for 2017, an increase of \$6.7 million, or 102%. The increase is attributable to increased borrowing under our expanded debt facility to support acquisitions.

Other expense was \$1.8 million in 2018, compared to other income of \$0.3 million in 2017, an increase of \$2.1 million, or 716%. The increase is primarily attributable to increased estimated earnout and holdbacks related to our acquisitions during the twelve month period ended December 31, 2018 compared to the same period in 2017.

Benefit from (Provision for) Income Taxes

	Year Ended December 31,		Change	
	2018	2017	Amount	% Change
	Amount	Percent of Revenue	Amount	Percent of Revenue
	(dollars in thousands)			
Benefit from (provision for) income taxes	\$9,809	7%	\$(1,296)	(1)%

Benefit from income taxes was \$9.8 million in 2018, compared to a provision for income taxes of \$1.3 million in 2017, a decrease in provision for income taxes of \$11.1 million, or 857%. In 2018 we recorded a benefit from income taxes that was principally attributable to the release of valuation allowance and state and foreign taxes. Approximately \$10.1 million of the release of valuation allowance is attributable to acquisitions of domestic entities with deferred tax liabilities that, upon acquisition, allowed us to recognize certain deferred tax assets that had previously been offset by a valuation allowance. Additional valuation allowance was released during the year due to the creation of indefinite life deferred tax assets related to net operating loss and disallowed interest carryforwards. The creation of these indefinite life deferred tax assets allowed us to utilize a portion of our historic indefinite life deferred tax liability related to tax deductible goodwill to recognize additional deferred tax assets that had previously been offset by a valuation allowance. The foreign provision for income taxes in 2018 is principally attributable to net income generated in Canada after reduction for tax credits generated and carried forward. Because we have not generated domestic net income in any period to date, we have recorded a full valuation allowance against our domestic net deferred tax assets, exclusive of any remaining tax deductible goodwill after application of indefinite life deferred tax assets. Realization of any of our domestic deferred tax assets depends upon future earnings, the timing and amount of which are uncertain. Based on analysis of acquired net operating losses, utilization of our net operating losses will be subject to annual limitations due to the ownership change rules under the Code and similar state provisions. In the event we have subsequent changes in ownership, the availability of net operating losses and research and development credit carryovers could be further limited. Income Taxes, of the

Notes to Consolidated Financial Statements for more information regarding our income taxes as they relate to foreign and domestic operations.

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Comparison of Years Ended December 31, 2017 and December 31, 2016

Revenue

	Year Ended December 31, 2017		2016		Change	
	Amount	Percent of Revenue	Amount	Percent of Revenue	Amount	% Change
	(dollars in thousands)					
Revenue:						
Subscription and support	\$85,467	87%	\$65,552	88%	\$19,915	30%
Perpetual license	4,346	4%	1,650	2%	2,696	163%
Total product revenue	89,813	91%	67,202	90%	22,611	34%
Professional services	8,139	9%	7,565	10%	574	8%
Total revenue	\$97,952	100%	\$74,767	100%	\$23,185	31%

Total revenue was \$98.0 million in 2017, compared to \$74.8 million in 2016, an increase of \$23.2 million, or 31%. Of the increase in total revenue, \$23.6 million was due to the acquisitions we closed in 2017 and 2016. Total revenue declined by \$0.8 million due to the divestiture of the EPM Live product line at the end of February 2016 and increased by \$0.4 million from organic total revenues, or 1% in 2017 compared to 2016.

Subscription and support revenue was \$85.5 million in 2017, compared to \$65.6 million in 2016, an increase of \$19.9 million, or 30%. Of the increase in subscription and support revenue, \$19.1 million was due to the acquisitions we closed in 2017 and 2016. Subscription and support revenue declined by \$0.5 million due to the divestiture of the EPM Live product line at the end of February 2016. The organic subscription and support revenue increased by \$1.3 million, or 2%.

Perpetual license revenue was \$4.3 million in 2017, compared to \$1.7 million in 2016, an increase of \$2.7 million, or 163%. The acquisitions we closed in 2017 and 2016 contributed a \$2.9 million increase in perpetual license revenue. Perpetual license revenue declined by \$0.1 million due to the divestiture of the EPM Live product line at the end of February 2016. The organic perpetual revenue declined by \$0.1 million, or 8%.

Professional services revenue was \$8.1 million in 2017, compared to \$7.6 million in 2016, an increase of \$0.6 million, or 8%. The acquisitions we closed in 2017 and 2016 contributed a \$1.6 million increase to professional services revenue. Professional services revenue declined by \$0.2 million due to the divestiture of the EPM Live product line at the end of February 2016. The organic professional services revenue declined by \$0.8, or 11%.

Cost of Revenue and Gross Profit Percentage

	Year Ended December 31,		2016		Change	
	2017		Amount	Percent of Revenue	Amount	% Change
	Amount	Percent of Revenue	Amount	Percent of Revenue	Amount	% Change
	(dollars in thousands)					
Cost of revenue:						
Subscription and support ⁽¹⁾	\$28,454	29%	\$22,734	30%	\$5,720	25%
Professional services	5,193	5%	4,831	7%	362	7%
Total cost of revenue	33,647	34%	27,565	37%	6,082	22%
Gross profit	\$64,305	66%	\$47,202	63%	\$17,103	36%

⁽¹⁾ Includes depreciation and amortization expense as follows:

Depreciation	\$1,904	2%	\$2,030	3%	\$(126)	(6)%
Amortization	\$3,512	4%	\$2,473	3%	\$1,039	42%

Cost of subscription and support revenue was \$28.5 million in 2017, compared to \$22.7 million in 2016, an increase of \$5.7 million, or 25%. The 2017 and 2016 acquisitions contributed to a \$6.5 million increase in cost of subscription and support revenue. Of the \$6.5 million increase, \$2.4 million was due to mobile messaging costs associated with the Waterfall acquisition, \$1.5 million increase in personnel and related costs, \$1.1 million increase in depreciation and amortization costs, \$0.5 million was due to cloud hosting and infrastructure, \$0.4 million was due to third party software and equipment costs, and the remaining \$0.6 million from miscellaneous costs. The divestiture of the EPM Live product line in Q1 2016 contributed to \$0.3 million decrease in cost of subscription and support revenue, which was driven by a \$0.1 million decrease to personnel and related costs, \$0.1 million from depreciation and amortization, and \$0.1 million from reduced third party software and equipment costs. The organic portion of our business contributed to a \$0.5 million decrease, related to personnel and related costs, most of which were the result of our planned operating efficiencies.

Cost of professional services revenue was \$5.2 million in 2017, compared to \$4.8 million in 2016, an increase of \$0.4 million, or 7%. The acquisitions we closed in 2017 and 2016 contributed a \$1.3 million increase in cost of professional services revenue. Of the \$1.3 million increase, \$1.2 million was attributable to personnel and related costs and \$0.1 million is attributable to contractor fees. The divestiture of the EPM Live product line at the end of February 2016 contributed to \$0.3 million decrease in cost of professional services, which was attributable to reduced personnel and related costs. Cost of professional services revenue for organic business decreased \$0.6 million driven by a \$0.3 million reduction in personnel and related costs, \$0.2 million attributable to the reduction of contractor fees and a \$0.1 million reduction in miscellaneous expenses, most of which are the result of our planned operating efficiencies.

Operating Expenses

Sales and Marketing Expense

	Year Ended December 31,		2016		Change	
	2017		Amount	Percent of Revenue	Amount	% Change
	Amount	Percent of Revenue	Amount	Percent of Revenue	Amount	% Change
	(dollars in thousands)					
Sales and marketing	\$15,307	16%	\$12,160	16%	\$3,147	26%

Sales and marketing expense was \$15.3 million in 2017, compared to \$12.2 million in 2016, an increase of \$3.1 million, or 26%. The acquisitions we closed in 2017 and 2016 contributed an increase of \$4.4 million in sales and marketing expense comprised of \$2.3 million of personnel and related costs, \$1.4 million of commission expense, \$0.3 million of increased general marketing spend, and the remaining \$0.4 million was driven by

miscellaneous costs. The divestiture of the EPM Live product line in February 2016 contributed to a decrease of \$0.1 million in sales and marketing expense comprised of personnel and related expenses. The organic business contributed a \$1.1 million decrease to sales and marketing expense, which was attributable primarily to a decrease in commission expense of \$0.7 million and marketing program expenses of \$0.4 million.

Research and Development Expense

	Year Ended December 31,		2016		Change	
	2017		Amount	Percent of Revenue	Amount	% Change
	Amount	Percent of Revenue	Amount	Percent of Revenue	Amount	% Change
	(dollars in thousands)					
Research and development:						
Research and development	\$15,795	16%	\$14,919	20%	\$876	6%
Refundable Canadian tax credits	(542)	—%	(513)	(1)%	(29)	6%
Total research and development	\$15,253	16%	\$14,406	19%	\$847	6%

Research and development expense was \$15.8 million in 2017, compared to \$14.9 million in 2016, an increase of \$0.9 million, or 6%. The \$2.6 million increase from acquisitions closed in 2017 and 2016 was comprised of \$2.0 million in personnel and related costs, \$0.3 million in contractor fees, and \$0.3 million of miscellaneous expenses. The divestiture of the EPM Live product in February 2016 contributed a decrease of \$0.2 million in research and development expense comprised of \$0.1 million of personnel and related costs and \$0.1 million of contractor fees. The organic portion of our business contributed to a \$1.5 million decrease in research and development costs from reduced personnel and related costs as a result of our planned operating efficiencies.

Refundable Canadian tax credits were \$0.5 million in 2017, or flat compared to \$0.5 million in 2016.

General and Administrative Expense

	Year Ended December 31,		2016		Change	
	2017		Amount	Percent of Revenue	Amount	% Change
	Amount	Percent of Revenue	Amount	Percent of Revenue	Amount	% Change
	(dollars in thousands)					
General and administrative	\$23,291	24%	\$18,286	24%	\$5,005	27%

General and administrative expense was \$23.3 million in 2017, compared to \$18.3 million in 2016, an increase of \$5.0 million, or 27%. The acquisitions we closed in 2017 and 2016 contributed a \$0.6 million dollar increase to general and administrative expense, which \$0.6 million was related to personnel and related expense, which were the result of our planned operating efficiencies. The divestiture of the EPM Live product in February 2016 contributed had minimal impact in general and administrative expense. General and administrative costs for the organic portion of our business increased by \$4.4 million which was primarily related to an increase in non-cash stock compensation expense.

Depreciation and Amortization Expense

	Year Ended December 31,		2016		Change	
	2017	Percent of Revenue	Amount	Percent of Revenue	Amount	% Change
	(dollars in thousands)					
Depreciation and amortization:						
Depreciation	\$712	1%	\$657	1%	\$55	8%
Amortization	5,786	6%	4,634	6%	1,152	25%
Total depreciation and amortization	\$6,498	7%	\$5,291	7%	\$1,207	23%

Depreciation and amortization expense was \$6.5 million in 2017, compared to \$5.3 million in 2016, an increase of \$1.2 million, or 23%. The acquisitions we closed in 2017 and 2016 contributed a \$2.3 million increase with the majority resulting from amortization of acquired intangible assets created from our purchase business combinations accounting. The organic portion of our business saw a \$1.1 million decrease in depreciation and amortization cost primarily due to a decrease in amortization expense of acquired intangible assets created from our purchase business combinations accounting. This divestiture of the EPM Live product in February 2016 did not have a significant impact to depreciation and amortization expense.

Acquisition-related Expense

	Year Ended December 31,		2016		Change	
	2017	Percent of Revenue	Amount	Percent of Revenue	Amount	% Change
	(dollars in thousands)					
Acquisition-related expense	\$15,092	15%	\$5,583	7%	\$9,509	170%

One-time acquisition-related expense was \$15.1 million in 2017, compared to \$5.6 million in 2016, an increase of \$9.5 million, or 170%. The Company made four acquisitions during 2017, this acquisition activity was substantially more than the three acquisitions closed in 2016. As a result, year-over-year comparisons of these expenses are not necessarily meaningful due to their one-time nature.

Other Expense, net

	Year Ended December 31,		2016		Change	
	2017	Percent of Revenue	Amount	Percent of Revenue	Amount	% Change
	(dollars in thousands)					
Other Expense:						
Interest expense, net	\$(6,582)	(7)%	\$(2,781)	(4)%	\$(3,801)	137%
Other income (expense), net	289	1%	(678)	(1)%	967	(143)%
Total other expense	\$(6,293)	(6)%	\$(3,459)	(5)%	\$(2,834)	82%

Interest expense was \$6.6 million in 2017, compared to \$2.8 million for 2016, an increase of \$3.8 million, or 137%. The increase is attributable to increased borrowing under our expanded debt facility to support acquisitions.

Other income was \$0.3 million in 2017, compared to other expense of \$0.7 million in 2016, a decrease of \$1.0 million, or 143%. The decrease in expenses was driven by the loss on the divestiture of EPM Live of \$0.7 million in February 2016.

(Provision for) Benefit from Income Taxes

	Year Ended December 31, 2017		2016		Change
	Amount	Percent of Revenue	Amount	Percent of Revenue	Amount % Change
(Provision for) Benefit from Income Taxes	\$(1,296)	(1)%	\$(1,530)	(2)%	\$234 (15)%

(dollars in thousands)

Provision for income taxes was \$1.3 million in 2017, compared to \$1.5 million in 2016, a decrease in provision for income taxes of \$0.2 million, or 15%. In 2017 we recorded income taxes that were principally attributable to state and foreign taxes, other than deferred taxes related to tax deductible goodwill. The foreign provision for income taxes in 2017 is principally attributable to net income generated in Canada after reduction for tax credits generated and carried forward. Because we have not generated domestic net income in any period to date, we have recorded a full valuation allowance against our domestic net deferred tax assets, exclusive of tax deductible goodwill. Realization of any of our domestic deferred tax assets depends upon future earnings, the timing and amount of which are uncertain. Based on analysis of acquired net operating losses, utilization of our net operating losses will be subject to annual limitations due to the ownership change rules under the Code and similar state provisions. In the event we have subsequent changes in ownership, the availability of net operating losses and research and development credit carryovers could be further limited. See Note 6 Income Taxes, of the Notes to Consolidated Financial Statements for more information regarding our income taxes as they relate to foreign and domestic operations.

Liquidity and Capital Resources

To date, we have financed our operations primarily through capital raising including sales of our common stock, cash from operating activities, borrowing under our credit facility, and the issuance of notes to sellers in some of our acquisitions. We believe that current cash and cash equivalents, cash flows from operating activities, availability under our existing credit facility, as discussed below, and the ability to offer and sell securities pursuant to our registration statement, as discussed below, will be sufficient to fund our operations for at least the next twelve months. In addition, we intend to utilize the sources of capital available to us under our Credit Facility and registration statement to support our continued growth via acquisitions within our core enterprise solution suites of complementary technologies and businesses.

As of December 31, 2018, we had cash and cash equivalents of \$16.7 million, \$60.0 million of available committed capital under our credit facility, \$55.0 million available under the uncommitted accordion in our credit facility, and \$283.2 million of borrowings outstanding under our credit facility. As of December 31, 2017 we had \$113.8 million of borrowings outstanding under our credit facility. Our cash and cash equivalents held by our foreign subsidiaries was \$13.4 million as of December 31, 2018. If these funds are needed for our domestic operations, we would be required to accrue and pay U.S. taxes to repatriate these funds. However, our intent is to permanently reinvest these funds outside the U.S. and our current plans do not demonstrate a need to repatriate them to fund our domestic operations. We do not provide for federal income taxes on the undistributed earnings of our foreign subsidiaries. As of December 31, 2018 and December 31, 2017, we had a working capital deficit of \$40.4 million and a deficit of \$23.5 million, respectively, which included \$57.6 million and \$43.8 million of deferred revenue recorded as a current liability as of December 31, 2018 and December 31, 2017, respectively. This deferred revenue will be recognized in future periods as the underlying performance obligations are delivered in accordance with our revenue recognition policy.

Credit Facility

On May 14, 2015, we entered into a credit agreement (the "Credit Facility") between the Company, certain of its subsidiaries, and each of the lenders named in the Credit Facility. From time to time we enter into amendments to the Credit Facility typically to expand the available borrowing limit in order to fund the Company's acquisitions. Refer to the 'Amendments' section below for a summary of the significant changes made to our Credit Facility as a result of current year amendments.

As of December 31, 2018 the Credit Facility, as amended, now provides for a \$400.0 million credit facility, including a \$283.2 million outstanding term loan, a \$30.0 million delayed draw term loan commitment, a \$30.0 million revolving loan commitment, and a \$55.0 million uncommitted accordion.

Amendments

During the year ended December 31, 2018 we entered into amendments six through nine (the "Amendments") in connection with our 2018 acquisitions. The main provision of The Amendments provide for, among other things: Expansion of the Credit Facility from \$200 million as of December 31, 2017 to \$400.0 million as of December 31, 2018;

A favorable adjustment to decrease the overall applicable interest rate for accounts outstanding under the Credit Facility by 50 to 150 basis points resulting in an effective interest rate as of December 31, 2018 6.40%, down from the previous effective interest rate as of December 31, 2017 of approximately 7.0%;

A favorable adjustment to the leverage ratio to increase the amount of funded indebtedness to EBITDA (as defined in the Amendment) to 4.75 to 1.00 during 2018, along with additional leverage ratio improvements throughout the remainder of the loan term;

A favorable increase to the recurring revenue ratio future draw condition to the delayed draw term loan facility from 1.25:1.0 to 1.50:1.0; and

An increase in the fixed charge coverage ratio (as defined in the Credit Facility) from 1.10 to 1.25;

A waiver of the requirement that Interfax Communications Limited, Data Guard Limited and Return Fax 2000 Limited become Canadian Guarantors and join the Canadian Guarantee and Security Agreement as Grantors; and Clarification of certain definitions within the Credit Facility.

Credit Facility Covenants

The Credit Facility contains customary affirmative and negative covenants. The negative covenants limit the ability of the Company and its subsidiaries to, among other things (in each case subject to customary exceptions for a credit facility of this size and type):

- Incur additional indebtedness or guarantee indebtedness of others;
- Create liens on their assets;
- Make investments, including certain acquisitions;
- Enter into mergers or consolidations;
- Dispose of assets;
- Pay dividends and make other distributions on the Company’s capital stock, and redeem and repurchase the Company’s capital stock;
- Enter into transactions with affiliates; and
- Prepay indebtedness or make changes to certain agreements.

While the Credit Facility restricts us from incurring additional indebtedness, management believes the sources of debt and equity available to us under the S-3 and Credit Facility provide adequate sources of capital to fund our operations and support our continued growth. We were in compliance with all Credit Facility covenants as of December 31, 2018.

See Note 7 - Debt, of the Notes to Consolidated Financial Statements for more information regarding our Credit Facility and outstanding debt as of December 31, 2018.

Registration Statement

On December 12, 2018, the Company filed a registration statement on Form S-3 (File No. 333-228767) (the “S-3”), to register Upland securities in an aggregate amount of up to \$250.0 million for offerings from time to time. In connection with the filing of the S-3 the Company withdrew its previous registration statement filed on May 12, 2017 which registered Upland securities in an aggregate amount of up to \$75.0 million of which \$29.0 million in aggregate offering price remained available for issuance at the time of withdrawal.

The following table summarizes our cash flows for the periods indicated (including cash flows from discontinued operations):

	Year Ended December 31,		
	2018	2017	2016
	(dollars in thousands)		
Consolidated Statements of Cash Flow Data:			
Net cash provided by operating activities	\$7,347	\$7,716	\$3,875
Net cash used in investing activities	(161,686)	(110,775)	(13,229)
Net cash provided by financing activities	149,923	96,178	19,525
Effect of exchange rate fluctuations on cash	(1,172)	449	114
Change in cash and cash equivalents	(5,588)	(6,432)	10,285
Cash and cash equivalents, beginning of period	22,326	28,758	18,473
Cash and cash equivalents, end of period	\$16,738	\$22,326	\$28,758

Cash Flows from Operating Activities

Cash used in operating activities is significantly influenced by the amount of cash we invest in personnel and infrastructure to support the anticipated growth of our business. Our operating assets and liabilities consist primarily of receivables from clients and unbilled professional services, accounts payable and accrued expenses and deferred revenues. The timing of our subscription and support billings, the volume of professional services rendered, the amount of perpetual licenses sold, and the related timing of collections on those bookings, as well as payments of our accounts payable and accrued payroll and related benefits affect these account balances.

Our cash provided by operating activities for the year ended 2018 primarily reflects our net loss of \$10.8 million, partially offset by non-cash expenses that included \$21.3 million of depreciation and amortization, \$2.4 million in amortization of deferred commissions costs, \$0.3 million of deferred income taxes, \$0.9 million of non-cash interest expense, and \$14.1 million of non-cash stock compensation expense. Working capital uses of cash included a \$2.8 million increase in Prepaids and other, a \$3.4 million decrease in accounts payable, a \$17.6 million decrease in accrued expenses and other liabilities and a \$5.2 million increase in accounts receivable. These uses of cash were partially offset by a \$7.9 million increase in deferred revenue.

Our cash provided by operating activities for the year ended 2017 primarily reflects our net loss of \$18.7 million, partially offset by non-cash expenses that included \$11.9 million of depreciation and amortization, \$0.3 million of deferred income taxes, \$0.6 million of non-cash interest expense, and \$10.0 million of non-cash stock compensation expense. Working capital sources of cash included a \$1.6 million decrease in Prepaids and other, a \$1.3 million increase in accounts payable, a \$3.7 million increase in accrued expenses and other liabilities and a \$2.8 million increase in deferred revenue. These sources of cash were partially offset by a \$4.7 million increase in accounts receivable.

Our cash provided by operating activities for the year ended 2016 primarily reflects our net loss of \$13.5 million, offset by non-cash expenses that included \$9.8 million of depreciation and amortization, \$0.5 million of deferred income taxes, \$0.1 million of foreign currency re-measurement loss, \$0.3 million of non-cash interest expense, and \$4.3 million of non-cash stock compensation expense. Working capital sources of cash included a \$0.4 million decrease in accounts receivable, a \$0.6 million decrease in prepaids and other assets, a \$0.4 million decrease in accrued expenses and other liabilities and a \$2.2 million decrease in deferred revenue. These sources of cash were offset by a \$0.4 million decrease in accounts receivable and a \$1.5 million increase in accounts payable.

Cash Flows from Investing Activities

Our primary investing activities have consisted of acquisitions of complementary technologies, products and businesses. As our business grows, we expect our primary investing activities to continue to further expand our family of software applications and infrastructure and support additional personnel. For the years ended December 31, 2018, 2017 and 2016, cash used in investing activities for business combinations consisted of \$160.8 million, \$110.3 million and \$12.2 million, respectively. In addition, for the years ended December 31, 2018, 2017 and 2016, we used \$0.9 million, \$0.4 million and \$0.7 million, respectively, for the purchases of property and equipment. Further, for the years ended December 31, 2018, 2017 and 2016, we used \$0.0 million, \$0.1 million, and \$0.4 million, respectively, for the purchases of customer relationships.

Cash Flows from Financing Activities

Our primary financing activities have consisted of capital raised to fund our operations as well as proceeds from debt obligations entered into to finance our operations. For the year ended December 31, 2018, cash provided by financing activities consisted primarily of \$172.4 million in proceeds from debt and \$0.8 million for proceeds from issuance of common stock, net of issuance costs, partially offset by \$9.4 million in taxes paid related to net share settlements of equity award and \$4.7 million for repayment of debt. For fiscal 2017, cash provided by financing activities consisted primarily of \$74.5 million in proceeds from debt, partially offset by \$11.9 million for repayment of debt and \$43.8 million for proceeds from issuance of common stock, net of issuance costs. For fiscal 2016, cash provided by financing activities consisted primarily of \$31.0 million in proceeds from debt, partially offset by \$7.2 million for repayment of debt. For the years ended December 31, 2018, 2017 and 2016 cash

used for additional consideration to sellers of businesses was \$8.1 million, \$5.4 million, and \$2.1 million, respectively, and payments on capital leases was \$1.1 million, \$1.5 million, and \$1.7 million, respectively.

Contractual Payment Obligations

The following table summarizes our future contractual obligations as of December 31, 2018 (in thousands):

Contractual Obligations	Payment Due by Period				
	Total	Less than 1 Year	1-3 Years	>3-5 Years	More Than 5 Years
Debt Obligations ⁽¹⁾	\$283,218	\$7,125	\$23,156	\$252,937	\$—
Interest on Debt Obligations ⁽²⁾	\$61,915	\$18,045	\$34,474	\$9,396	\$—
Capital Lease Obligations	\$613	\$605	\$8	\$—	\$—
Operating Lease Obligations ⁽³⁾	\$6,483	\$2,719	\$1,989	\$1,073	\$702
Purchase Commitments ⁽⁴⁾	\$8,298	\$6,273	\$2,025	\$—	\$—
Total	\$360,527	\$34,767	\$61,652	\$263,406	\$702

⁽¹⁾ Future debt maturities of long-term debt exclude debt discounts and consist of obligations under our Credit Facility. See “Liquidity and Capital Resources” above for further discussion regarding our Credit Facility.

⁽²⁾ Future interest on debt obligations calculated using the interest rate effective as of December 31, 2018. To the extent interest rates change in future periods, our contractual obligations for interest payments will change. See “Item 7A. Quantitative and Qualitative Disclosures About Market Risk” for further discussion.

⁽³⁾ We lease office equipment under capital leases that are substantially complete by the end of 2019.

⁽⁴⁾ We lease office space under operating leases that expire between 2019 and 2025. Operating lease obligations above do not include the impact of future rental income related to agreements we have entered into to sublet excess office space as a result of our transformation activities.

We define a purchase commitment as an agreement that is enforceable and legally binding and that specifies all significant terms, including: fixed or minimum services to be used; fixed, minimum or variable price provisions; and the approximate timing of the transaction. Obligations under contracts that we can cancel without a significant penalty are not included. In addition, Purchase orders are not included as they represent authorizations to purchase rather than binding agreements.

We have an outstanding purchase commitment with Amazon Web Services to support its cloud infrastructure in conjunction with the consolidation and elimination of a substantial portion of its physical cloud infrastructure formerly maintained around the United States, Canada and the UK.

We have an outstanding purchase commitment in 2019 for software development services from DevFactory FZ-LLC (“DevFactory”) pursuant to a technology services agreement in the amount of \$4.9 million. See Note 15 - Related Party Transactions, of the Notes to Consolidated Financial Statements for more information regarding our purchase commitment to this related party.

Off-Balance Sheet Arrangements

During the years ended December 31, 2018, 2017, and 2016, we did not have any relationships with unconsolidated organizations or financial partnerships, such as structured finance or special-purpose entities, that would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Critical Accounting Policies and the Use of Estimates

We prepare our consolidated financial statements in accordance with generally accepted accounting principles in the United States. The preparation of consolidated financial statements also requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, costs and expenses and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results could differ significantly from the estimates made by our management. To the extent that there are differences between our estimates and actual results, our future financial statement presentation, financial condition, results of operations and cash flows will be affected. We believe that the accounting policies discussed below are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving management's judgments and estimates.

The following critical accounting policies reflect significant judgments and estimates used in the preparation of our consolidated financial statements:

- revenue recognition;
- stock-based compensation;
- income taxes;
- business combinations; and
- goodwill and other intangibles.

Revenue Recognition

Revenues are recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services over the term of the agreement. We enter into contracts that can include various combinations of products and services, which are generally capable of being distinct and accounted for as separate performance obligations. Revenues are recognized net of sales credits and allowances. Revenue is recognized net of any taxes collected from customers, which are subsequently remitted to governmental authorities. Revenue is recognized based on the following five step model in accordance with ASC 606, Revenue from Contracts with Customers:

1. Identification of the contract with a customer
2. Identification of the performance obligations in the contract
3. Determination of the transaction price
4. Allocation of the transaction price to the performance obligations in the contract
5. Recognition of revenue when, or as, the Company satisfies a performance obligation

Revenue-generating activities consist of subscription and support, perpetual licenses, and professional services revenues within a single operating segment.

Subscription and Support Revenues

Our software solutions are available for use as hosted application arrangements under subscription fee agreements without licensing perpetual rights to the software. Subscription fees from these applications are recognized over time on a ratable basis over the customer agreement term beginning on the date the our solution is made available to the customer. As our customers have access to use our solutions over the term of the contract agreement we believe this method of revenue recognition provides a faithful depiction of the transfer of services provided. Our subscription contracts are generally 1 to 3 years in length. Amounts that have been invoiced are recorded in accounts receivable and deferred revenues or revenues, depending on whether the revenue recognition criteria have been met. Additional fees for monthly usage above the levels included in the standard subscription fee are recognized as revenue at the end of each month and is invoiced concurrently.

Perpetual License Revenues

We also records revenue from the sales of proprietary software products under perpetual licenses. Revenue from distinct on-premises licenses is recognized upfront at the point in time when the software is made available to the customer. Our products do not require significant customization.

Professional Services Revenue

Professional services provided with subscription and support licenses and perpetual licenses consist of implementation fees, data extraction, configuration, and training. Our implementation and configuration services do not involve significant customization of the software and are not considered essential to the functionality. Revenues from professional services are recognized over time as such services are performed. Revenues for fixed price services are generally recognized over time applying input methods to estimate progress to completion. Revenues for consumption-based services are generally recognized as the services are performed.

Messaging-related Revenue

We recognize subscription revenue for our digital engagement application which provides short code connectivity for its two-way SMS programs and campaigns. We evaluate whether it is appropriate to recognize revenue based on the gross amount billed to its customers for these services. Since we are primarily obligated in these transactions, have latitude in establishing prices associated with its messaging program management services, is responsible for fulfillment of the transaction, and has credit risk, revenue is recorded on a gross basis. While none of the factors individually are considered presumptive or determinative, in reaching conclusions on gross versus net revenue recognition, we place the most weight on the analysis of whether or not we are the primary obligor in the arrangement.

Significant Judgments

Performance Obligations and Standalone Selling Price

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of accounting. Determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment. We have contracts with customers that often include multiple performance obligations, usually including professional services sold with either individual or multiple subscriptions or perpetual licenses. For these contracts, we account for individual performance obligations separately if they are distinct by allocating the contract's total transaction price to each performance obligation in an amount based on the relative standalone selling price, or SSP, of each distinct good or service in the contract.

Judgment is required to determine the SSP for each distinct performance obligation. A residual approach is only applied in limited circumstances when a particular performance obligation has highly variable and uncertain SSP and is bundled with other performance obligations that have observable SSP. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. We determine the SSP based on our overall pricing objectives, taking into consideration market conditions and other factors, including the value of our contracts, historical standalone sales, customer demographics, geographic locations, and the number and types of users within our contracts.

Other Considerations

We evaluate whether we are the principal (i.e., report revenues on a gross basis) or agent (i.e., report revenues on a net basis) for vendor reseller agreements. Generally, we report revenues from these types of contracts on a gross basis, meaning the amounts billed to customers are recorded as revenues, and expenses incurred are recorded as cost of revenues. Where we are the principal, it first obtains control of the inputs to the specific good or service and directs their use to create the combined output. We control is evidenced by its involvement in the integration of the good or service on its platform before it is transferred to its customers, and is further supported by the Company being primarily responsible to its customers and having a level of discretion in establishing pricing. Revenues provided from agreements in which we are an agent are immaterial.

Payment terms and conditions vary by contract type, although terms generally include a requirement of payment within 30 to 60 days. In instances where the timing of revenue recognition differs from the timing of invoicing, we have determined our contracts generally do not include a significant financing component. The primary purpose of our invoicing terms is to provide customers with simplified and predictable ways of purchasing our products and services, not to receive financing from our customers or to provide customers with financing. Example includes invoicing at the beginning of a subscription term with revenue recognized ratably over the contract period.

Contract Balances

The timing of revenue recognition, billings and cash collections can result in billed accounts receivable, unbilled receivables (contract assets), and deferred revenues (contract liabilities). Billings scheduled to occur after the

performance obligation has been satisfied and revenue recognition has occurred result in contract assets. Contract assets that are expected to be billed during the succeeding twelve-month period are recorded in 'Prepaid and other current assets', and the

remaining portion is recorded in 'Other assets' on the accompanying consolidated balance sheets at the end of each reporting period. A contract liability results when we receive prepayments or deposits from customers in advance for implementation, maintenance and other services, as well as initial subscription fees. Customer prepayments are generally applied against invoices issued to customers when services are performed and billed. We recognize contract liabilities as revenues upon satisfaction of the underlying performance obligations. Contract liabilities that are expected to be recognized as revenues during the succeeding twelve-month period are recorded in 'Deferred revenue' and the remaining portion is recorded in 'Deferred revenue noncurrent' on the accompanying consolidated balance sheets at the end of each reporting period.

Stock-Based Compensation

We measure all share-based payments, including grants of options to purchase common stock and the issuance of restricted stock or restricted stock units to employees, service providers and board members, using a fair-value based method. We record forfeitures as they occur. The cost of services received from employees and non-employees in exchange for awards of equity instruments is recognized in the consolidated statement of operations based on the estimated fair value of those awards on the grant date and amortized on a straight-line basis over the requisite service period. We use the Black-Scholes option-pricing model to determine the fair values of stock option awards. For restricted stock and restricted stock units, fair value is based on the closing price of our common stock on the grant date.

The Black-Scholes option pricing model used to compute share-based compensation expense requires extensive use of accounting judgment and financial estimates. Items requiring estimation include the expected term option holders will retain their vested stock options before exercising them, the estimated volatility of the Company's common stock price over the expected term of each stock option, and the number of stock options that will be forfeited prior to the completion of their vesting requirements. Application of alternative assumptions could result in significantly different share-based compensation amounts being recorded in the financial statements. The following table summarizes the weighted-average grant-date fair value of options granted in 2018, 2017, and 2016 and the assumptions used to develop their fair values. As there was no public market for its common stock prior to November 2014, the Company estimates the volatility of its common stock based on the volatility of publicly traded shares of comparable companies' common stock. The Company's decision to use the volatility of comparable stock was based upon our assessment that this information is more representative of future stock price trends than our historical volatility. The Company estimates the expected term using the simplified method, which calculates the expected term as the midpoint between the vesting date and the contractual termination date of each award. The dividend yield assumption is based on historical and expected future dividend payouts. The risk-free interest rate is based on observed market interest rates appropriate for the term of each options.

	Year Ended December 31,		
	2018	2017	2016
Weighted average grant-date fair value of options	\$11.42	\$7.47	\$3.23
Expected volatility	33.4%	35.0%	42.5%
Risk-free interest rate	2.8%	1.1% - 2.0%	1.2%
Expected life in years	5.00	5.00	5.93
Dividend yield	—	—	—

Income Taxes

The Company uses the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of a change in tax rates on deferred tax assets and liabilities will be recognized in the period that includes the enactment date. A valuation allowance is established against the deferred tax assets to reduce their carrying value to an amount that is more likely than not to be realized.

The Company has adopted a permanent reinvestment position whereby foreign earnings for foreign subsidiaries are expected to be reinvested and future earnings are not expected to be repatriated. As a result of this policy, no tax liability has been accrued in anticipation of future dividends from foreign subsidiaries.

The Company accounts for uncertainty of income taxes based on a “more likely than not” threshold for the recognition and derecognition of tax positions, which includes the accounting for interest and penalties.

Business Combinations

We apply the provisions of ASC 805, Business Combinations, in accounting for our acquisitions which requires the acquisition purchase price to be allocated to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values at the acquisition dates. The excess of the purchase price over these estimated fair values is recorded to goodwill.

Significant estimates and assumptions, including fair value estimates, are used to determine the fair value of assets acquired, liabilities assumed and contingent consideration transferred as well as the useful lives of long-lived assets acquired. During the measurement period, which may be up to one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill based on changes to our initial estimates and assumptions. Upon conclusion of the measurement period or final determination of the values of assets acquired and liabilities assumed, whichever comes first, any subsequent adjustments are recorded to acquisition related expenses in our consolidated statement of operations.

Tangible assets are valued at their respective carrying amounts, which approximates their estimated fair value. The valuation of identifiable intangible assets reflects management’s estimates based on, among other factors, use of established valuation methods. Customer relationships are valued using an income approach, which estimates fair value based on the earnings and cash flow capacity of the subject asset. The value of the marketing-related intangibles is determined using a relief-from-royalty method, which estimates fair value based on the value the owner of the asset receives from not having to pay a royalty to use the asset. Developed technology is valued using a cost-to-recreate approach.

The purchase price transferred in our acquisitions often contain holdback and contingent consideration provisions. Holdbacks are subject to reduction for indemnification claims and are typically payable within 12 to 18 months of the acquisition date. Contingent consideration typically includes earnout payments payable within 12 to 18 months of the date of acquisition based on attainment of certain performance goals. Contingent consideration liabilities are recorded at fair value on the acquisition date and are remeasured periodically based on the then assessed fair value and adjusted if necessary. Holdback and contingent consideration liabilities are recorded in due to sellers in our consolidated balance sheet. Any changes in fair value of the contingent consideration subsequent to the measurement period are recorded to operating income (expense) in our statement of operations.

Goodwill and Other Intangibles

Goodwill is evaluated for impairment annually in October or more frequently when an event occurs or circumstances change that indicate the carrying value may not be recoverable. The events and circumstances considered by the Company include the business climate, legal factors, operating performance indicators and competition. The company adopted ASU 2017-04, Intangibles - Goodwill and Other: Simplifying the Test for Goodwill Impairment during the first quarter of 2018 which eliminated step 2 from the goodwill impairment test.

As we operate as one reporting unit, the impairment test is performed at the consolidated entity level by comparing the estimated fair value of the Company to the its carrying value. We have elected to first assess qualitative factors to determine whether it is more likely than not that the fair value of our single reporting unit is less than its carrying value. Based on the qualitative assessment, if it is determined that it is more likely than not that our fair value is less than its carrying value we would compare the carrying value of the Company's single reporting unit to its fair value and recognize any excess carrying value as an impairment loss.

Determining the fair value of goodwill is subjective in nature and often involves the use of estimates and assumptions including, without limitation, use of estimates of future prices and volumes for our products, capital needs, economic trends and other factors which are inherently difficult to forecast. If actual results, or the plans and estimates used in future impairment analyses are lower than the original estimates used to assess the recoverability of these assets, we could incur impairment charges in a future period. The annual impairment test was performed as of October 31, 2018. No impairment of goodwill was identified during the years ended December 31, 2018, 2017, or 2016.

Identifiable intangible assets consist of customer relationships, marketing-related intangible assets and developed technology. Intangible assets with definite lives are amortized over their estimated useful lives on a straight-line basis. The straight-line method of amortization represents our best estimate of the distribution of the economic value of the

identifiable intangible assets.

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Recent Accounting Pronouncements

For information with respect to recent accounting pronouncements and the impact of these pronouncements on our consolidated financial statements, refer to Note 2. Significant Accounting Policies to our consolidated financial statements included in Part II, Item 8, “Financial Statements and Supplementary Data” of this Form 10-K.

Other Key Accounting Policies

We also have other key accounting policies, which involve the use of estimates, judgments, and assumptions that are significant to understanding our results. See Note 2 Summary of Significant Accounting Policies, of the Notes to Consolidated Financial Statements included in this Annual Report. Of those policies, we believe that the accounting policies enumerated above involve the greatest degree of complexity and exercise of judgment by our management. We evaluate our estimates, judgments and assumptions on an ongoing basis, and while we believe that our estimates, judgments and assumptions are reasonable, they are based upon information available at the time. Actual results may differ significantly from these estimates under different assumptions, judgments or conditions.

Under Section 107(b) of the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We are choosing to “opt out” of such extended transition period, however, and, as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. Section 107 of the JOBS Act provides that our decision to opt out of the extended transition period for complying with new or revised accounting standards is irrevocable. See Note 2 Summary of Significant Accounting Policies, of the Notes to Consolidated Financial Statement for more information.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We have operations both within the United States and internationally, and we are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate, foreign exchange and inflation risks, as well as risks relating to changes in the general economic conditions in the countries where we conduct business. The statement of operations impact is mitigated by having an offsetting liability in deferred revenue to partially or completely offset against the outstanding receivable if an account should become uncollectible. Our cash balances are kept in customary operating accounts, a portion of which are insured by the Federal Deposit Insurance Corporation, and uninsured money market accounts. The majority of our cash balances in money market accounts are with Wells Fargo, our lender under our loan facility. To date, we have not used derivative instruments to mitigate the impact of our market risk exposures. We also have not used, nor do we intend to use, derivatives for trading or speculative purposes.

Interest Rate Risk

Our exposure to market risk for changes in interest rates primarily relates to our cash equivalents and any variable rate indebtedness.

The primary objective of our investment activities is to preserve principal while maximizing yields without significantly increasing risk. This objective is accomplished currently by making diversified investments, consisting only of money market mutual funds and certificates of deposit.

Any draws under our loan and security agreements bear interest at a variable rate tied to the prime rate. As of December 31, 2018, we had a principal balance of \$278.0 million under our U.S. Loan Agreement and \$5.2 million under our Canadian Loan Agreement. As of December 31, 2017, we had a principal balance of \$108.5 million under our U.S. Loan Agreement and \$5.3 million under our Canadian Loan Agreement. Based on the principal balance outstanding on our Credit Facility as of December 31, 2018, a hypothetical change of 100 basis points would result in a maximum potential change to interest expense of \$0.3 million annually.

Foreign Currency Exchange Risk

Our results of operations and cash flows are subject to fluctuations due to changes in foreign currency exchange rates. In addition, we incur a portion of our operating expenses in foreign currencies, including Canadian dollars, British pounds and Euros, and in the future as we expand into other foreign countries, we expect to incur operating expenses in other foreign currencies. In addition, our customers are generally invoiced in the currency of the country in which they are located. We are exposed to foreign exchange rate fluctuations as the financial results of our international operations are translated from the local functional currency into U.S. dollars upon consolidation. A

decline in the U.S. dollar relative to foreign functional currencies would increase our non-U.S. revenue and improve our operating results. Conversely, if the U.S. dollar strengthens relative to foreign functional currencies, our revenue and operating results would be adversely affected. The effect of a hypothetical 10% change in foreign currency exchange rates applicable to our business would have resulted in a change in revenue of \$3.2 million for the year ended December 31, 2018. To date, we have not engaged in any hedging strategies. As our international operations grow, we will continue to reassess our approach to manage our risk relating to fluctuations in foreign currency exchange rates.

The non-financial assets and liabilities of our foreign subsidiaries are translated into United States dollars using the exchange rates in effect at the balance sheet date. The related translation adjustments are recorded in a separate component of stockholders' equity in accumulated other comprehensive loss. In addition, we have a foreign currency denominated intercompany loan that was used to fund the acquisition of a foreign subsidiary during the year ended December 31, 2018. Due to the long-term nature of the loan, the foreign currency gains (losses) resulting from remeasurement are recognized as a component of accumulated other comprehensive income (loss).

Inflation

We do not believe that inflation had a material effect on our business, financial condition or results of operations in the last three fiscal years. If our costs were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, financial condition and results of operations.

Item 8. Financial Statements and Supplementary Data

UPLAND SOFTWARE, INC.

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Upland Software, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Upland Software, Inc. (the “Company”) as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive loss, stockholders’ equity, and cash flows, for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

Adoption of ASU No. 2014-09

As discussed in Note 12 to the consolidated financial statements, the Company changed its method for accounting for revenue in 2018 due to the adoption of ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606).

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 Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

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.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2013.

Austin, Texas

March 15, 2019

Upland Software, Inc.
Consolidated Balance Sheets

	December 31,	
(in thousands, except share and per share amounts)	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	\$16,738	\$22,326
Accounts receivable (net of allowance of \$1,405 and \$1,069 at December 31, 2018 and December 31, 2017, respectively)	40,841	26,504
Deferred commissions, current	2,633	—
Unbilled receivables	3,694	891
Prepaid and other	3,382	1,965
Total current assets	67,288	51,686
Canadian tax credits receivable	1,573	1,196
Property and equipment, net	2,827	2,927
Intangible assets, net	179,572	70,043
Goodwill	225,322	154,607
Deferred commissions, noncurrent	6,292	—
Other assets	324	800
Total assets	\$483,198	\$281,259
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	\$3,494	\$3,887
Accrued compensation	6,581	5,157
Accrued expenses and other current liabilities	16,666	12,148
Deferred revenue	57,626	43,807
Due to sellers	17,267	7,839
Current maturities of notes payable (includes unamortized discount of \$1,109 and \$699 at December 31, 2018 and December 31, 2017, respectively)	6,015	2,301
Total current liabilities	107,649	75,139
Notes payable, less current maturities (includes unamortized discount of \$2,381 and \$1,969 at December 31, 2018 and December 31, 2017, respectively)	273,713	108,843
Deferred revenue, noncurrent	578	1,570
Noncurrent deferred tax liability, net	13,311	3,262
Other long-term liabilities	640	1,030
Total liabilities	395,891	189,844
Stockholders' equity:		
Preferred stock, \$0.0001 par value; 5,000,000 shares authorized; no shares issued and outstanding as of December 31, 2018; no shares issued and outstanding as of December 31, 2017, respectively	—	—
Common stock, \$0.0001 par value; 50,000,000 shares authorized: 21,489,112 and 20,768,401 shares issued and outstanding as of December 31, 2018 and December 31, 2017, respectively)	2	2
Additional paid-in capital	180,481	174,944
Accumulated other comprehensive loss	(7,501)	(2,403)
Accumulated deficit	(85,675)	(81,128)
Total stockholders' equity	87,307	91,415
Total liabilities and stockholders' equity	\$483,198	\$281,259
See accompanying notes.		

Upland Software, Inc.

Consolidated Statements of Operations

(in thousands, except share and per share amounts)

	Year Ended December 31,		
	2018	2017	2016
Revenue:			
Subscription and support	\$ 136,578	\$ 85,467	\$ 65,552
Perpetual license	3,902	4,346	1,650
Total product revenue	140,480	89,813	67,202
Professional services	9,405	8,139	7,565
Total revenue	149,885	97,952	74,767
Cost of revenue:			
Subscription and support	42,881	28,454	22,734
Professional services	5,708	5,193	4,831
Total cost of revenue	48,589	33,647	27,565
Gross profit	101,296	64,305	47,202
Operating expenses:			
Sales and marketing	20,935	15,307	12,160
Research and development	21,320	15,795	14,919
Refundable Canadian tax credits	(406)	(542)	(513)
General and administrative	32,041	23,291	18,286
Depreciation and amortization	14,272	6,498	5,291
Acquisition-related expenses	18,728	15,092	5,583
Total operating expenses	106,890	75,441	55,726
Loss from operations	(5,594)	(11,136)	(8,524)
Other expense:			
Interest expense, net	(13,273)	(6,582)	(2,781)
Other income (expense), net	(1,781)	289	(678)
Total other expense	(15,054)	(6,293)	(3,459)
Loss before provision for income taxes	(20,648)	(17,429)	(11,983)
Benefit from (provision for) income taxes	9,809	(1,296)	(1,530)
Net loss	\$(10,839)	\$(18,725)	\$(13,513)
Net loss per common share:			
Net loss per common share, basic and diluted	\$(0.54)	\$(1.02)	\$(0.82)
Weighted-average common shares outstanding, basic and diluted	19,985,528	18,411,247	16,472,799
See accompanying notes.			

Upland Software, Inc.

Consolidated Statements of Comprehensive Loss

(in thousands)	Year Ended December 31,		
	2018	2017	2016
Net loss	\$(10,839)	\$(18,725)	\$(13,513)
Foreign currency translation adjustment	(5,098)	749	137
Comprehensive loss	\$(15,937)	\$(17,976)	\$(13,376)

See accompanying notes.

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Upland Software, Inc.

Consolidated Statement of Stockholders' Equity

(in thousands, except share amounts)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2015	15,746,288	\$ 2	\$ 112,447	\$ (3,289)	\$ (48,890)	\$ 60,270
Issuance of common stock in business combination	1,344,463	—	8,300	—	—	8,300
Issuance of stock under Company plans, net of shares withheld for tax	694,537	—	(514)	—	—	(514)
Stock-based compensation	—	—	4,333	—	—	4,333
Other comprehensive loss	—	—	—	137	—	137
Net loss	—	—	—	—	(13,513)	(13,513)
Balance at December 31, 2016	17,785,288	\$ 2	\$ 124,566	\$ (3,152)	\$ (62,403)	\$ 59,013
Issuance of stock under Company plans, net of shares withheld for tax	843,579	—	(2,163)	—	—	(2,163)
Issuance of stock, net of issuance costs	2,139,534	—	42,564	—	—	42,564
Stock-based compensation	—	—	9,977	—	—	9,977
Other comprehensive loss	—	—	—	749	—	749
Net loss	—	—	—	—	(18,725)	(18,725)
Balance at December 31, 2017	20,768,401	\$ 2	\$ 174,944	\$ (2,403)	\$ (81,128)	\$ 91,415
Issuance of common stock in business combination	911	—	(61)	—	—	(61)
Issuance of stock under Company plans, net of shares withheld for tax	719,800	—	(8,511)	—	—	(8,511)
Issuance of stock, net of issuance costs	—	—	(21)	—	—	(21)
Stock-based compensation	—	—	14,130	—	—	14,130
Cumulative ASC 606 adjustments	—	—	—	—	6,292	6,292
Other comprehensive loss	—	—	—	(5,098)	—	(5,098)
Net loss	—	—	—	—	(10,839)	(10,839)
Balance at December 31, 2018	21,489,112	\$ 2	\$ 180,481	\$ (7,501)	\$ (85,675)	\$ 87,307

See accompanying notes.

Upland Software, Inc.
 Consolidated Statements of Cash Flows
 (in thousands)

	Year Ended December 31,		
	2018	2017	2016
Operating activities			
Net loss	\$(10,839)	\$(18,725)	\$(13,513)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	21,347	11,914	9,794
Deferred income taxes	268	(262)	) 529
Amortization of deferred commissions	2,367	—	—
Foreign currency re-measurement (gain) loss	305	(382)	) (64)
Non-cash interest and other expense	874	592	327
Non-cash stock compensation expense	14,130	9,977	4,333
Loss on disposal of business	—	—	746
Non-cash loss on retirement of fixed assets	—	(19)	) 276
Changes in operating assets and liabilities, net of purchase business combinations:			
Accounts receivable	(5,212)	) (4,710)	) (361)
Prepays and other	(2,798)	) 1,555	648
Accounts payable	(3,399)	) 1,254	(1,453)
Accrued expenses and other liabilities	(17,615)	) 3,715	413
Deferred revenue	7,919	2,807	2,200
Net cash provided by operating activities	7,347	7,716	3,875
Investing activities			
Purchase of property and equipment	(935)	) (396)	) (670)
Purchase of customer relationships	—	(55)	) (408)
Purchase business combinations, net of cash acquired	(160,751)	(110,324)	(12,151)
Net cash used in investing activities	(161,686)	(110,775)	(13,229)
Financing activities			
Payments on capital leases	(1,136)	) (1,497)	) (1,683)
Proceeds from notes payable, net of issuance costs	172,397	74,538	30,992
Payments on notes payable	(4,689)	) (11,912)	) (7,190)
Taxes paid related to net share settlement of equity awards	(9,400)	) (3,387)) —
Issuance of common stock, net of issuance costs	807	43,797	(515)
Additional consideration paid to sellers of businesses	(8,056)	) (5,361)	) (2,079)
Net cash provided by financing activities	149,923	96,178	19,525
Effect of exchange rate fluctuations on cash	(1,172)	) 449	114
Change in cash and cash equivalents	(5,588)	) (6,432)	) 10,285
Cash and cash equivalents, beginning of period	22,326	28,758	18,473
Cash and cash equivalents, end of period	\$16,738	\$22,326	\$28,758
Supplemental disclosures of cash flow information:			
Cash paid for interest	\$12,429	\$6,012	\$2,455
Cash paid for taxes	\$3,348	\$1,782	\$488
Noncash investing and financing activities:			
Business combination consideration including holdbacks and earnouts	\$17,713	\$9,132	\$5,100
Equipment acquired pursuant to capital lease obligations	\$—	\$50	\$1,293
Issuance of common stock in business combination	\$—	\$—	\$8,300
See accompanying notes.			

Upland Software, Inc.

Notes to Consolidated Financial Statements

1. Organization and Nature of Operations

Upland Software, Inc. (“Upland” or the “Company”) is a provider of cloud-based enterprise work management software. Upland’s software applications help organizations better optimize the allocation and utilization of their people, time, and money. Upland provides a family of cloud-based enterprise work management software applications for the information technology, process excellence, finance, professional services, and marketing functions within organizations. Upland’s software applications address a broad range of enterprise work management needs, from strategic planning to task execution.

2. Summary of Significant Accounting Policies

Basis of Presentation

These consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States, or GAAP. The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the current period presentation.

Use of Estimates

The preparation of the accompanying consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses. Significant items subject to such estimates include those related to revenue recognition, deferred commissions, allowance for doubtful accounts, stock-based compensation, acquired intangible assets, the useful lives of intangible assets and property and equipment, and income taxes. In accordance with GAAP, management bases its estimates on historical experience and on various other assumptions that management believes are reasonable under the circumstances. Management regularly evaluates its estimates and assumptions using historical experience and other factors; however, actual results could differ from those estimates.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash deposits and liquid investments with original maturities of three months or less when purchased. Cash equivalents are stated at cost, which approximates market value, because of the short maturity of these instruments.

Accounts Receivable and Allowance for Doubtful Accounts

The Company extends credit to the majority of its customers. Issuance of credit is based on ongoing credit evaluations by the Company of customers’ financial condition and generally requires no collateral. Trade accounts receivable are recorded at the invoiced amount and do not bear interest. Invoices generally require payment within 30 days from the invoice date. The Company generally does not charge interest on past due payments, although the Company's contracts with its customers usually allow it to do so.

The Company maintains an allowance for doubtful accounts to reserve for potential uncollectible receivables. The allowance is based upon the creditworthiness of the Company’s customers, the customers’ historical payment experience, the age of the receivables and current market conditions. Provisions for potentially uncollectible accounts are recorded in sales and marketing expenses. The Company writes off accounts receivable balances to the allowance for doubtful accounts when it becomes likely that they will not be collected.

The following table presents the changes in the allowance for doubtful accounts (in thousands):

	Year Ended December 31,		
	2018	2017	2016
Balance at beginning of year	\$ 1,069	\$ 658	\$ 581
Provision	875	1,069	863
Divestitures	—	—	(230)
Writeoffs, net of recoveries	(539)	(658)	(556)
Balance at end of year	\$ 1,405	\$ 1,069	\$ 658

Concentrations of Credit Risk and Significant Customers

Financial instruments that potentially subject the Company to credit risk consist of cash and cash equivalents and accounts receivable. The Company's cash and cash equivalents are placed with high-quality financial institutions, which, at times, may exceed federally insured limits. The Company has not experienced any losses in these accounts, and the Company does not believe it is exposed to any significant credit risk related to cash and cash equivalents. The Company provides credit, in the normal course of business, to a number of its customers. The Company performs periodic credit evaluations of its customers and generally does not require collateral. No individual customer represented more than 10% of total revenues nor more than 10% of accounts receivable in the years ended December 31, 2018, 2017, or 2016.

Property and Equipment

Property and equipment are carried at cost, less accumulated depreciation and amortization. Depreciation of property and equipment is computed using the straight-line method over each asset's useful life. Leasehold improvements are amortized over the shorter of the lease term or of the estimated useful lives of the related assets. Upon retirement or disposal, the cost of each asset and the related accumulated depreciation are removed from the accounts and any resulting gain or loss is credited or charged to income. Repairs, maintenance, and minor replacements are expensed as incurred. The estimated useful lives of property and equipment are as follows:

Computer hardware and equipment	3 - 5 years
Purchased software and licenses	3 - 5 years
Furniture and fixtures	7 years
Leasehold improvements	Lesser of estimated useful life or lease term

Business Combinations

We apply the provisions of ASC 805, Business Combinations, in accounting for our acquisitions which requires the acquisition purchase price to be allocated to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values at the acquisition dates. The excess of the purchase price over these estimated fair values is recorded to goodwill.

Significant estimates and assumptions, including fair value estimates, are used to determine the fair value of assets acquired, liabilities assumed and contingent consideration transferred as well as the useful lives of long-lived assets acquired. During the measurement period, which may be up to one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill based on changes to our initial estimates and assumptions. Upon conclusion of the measurement period or final determination of the values of assets acquired and liabilities assumed, whichever comes first, any subsequent adjustments are recorded to acquisition related expenses in our consolidated statement of operations.

Tangible assets are valued at their respective carrying amounts, which approximates their estimated fair value. The valuation of identifiable intangible assets reflects management's estimates based on, among other factors, use of established valuation methods. Customer relationships are valued using an income approach, which estimates fair

value based on the earnings and cash flow capacity of the subject asset. The value of the marketing-related intangibles is determined using a relief-from-royalty method, which estimates fair value based on the value the owner of the asset receives from not having to pay a royalty to use the asset. Developed technology is valued using a cost-to-recreate approach.

The purchase price transferred in our acquisitions often contain holdback and contingent consideration provisions. Holdbacks are subject to reduction for indemnification claims and are typically payable within 12 to 18 months of the acquisition date. Contingent consideration typically includes earnout payments payable within 12 to 18 months of the date of acquisition based on attainment of certain performance goals. Contingent consideration liabilities are recorded at fair value on the acquisition date and are remeasured periodically based on the then assessed fair value and adjusted if necessary. Holdback and contingent consideration liabilities are recorded in due to sellers in our consolidated balance sheet. Any changes in fair value of the contingent consideration subsequent to the measurement period are recorded to operating income (expense) in our statement of operations.

Goodwill and Other Intangibles

Goodwill is evaluated for impairment annually in October or more frequently when an event occurs or circumstances change that indicate the carrying value may not be recoverable. The events and circumstances considered by the Company include the business climate, legal factors, operating performance indicators and competition. The company adopted ASU 2017-04, Intangibles - Goodwill and Other: Simplifying the Test for Goodwill Impairment during the first quarter of 2018 which eliminated step 2 from the goodwill impairment test.

As we operate as one reporting unit, the impairment test is performed at the consolidated entity level by comparing the estimated fair value of the Company to the its carrying value. We have elected to first assess qualitative factors to determine whether it is more likely than not that the fair value of our single reporting unit is less than its carrying value. Based on the qualitative assessment, if it is determined that it is more likely than not that the Company's fair value is less than its carrying value we would compare the carrying value of the Company's single reporting unit to its fair value and recognize any excess carrying value as an impairment loss.

Determining the fair value of goodwill is subjective in nature and often involves the use of estimates and assumptions including, without limitation, use of estimates of future prices and volumes for our products, capital needs, economic trends and other factors which are inherently difficult to forecast. If actual results, or the plans and estimates used in future impairment analyses are lower than the original estimates used to assess the recoverability of these assets, we could incur impairment charges in a future period. The annual impairment test was performed as of October 31, 2018. No impairment of goodwill was identified during the years ended December 31, 2018, 2017, or 2016. Identifiable intangible assets consist of customer relationships, marketing-related intangible assets and developed technology. Intangible assets with definite lives are amortized over their estimated useful lives on a straight-line basis. The straight-line method of amortization represents the Company's best estimate of the distribution of the economic value of the identifiable intangible assets.

Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of intangible assets may not be recoverable. Conditions that would necessitate an impairment assessment include a significant decline in the observable market value of an asset, a significant change in the extent or manner in which an asset is used or any other significant adverse change that would indicate that the carrying amount of an asset or group of assets may not be recoverable. The Company evaluates the recoverability of intangible assets by comparing their carrying amounts to the future net undiscounted cash flows expected to be generated by the intangible assets. If such intangible assets are considered to be impaired, the impairment to be recognized is measured as the amount by which the carrying amount of the intangible assets exceeds the fair value of the assets.

There were no impairments of our intangible assets during the years ended December 31, 2018, 2017 or 2016.

Long-Lived Assets

Long-lived assets are reviewed for impairment whenever events or circumstances indicate their carrying value may not be recoverable. When such events or circumstances arise, an estimate of future undiscounted cash flows

produced by the asset, or the appropriate grouping of assets, is compared to the asset's carrying value to determine whether impairment exists. If the asset is determined to be impaired, the impairment loss is measured based on the excess of its carrying value over its fair value. Assets to be disposed of are reported at the lower of the carrying value or net realizable value. No indicators of impairment were identified during the years ended December 31, 2018, 2017, or 2016.

Software Development Costs

Software development costs are expensed as incurred until the point the Company establishes technological feasibility. Technological feasibility is established upon the completion of a working model. Costs incurred by the Company between establishment of technological feasibility and the point at which the product is ready for general release are capitalized, subject to their recoverability, and amortized over the economic life of the related products. Because the Company believes its current process for developing its software products essentially results in the completion of a working product concurrent with the establishment of technological feasibility, no software development costs have been capitalized to date. There were no software development costs required to be capitalized under ASC 985-20, Costs of Software to be Sold, Leased or Marketed, and under ASC 350-40, Internal-Use Software.

Canadian Tax Credits

Canadian tax credits related to current expenses are accounted for as a reduction of the research and development costs. Such credits relate to the Company's operations in Canada and are not dependent upon taxable income. Credits are accrued in the year in which the research and development costs or the capital expenditures are incurred, provided the Company is reasonably certain that the credits will be received. The government credit must be examined and approved by the tax authorities, and it is possible that the amounts granted will differ from the amounts recorded.

Debt Issuance Costs

The Company capitalizes underwriting, legal, and other direct costs incurred related to the issuance of debt, which are recorded as a direct deduction from the carrying amount of the related debt liability and amortized to interest expense over the term of the related debt using the effective interest rate method. Upon the extinguishment of the related debt, any unamortized capitalized deferred financing costs are recorded to interest expense. In 2018 and 2017, the Company had no write offs of deferred financing costs and in 2016 the Company wrote off approximately \$0.1 million of deferred financing costs associated with the expansion of its Wells Fargo facility.

Fair Value of Financial Instruments

The Company accounts for financial instruments in accordance with the authoritative guidance on fair value measurements and disclosures for financial assets and liabilities. This guidance defines fair value, establishes a framework for measuring fair value in accordance with GAAP, and expands disclosures about fair value measurements. The guidance also establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value.

These tiers include Level 1, defined as observable inputs, such as quoted prices in active markets; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs in which little or no market data exists, therefore, requiring an entity to develop its own assumptions.

The Company's financial instruments consist principally of cash and cash equivalents, accounts receivable, and accounts payable, long-term debt and warrant liabilities. The carrying value of cash and cash equivalents, accounts receivable, and accounts payable approximate fair value, primarily due to short maturities. The carrying values of the Company's debt instruments approximated their fair value based on rates currently available to the Company. The carrying values of warrant liabilities are marked to the market at each reporting period.

Revenue Recognition

On January 1, 2018, the Company adopted ASU 2014-09, Revenue from Contracts with Customers. Refer to Note 12 Revenue Recognition for a detailed discussion of accounting policies related to revenue recognition, including deferred revenue and deferred commissions.

Cost of Revenue

Cost of revenue primarily consists of salaries and related expenses (e.g. bonuses, employee benefits, and payroll taxes) for personnel directly involved in the delivery of services and products directly to customers. Cost of revenue also includes the amortization of acquired technology.

Customer Contract Acquisition Costs

Costs associated with the acquisition or origination of customer contracts are expensed as incurred.

Customer Relationship Acquisition Costs

Costs associated with the acquisition or origination of customer relationships are capitalized as customer relationship assets as incurred and amortized over the estimated life of the customer relationship.

Advertising Costs

Advertising costs are expensed in the period incurred. Advertising expenses were \$79,000, \$33,000 and \$59,000 for the years ended December 31, 2018, 2017, or 2016, respectively. Advertising costs are recorded in sales and marketing expenses in the accompanying consolidated statement of operations.

Income Taxes

The Company uses the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of a change in tax rates on deferred tax assets and liabilities will be recognized in the period that includes the enactment date. A valuation allowance is established against the deferred tax assets to reduce their carrying value to an amount that is more likely than not to be realized.

The Company has adopted a permanent reinvestment position whereby foreign earnings for foreign subsidiaries are expected to be reinvested and future earnings are not expected to be repatriated. As a result of this policy, no tax liability has been accrued in anticipation of future dividends from foreign subsidiaries.

The Company accounts for uncertainty of income taxes based on a “more likely than not” threshold for the recognition and derecognition of tax positions, which includes the accounting for interest and penalties.

Stock-Based Compensation

We measure all share-based payments, including grants of options to purchase common stock and the issuance of restricted stock or restricted stock units to employees, service providers and board members, using a fair-value based method. We record forfeitures as they occur. The cost of services received from employees and non-employees in exchange for awards of equity instruments is recognized in the consolidated statement of operations based on the estimated fair value of those awards on the grant date and amortized on a straight-line basis over the requisite service period. We use the Black-Scholes option-pricing model to determine the fair values of stock option awards. For restricted stock and restricted stock units, fair value is based on the closing price of our common stock on the grant date.

The Black-Scholes option pricing model used to compute share-based compensation expense requires extensive use of accounting judgment and financial estimates. Items requiring estimation include the expected term option holders will retain their vested stock options before exercising them, the estimated volatility of the Company's common stock price over the expected term of each stock option, and the number of stock options that will be forfeited prior to the completion of their vesting requirements. Application of alternative assumptions could result in significantly different share-based compensation amounts being recorded in the financial statements. The following table summarizes the weighted-average grant-date fair value of options granted in 2018, 2017, and 2016 and the assumptions used to develop their fair values. As there was no public market for its common stock prior to November 2014, the Company estimates the volatility of its common stock based on the volatility of publicly traded shares of comparable companies' common stock. The Company's decision to use the volatility of comparable stock was based upon the Company's assessment that this information is more representative of future stock price trends than the Company's historical volatility. The Company estimates the expected term using the simplified method, which calculates the expected term as the midpoint between the vesting date and the contractual termination date of each award. The dividend yield assumption is based on historical and expected future dividend payouts. The risk-free interest rate is based on observed market interest rates appropriate for the term of each options.

	Year Ended December 31,		
	2018	2017	2016
Weighted average grant-date fair value of options	\$11.42	\$7.47	\$3.23
Expected volatility	33.4%	35.0%	42.5%
Risk-free interest rate	2.8%	1.1% - 2.0%	1.2%
Expected life in years	5.00	5.00	5.93
Dividend yield	—	—	—

Comprehensive Loss

The Company utilizes the guidance in Accounting Standards Codification (ASC) Topic 220, Comprehensive Income, for the reporting and display of comprehensive loss and its components in the consolidated financial statements. Comprehensive loss comprises net loss and cumulative foreign currency translation adjustments. The accumulated comprehensive loss as of December 31, 2018, 2017, and 2016 was due to foreign currency translation adjustments.

Foreign Currency Transactions

The functional currency of our foreign subsidiaries are the local currencies. Results of operations for foreign subsidiaries are translated in United State dollars using the average exchange rates on a monthly basis during the year. The assets and liabilities of those subsidiaries are translated into United States dollars using the exchange rates in effect at the balance sheet date. The related translation adjustments are recorded in a separate component of stockholders' equity in accumulated other comprehensive loss. Foreign currency transaction gains and losses are included in other income (expense) in our statements of operations. For the year ended December 31, 2018 foreign currency transaction gains were \$293,000. For the years ended December 31, 2017 and 2016 foreign currency transaction losses were \$178,000, and \$271,000, respectively.

We have a foreign currency denominated intercompany loan that was used to fund the acquisition of a foreign subsidiary during the year ended December 31, 2018. Due to the long-term nature of the loan, the foreign currency gains (losses) resulting from remeasurement are recognized as a component of accumulated other comprehensive income (loss). During the year ended December 31, 2018, a foreign currency translation adjustment of \$1.4 million was recognized as a component of accumulated other comprehensive income (loss) related to this long-term intercompany loan.

Recent Accounting Pronouncements

Recently issued accounting pronouncements not yet adopted

In August 2018, the FASB issued ASU 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement, to eliminate, add and modify certain disclosure requirements for fair value measurements. Entities will no longer be required to disclose the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy, but public companies will be required to disclose the range and weighted average used to develop significant unobservable inputs for Level 3 fair value measurements. The guidance is effective for annual and interim periods beginning after December 15, 2019, but entities are permitted to early adopt either the entire standard or only the provisions that eliminate or modify the requirements. The Company is currently evaluating how to apply the new guidance.

In January 2018, the FASB issued ASU 2018-02 Income Statement - Reporting Comprehensive Income (ASC 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income (AOCI), which gives entities the option to reclassify to retained earnings the tax effects resulting from the Tax Act related to items in Additional Other Comprehensive Income (AOCI) that the FASB refers to as having been “stranded” in AOCI. The guidance is effective for annual and interim periods beginning after December 15, 2018, and is applicable to the Company in 2019; however, early adoption is permitted. The Company is currently evaluating the effect that the adoption of ASU 2018-02 will have on its financial statements.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842). The new standard supersedes the present U.S. GAAP standard on leases and requires substantially all leases to be reported on the balance sheet as right-of-use assets and lease obligations. ASU 2016-02 is effective for annual reporting periods beginning after December 15, 2018, and interim reporting periods within those annual reporting periods. Early adoption is permitted and in the original guidance the modified retrospective application was required, however, in July 2018 the FASB issued ASU 2018-11 which permits entities with another transition method in which the effective date would be the date of initial application of transition. Under this optional transition method, we would recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. We expect to elect the optional transition method. We plan to adopt the new standard on its effective date of January 1, 2019. We anticipate adoption of the standard will not significantly impact results. We are evaluating the election of the practical expedients upon transition that would retain the lease classification and initial direct costs for any leases that exist prior to adoption of the standard. We are in the process of cataloging our existing lease contracts and implementing changes to our systems. We currently estimate \$4.7 million to \$6.2 million of right-of-use assets and lease liabilities will be recognized on our balances sheet as of January 1, 2019 primarily related to our office facilities.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments, which changes the impairment model for most financial assets. The new model uses a forward-looking expected loss method, which will generally result in earlier recognition of allowances for losses. ASU 2016-13 is effective for annual and interim periods beginning after December 15, 2019 and early adoption is permitted for annual and interim periods beginning after December 15, 2018. The Company is currently evaluating the effect that the adoption of ASU 2016-13 will have on its financial statements.

Recently adopted accounting pronouncements

In August 2018, the FASB issued ASU 2018-15, Intangibles-Goodwill and Other-Internal-Use Software (ASC 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement (“CCA”) That Is a Service Contract, which requires hosting arrangements that are service contracts to follow the guidance for internal-use software to determine which implementation costs can be capitalized. ASU 2018-15 is effective either prospectively or retrospectively for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, with early adoption permitted. We early adopted ASU 2018-15 on a prospective basis during the fourth quarter of 2018. As a result of the adoption of ASU 2018-15 certain implementation costs related to CCAs that are service contracts will now be capitalized as “other assets” in the Company's consolidated balance sheet in accordance with ASC 350-40. All implementation costs related to these arrangements were previously expensed as incurred prior to adoption of ASU 2018-15. Capitalized implementation costs will be amortized to operating expense over the non-cancelable term of the underlying agreement plus any reasonably certain renewal periods. There was no material

impact to our financial statements upon adoption of ASU 2018-15.

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In June 2018, the Financial Accounting Standards Board (“FASB”) issued Accounting Standard Update (“ASU”) 2018-07 Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting which simplifies the accounting for share-based payments to nonemployees by aligning it with the accounting for share-based payments to employees, with certain exceptions. For public business entities, the guidance is effective for annual periods beginning after December 15, 2018, and interim periods within those annual periods, however, early adoption is permitted. Although nonemployee directors do not satisfy the definition of employee, under FASB guidance, the Company's nonemployee directors acting in their role as members of a board of directors are treated as employees as those directors were elected by the Company's shareholders. Therefore, awards granted to these nonemployee directors for their services as directors already were accounted for as employee awards. We adopted ASU 2018-07 during the second quarter of 2018 with no material impact on our financial statements.

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers, to replace existing revenue recognition rules with a single comprehensive model to use in accounting for revenue arising from contracts with customers. Under this ASU and the associated subsequent amendments (collectively, “ASC 606”), revenue is recognized when a customer obtains control of promised goods or services for an amount that reflects the consideration the entity expects to receive in exchange for those goods or services. In addition, ASC 606 requires expanded disclosure of the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers.

The Company adopted ASC 606 on January 1, 2018 for all contracts using the modified retrospective method. We recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the opening balance of accumulated deficit. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods. We expect the impact of the adoption of the new revenue standard to be immaterial to our net income on an ongoing basis.

A majority of our sales revenue continues to be recognized ratably over the applicable term of the respective subscription or maintenance contracts. For most sales commissions formerly expensed as incurred, other than for perpetual license commissions which will continue to be expensed as incurred, we are now amortizing these costs to the consolidated statements of income over the shorter of 1) the expected life of our customer relationships, which we have determined to be approximately 6 years, or 2) the life of the related technology.

For further discussion about the financial statement impact and changes to Significant Accounting Policies impacted by the adoption of 2014-09 (Topic 606) see Note 12 Revenue Recognition.

In January 2017, the FASB issued ASU 2017-01, Clarifying the Definition of a Business, which revises the definition of a business and assists in the evaluation of when a set of transferred assets and activities is a business. ASU 2017-01 is effective for interim and annual reporting periods beginning after December 15, 2017, and should be applied prospectively. Early adoption is permitted under certain circumstances. The Company adopted ASU 2017-01 during the first quarter of 2018. No impact on the financial statements was recorded as a result of the adoption of ASU 2017-01.

In January 2017, the FASB issued ASU 2017-04, Intangibles - Goodwill and Other: Simplifying the Test for Goodwill Impairment. ASU 2017-04 eliminates step two of the goodwill impairment test and specifies that goodwill impairment should be measured by comparing the fair value of a reporting unit with its carrying amount. Additionally, the amount of goodwill allocated to each reporting unit with a zero or negative carrying amount of net assets should be disclosed. ASU 2017-04 is effective for annual or interim goodwill impairment tests performed in fiscal years beginning after December 15, 2019; early adoption is permitted. The Company adopted ASU 2017-04 during the first quarter of 2018. No impact on the financial statements was recorded as a result of the adoption of ASU 2017-04.

In August 2016, the FASB issued ASU 2016-15, Classification of Certain Cash Receipts and Cash Payments. ASU 2016-15 is intended to add or clarify guidance on the classification of certain cash receipts and payments in the statement of cash flows and to eliminate the diversity in practice related to such classifications. The guidance in ASU 2016-15 is required for annual reporting periods beginning after December 15, 2017, with early adoption permitted. The Company adopted ASU 2016-15 during the first quarter of 2017. No additional disclosure was

deemed necessary upon the adoption of ASU 2016-15. No impact on the financial statements was recorded as a result of the adoption of ASU 2016-15.

3. Acquisitions

We perform quantitative and qualitative analyses to determine the significance of each acquisition, to our consolidated financial statements. Based on these analyses the below acquisitions were deemed to be insignificant on an individual and cumulative basis, with the exception of Qvidian Corporation, a Delaware corporation (“Qvidian”) and Rapide Communication LTD, a private company limited by shares organized and existing under the laws of England and Wales doing business as Rant & Rave (“Rant & Rave”). Refer to the pro formas disclosed below.

2018 Acquisitions

On March 21, 2018, the Company’s wholly owned subsidiary, PowerSteering Software Limited, a limited liability company organized and existing under the laws of England and Wales (“PowerSteering UK”), completed its purchase of the shares comprising the entire issued share capital of Interfax Communications Limited (“Interfax”), an Irish-based software company providing secured cloud-based messaging solutions, including enterprise cloud fax and secure document distribution. In connection with this acquisition, the Company also acquired certain assets related to Interfax’s business from a United States based reseller of Interfax’s products. The purchase price consideration paid for Interfax was \$33.6 million in cash at closing, net of cash acquired of \$1.4 million, and a \$5.0 million cash holdback payable over 18 months (subject to reduction for indemnification claims). Revenues recorded since the acquisition date through December 31, 2018 were approximately \$12.1 million.

In addition, in connection with the acquisition of Interfax, we acquired certain assets and customer relationships of their U.S. reseller (“Marketch”) for \$2.0 million, excluding potential future earn-out payments of \$1.0 million valued at \$0.3 million as of the acquisition date based on the probability of attainment of future performance-based goals.

On June 27, 2018, the Company completed its purchase of RO Innovation, Inc. (“RO Innovation”), a cloud-based customer reference solution for creating, deploying, managing, and measuring customer reference and sales enablement content. The purchase price consideration paid was approximately \$12.3 million in cash payable at closing, net of cash acquired of \$0.2 million and a \$1.8 million cash holdback payable in 12 months (subject to reduction for indemnification claims) and potential future earn-out payments for up to \$7.5 million valued at \$0.0 million as of the acquisition date based on the probability of attainment of future performance-based goals. Revenues recorded since the acquisition date through December 31, 2018 were approximately \$3.0 million.

On October 3, 2018, the Company’s wholly owned subsidiary, PowerSteering UK, completed its purchase of the shares comprising the entire issued voting share capital of Rant & Rave, a leading provider of cloud-based customer engagement solutions. The purchase price paid for Rant & Rave was \$58.5 million in cash at closing, net of cash acquired, and a \$6.5 million cash holdback payable in 12 months (subject to indemnification claims). Revenues recorded since the acquisition date through December 31, 2018 were approximately \$5.4 million.

The pro forma statements of operations data for years ended December 31, 2018 and December 31, 2017, shown in table below, give effect to the Rant & Rave acquisition, described above, as if it had occurred at January 1, 2017. These amounts have been calculated after applying our accounting policies and adjusting the results of Rant & Rave to reflect: the reversal and deferral of commissions expense, the costs of debt financing incurred to acquire Rant & Rave, the additional intangible amortization and the adjustments to acquired deferred revenue that would have been recognized assuming the fair value adjustments had been applied and incurred since January 1, 2017. This pro forma data is presented for informational purposes only and does not purport to be indicative of our future results of operations. The table below shows the Pro forma statements of operations data for the respective years ending December 31 (in thousands):

	2018	2017
Revenue	\$ 167,450	\$ 118,696
Net loss ⁽¹⁾	\$(14,086)	\$(24,867)

(1) While some recurring adjustments impact the pro forma figures presented, the decrease in pro forma net loss compared to our net loss presented on the consolidated statements of operations for the year ended December 31, 2018 includes nonrecurring adjustment removing acquisition costs from 2018 and reflects these costs in the year ended 2017, the year the acquisition was assumed to be completed for pro forma purposes.

On December 12, 2018, the Company completed its purchase of Adestra Ltd. (“Adestra”), a leading provider of enterprise-grade email marketing, transaction and automation software. The purchase price paid was \$56.0 million in cash paid at closing, net of cash acquired, and a \$4.2 million cash holdback payable in 12 months (subject to indemnification claims). Revenues recorded since the acquisition date through December 31, 2018 were approximately \$0.6 million.

2017 Acquisitions

On January 10, 2017, Upland completed its acquisition of Omtool, Ltd., an enterprise document capture, fax, and workflow solution company. The purchase price paid for Omtool was \$19.3 million (net of cash acquired).

On April 21, 2017, the Company acquired RightAnswers, Inc. (“RightAnswers”), a cloud-based knowledge management system. The purchase price was \$17.4 million, in cash at closing (net of \$0.1 million cash acquired) and a \$2.5 million cash holdback payable in one year (subject to indemnification claims) and excludes potential future earn-out payments valued at \$4.0 million at the date of acquisition tied to additional performance-based goals, towards which \$1.0 million was paid in September 2017 and an additional final payment of \$2.0 million was paid during the year ended December 31, 2018.

On July 12, 2017, the Company acquired Waterfall International Inc. (“Waterfall”), a cloud-based mobile messaging platform. The purchase price consideration paid was approximately \$24.4 million in cash at closing (net of \$0.4 million of cash acquired) and a \$1.5 million cash holdback payable in 18 months (subject to reduction for indemnification claims). The foregoing excludes potential future earn-out payments valued at \$3.0 million at the date of acquisition tied to performance-based conditions, towards which \$2.2 million was paid during the year ended December 31, 2018 based on the final earn-out calculation.

On November 16, 2017, Upland Software, Inc., a Delaware corporation (the “Company” or “Upland”) completed its acquisition of the entire issued voting share capital of Qvidian Corporation, a Delaware corporation (“Qvidian”), a Massachusetts-based provider of cloud-based RFP and sales-proposal automation software. The purchase price consideration paid by the Company was \$50 million in cash.

The pro forma statements of operations data for years ended December 31, 2017 and December 31, 2016, shown in table below, give effect to the Qvidian acquisition, described above, as if it had occurred at January 1, 2016. These amounts have been calculated after applying our accounting policies and adjusting the results of Qvidian to reflect: the costs of debt financing incurred to acquire Qvidian, the additional intangible amortization and the adjustments to acquired deferred revenue that would have been occurred assuming the fair value adjustments had been applied and incurred since January 1, 2016. This pro forma data is presented for informational purposes only and does not purport to be indicative of our future results of operations. The table below shows the Pro forma statements of operations data for the respective years ending December 31 (in thousands):

	2017	2016
Revenue	\$ 115,707	\$ 89,906
Net loss ⁽¹⁾	\$(13,679)	\$(14,370)

(1) While some recurring adjustments impact the pro forma figures presented, the decrease in pro forma net loss compared to our net loss on the consolidated statements of operations for the year ended December 31, 2017 includes nonrecurring adjustment removing acquisition costs from 2017 and reflects these costs in the year ended 2016, the year the acquisition was assumed to be completed for pro forma purposes.

2016 Acquisitions

On January 7, 2016, Upland completed its purchase of substantially all of the assets of LeadLander, Inc. (LeadLander), a website analytics provider. The purchase price consideration paid was approximately \$8.0 million in cash payable at closing (net of approximately \$0.4 million of cash acquired) and a \$1.2 million cash holdback payable in 12 months (subject to indemnification claims), which was fully paid after December 31, 2016.

In addition to the cash consideration described above, the Asset Purchase Agreement included a contingent share consideration component pursuant to which Upland issued an aggregate of \$2.4 million in common stock on July 25, 2016. The Company also paid additional consideration of \$2.4 million in March 2017 in cash to the selling shareholders of LeadLander based on the achievement of certain revenue targets during 2016 and 2017 and no further payments are expected to be made as of December 31, 2018.

On March 14, 2016, Upland completed its purchase of substantially all of the assets of HipCricket, Inc., a cloud-based mobile messaging software provider. The consideration paid to the seller consisted of our issuance of one million shares of our common stock and the transfer of our EPM Live product business. The value of the shares on the closing date of the transaction was approximately \$5.7 million and the fair value of our EPM Live product business was approximately \$5.9 million. The Company recognized a loss on the transfer in conjunction with the EPM Live net asset value of approximately \$0.7 million in Other expense, net. Prior to the transaction, HipCricket was owned by an affiliate of ESW Capital, LLC, which is a shareholder of Upland. Raymond James & Co. provided a fairness opinion to Upland in connection with the transaction.

On April 27, 2016, Upland acquired Advanced Processing & Imaging, Inc., a content management platform driving workflow in governments and schools. The purchase price consideration consisted of \$4.1 million in cash payable at closing (net of \$0.1 million of cash acquired), and a \$0.8 million cash holdback payable in 12 months (subject to indemnification claims).

The Company recorded the purchase of the acquisitions described above using the acquisition method of accounting and, accordingly, recognized the assets acquired and liabilities assumed at their fair values as of the date of the acquisition. The purchase price allocations for the 2016 acquisitions of LeadLander, HipCricket, and API, the 2017 acquisitions of Omtool, RightAnswers, Waterfall and Qvidian and the 2018 acquisition of RO Innovation are final, and the 2018 acquisitions of Interfax, Rant & Rave and Aestra are preliminary as the Company has not obtained and evaluated all of the detailed information, including the valuation of assets acquired and liabilities assumed, necessary to finalize the opening balance sheet amounts in all respects. Management has recorded the preliminary purchase price allocations based upon acquired company information that is currently available. Management expects to finalize its purchase price allocations in the first half of 2019 for Interfax, Rant & Rave and Aestra.

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The following condensed table presents the preliminary and final acquisition-date fair value of the assets acquired and liabilities assumed for the acquisitions, as well as assets and liabilities (in thousands):

Year Acquired	Preliminary			Finalized				
	Adestra	Rant & Rave	Interfax	RO Innovation	Qvidian	Waterfall	Right Answers	Omtool
	2018	2018	2018	2018	2017	2017	2017	2017
Cash	\$145	\$696	\$1,396	\$197	\$468	\$100	\$139	\$2,957
Accounts receivable	2,925	3,482	1,587	1,563	1,907	1,477	2,164	784
Other current assets	1,395	3,836	1,341	1,299	335	608	246	464
Property and equipment	796	131	286	15	108	23	408	58
Customer relationships	29,823	29,981	22,577	6,688	30,160	6,400	10,500	4,400
Trade name	992	1,099	649	111	227	110	180	170
Technology	6,696	6,565	5,236	1,670	5,739	2,800	2,300	3,180
Noncompetes	—	—	—	1,148	—	—	—	—
Goodwill	26,363	32,575	13,832	7,568	29,199	18,575	15,680	14,081
Other assets	—	—	14	—	8	—	—	33
Total assets acquired	69,135	78,365	46,918	20,259	68,151	30,093	31,617	26,127
Accounts payable	(543)	(1,577)	(737)	(229)	(388)	(605)	(139)	(219)
Accrued expense and other	(1,916)	(6,114)	(2,817)	(1,921)	(403)	(1,136)	(2,108)	(915)
Deferred tax liabilities	(5,680)	(3,896)	(3,364)	(2,129)	(7,971)	—	—	—
Deferred revenue	(1,322)	(2,019)	—	(1,817)	(9,389)	(1,220)	(5,479)	(2,779)
Total liabilities assumed	(9,461)	(13,606)	(6,918)	(6,096)	(18,151)	(2,961)	(7,726)	(3,913)
Total consideration	\$59,674	\$64,759	\$40,000	\$14,163	\$50,000	\$27,132	\$23,891	\$22,214

During the measurement period, which may be up to one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill based on changes to our estimates and assumptions. The significant measurement period adjustments booked during the twelve month period ended December 31, 2018 include the following. The change in the preliminary acquisition-date fair value of assets and liabilities for Qvidian was primarily related to a \$15.7 million increase in the estimated fair value of customer relationships due to a change in estimates upon completion of our final valuation. This change was partially offset by an \$8.0 million increase to deferred tax liabilities attributable to completion of the analysis of the deferred tax assets and liabilities at the time of acquisition following finalization of the of the valuation. The change in the preliminary acquisition-date fair value of assets and liabilities for Interfax during the year ended December 31, 2018 was primarily related to a decrease of \$5.7 million in the estimated fair value of customer relationships due to changes in estimates upon completion of our final valuation.

The goodwill of \$157.9 million for the above acquisitions is primarily attributable to the synergies expected to arise after the acquisition. Goodwill deductible for tax purposes is \$11.3 million for our LeadLander acquisition, \$8.0 million for HipCricket, \$3.7 million for Waterfall, \$2.4 million (at the time of the acquisition) for Interfax, and \$2.5 million for RO Innovation. There was no Goodwill deductible for tax purposes for our API, Omtool, RightAnswers, Qvidian Rant & Rave and Adestra acquisitions.

Total one-time transaction costs incurred with respect to acquisition activity in the years ended December 31, 2018, 2017, and 2016 were \$7.5 million, \$6.1 million, and \$3.6 million, respectively. These costs are included in 'Acquisitions and related costs' in our consolidated statement of operations.

4. Fair Value Measurements

Fair value is defined as the exit price, or the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. GAAP sets forth a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value. The three tiers are Level 1, defined as observable inputs, such as quoted market prices in active markets; Level 2, defined as inputs other than

quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs in which little or no market data exists, which therefore requires an entity to develop its own assumptions. As of December 31, 2018 and 2017 the Company has contingent accrued earnout business acquisition consideration liabilities for which fair values are measured as Level 3 instruments. These contingent consideration liabilities were recorded at fair value on the acquisition date and are remeasured periodically based on the then assessed fair value and adjusted if necessary. The increases or decreases in the fair value of contingent consideration payable can result from changes in anticipated revenue levels or changes in assumed discount periods and rates. As the fair value measure is based on significant inputs that are not observable in the market, they are categorized as Level 3. Changes to the fair value of earnout liabilities are recorded to other expense, net. Liabilities measured at fair value on a recurring basis are summarized below (in thousands):

Fair Value Measurements
at December 31, 2018
Level 1 Level 2 Level 3 Total

Liabilities:

Earnout consideration liability \$— \$ —\$1,396 \$1,396

Fair Value Measurements
at December 31, 2017
Level 1 Level 2 Level 3 Total

Liabilities:

Earnout consideration liability \$— \$ —\$3,576 \$3,576

As of December 31, 2018 the Level 3 earnout consideration liability consists of amounts associated with the acquisition Marketech in March 2018 and RO Innovations in June 2018. Settlements of Level 3 earnout consideration for the year ended December 31, 2018 included a \$2.0 million earnout paid in February 2018 for RightAnswers, all of which was accrued as of December 31, 2017, and a \$2.2 million earnout paid in November 2018 for Waterfall, which included \$1.6 million that was accrued as of December 31, 2017.

The following table presents additional information about liabilities measured at fair value on a recurring basis and for which we have utilized significant unobservable (Level 3) inputs to determine fair value:

	December 31,	
	2018	2017
Beginning balance	\$3,576	\$2,500

Remeasurement adjustments:

(Gains) or losses included in earnings ⁽¹⁾ 1,627 (617)

Acquisitions and settlements:

Acquisitions	321	5,226
Settlements	(4,128)	(3,533)
Ending balance	\$1,396	\$3,576

(1) Recorded as a component of other operating income (expense) in the Company's statement of operations.

Quantitative Information about Level 3 Fair Value Measurements

The significant unobservable inputs used in the fair value measurement of the Company's contingent consideration liabilities designated as Level 3 are as follows:

	Fair Value at December 31, 2018	Valuation Technique	Significant Unobservable Inputs
Contingent acquisition consideration: (Marketech and RO Innovation)	\$ 1,396	Binary option model	Expected future annual revenue streams and probability of achievement
	Fair Value at December 31, 2017	Valuation Technique	Significant Unobservable Inputs
Contingent acquisition consideration: (RightAnswers and Waterfall)	\$ 3,576	Binary option model	Expected future annual revenue streams and probability of achievement

Sensitivity to Changes in Significant Unobservable Inputs

As presented in the table above, the significant unobservable inputs used in the fair value measurement of contingent consideration related to business acquisitions are forecasts of expected future annual revenues as developed by the Company's management and the probability of achievement of those revenue forecast. Significant increases (decreases) in these unobservable inputs in isolation would likely result in a significantly (lower) higher fair value measurement.

Debt

The Company believes the carrying value of its long-term debt at December 31, 2018 approximates its fair value based on the variable interest rate feature or based upon interest rates currently available to the Company. The carrying value and estimated fair value of our debt at December 31, 2018 and December 31, 2017 is \$283.2 million and \$113.8 million, respectively, based on valuation methodologies using interest rates currently available to the Company which are Level 2 inputs.

5. Goodwill and Other Intangible Assets

Changes in the Company's goodwill balance for each of the two years in the period ended December 31, 2018 are summarized in the table below (in thousands):

Balance at December 31, 2016	\$69,097
Acquired in business combinations	88,819
Adjustment related to prior year business combinations	17
Adjustment related to finalization of business combinations	(4,232)
Foreign currency translation adjustment	906
Balance at December 31, 2017	\$154,607
Acquired in business combinations	70,139
Adjustment related to prior year business combinations	(7,051)
Adjustment related to finalization of current year business combinations	8,685
Foreign currency translation adjustment	(1,058)
Balance at December 31, 2018	\$225,322

Intangible assets, net, include the estimated acquisition-date fair values of customer relationships, marketing-related assets, and developed technology that the Company recorded as part of its business acquisitions purchases and from

acquisitions of customer relationships. The following is a summary of the Company's intangible assets, net (in thousands):

	Estimated Useful Life (Years)	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
December 31, 2018				
Customer relationships	1-10	\$ 173,592	\$ 30,650	\$ 142,942
Trade name	1.5-10	6,113	3,334	2,779
Developed technology	4-7	48,943	16,049	32,894
Non-Compete Agreements	3	\$ 1,148	\$ 191	\$ 957
Total intangible assets		\$ 229,796	\$ 50,224	\$ 179,572

	Estimated Useful Life (Years)	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
December 31, 2017				
Customer relationships	5-10	\$ 69,061	\$ 18,040	\$ 51,021
Trade name	1.5	3,431	2,900	531
Developed technology	4-7	29,308	10,817	18,491
Total intangible assets		\$ 101,800	\$ 31,757	\$ 70,043

The following table summarizes the Company's weighted-average amortization period, in total and by major finite-lived intangible asset class, for intangibles acquired during the year ended December 31 (in years):

	2018	2017	2016
Customer relationships	9.8	9.0	9.3
Trade name	8.7	1.5	2.8
Developed technology	6.0	6.4	6.3
Non-Compete Agreements	3.0	0.0	0.0
Total weighted-average amortization period	9.0	8.2	8.0

The Company periodically reviews the estimated useful lives of its identifiable intangible assets, taking into consideration any events or circumstances that might result in either a diminished fair value or revised useful life. Management has determined there have been no other indicators of impairment or change in the useful life during the years ended December 31, 2018, 2017, and 2016. Total amortization expense was \$19.0 million and \$9.6 million, and \$7.2 million during the years ended December 31, 2018, 2017, and 2016, respectively.

Estimated annual amortization expense for the next five years and thereafter is as follows (in thousands):

Year ending December 31:	Amortization Expense
2019	27,011
2020	24,912
2021	23,992
2022	21,691
2023 and thereafter	81,966
Total	\$ 179,572

6. Income Taxes

The Tax Act was enacted in December 2017. The Tax Act significantly changes U.S. tax law by, among other things, lowering U.S. corporate income tax rates, implementing a territorial tax system and imposing a one-time transition tax on deemed repatriated earnings of foreign subsidiaries. The Tax Act reduced the U.S. corporate income tax rate from 35% to 21%, effective January 1, 2018.

While the Tax Act provides for a modified territorial tax system, beginning in 2018, global intangible low-taxed income (“GILTI”) provisions will be applied providing an incremental tax on low taxed foreign income. The GILTI provisions require us to include in our U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary’s tangible assets. Under U.S. GAAP, the Company is allowed to make an accounting policy choice of either (1) treating taxes due on future U.S. inclusions in taxable income related to GILTI as a current-period expense when incurred (the “period cost method”) or (2) factoring such amounts into the Company’s measurement of its deferred taxes (the “deferred method”). The Company has selected the "period cost method" as its accounting policy with respect to the new GILTI tax rules.

The Company's loss from continuing operations before income taxes for the years ended December 31, was as follows (in thousands):

	2018	2017	2016
Loss before provision for income taxes:			
United States	\$(23,350)	\$(22,748)	\$(14,242)
Foreign	2,702	5,319	2,259
	\$(20,648)	\$(17,429)	\$(11,983)

The components of the provision (benefit) for income taxes attributable to continuing operations are as follows (in thousands):

	2018	2017	2016
Current			
Federal	\$177	\$—	\$—
State	253	177	37
Foreign	2,328	1,381	964
Total Current	\$2,758	\$1,558	\$1,001
Deferred			
Federal	\$(9,866)	\$(168)	\$727
State	(1,584)	128	131
Foreign	(1,117)	(222)	(329)
Total Deferred	(12,567)	(262)	529
(Benefit from) provision for income taxes	\$(9,809)	\$1,296	\$1,530

As of December 31, 2018, the Company had U.S. federal net operating loss carryforwards of approximately \$204.8 million and research and development credit carryforwards of approximately \$3.5 million. The net operating loss and credit carryforwards will expire beginning in 2019, if not utilized. Utilization of the net operating losses and tax credits may be subject to substantial annual limitation due to the “change of ownership” provisions of the Internal Revenue Code of 1986. The annual limitation will result in the expiration of approximately \$82.6 million of net operating losses and \$3.5 million of credit carryforwards before utilization. As of December 31, 2018 we also had foreign net operating loss carryforwards of approximately \$24.8 million, which carry forward indefinitely.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred taxes as of December 31 are as follows (in thousands):

	2018	2017	2016
Deferred tax assets:			
Accrued expenses and allowances	\$1,871	\$1,715	\$993
Deferred revenue	4	—	573
Stock compensation	743	901	1,054
Net operating loss and tax credit carryforwards	33,579	26,810	24,895
Disallowed interest expense carryforwards	2,888	—	—
Capital expenses	205	294	307
Other	723	129	176
Valuation allowance for noncurrent deferred tax assets	(15,507)	(15,730)	(24,588)
Net deferred tax assets	\$24,506	\$14,119	\$3,410
Deferred tax liabilities:			
Deferred revenue	—	(401)	—
Prepaid expenses	(61)	(58)	(31)
Intangible assets	(33,518)	(15,298)	(5,716)
Goodwill	(2,012)	(1,214)	(1,029)
Tax credit carryforwards	(302)	(410)	(38)
Deferred commissions	(1,924)	—	—
Net deferred tax liabilities	\$(37,817)	\$(17,381)	\$(6,814)
Net deferred taxes	\$(13,311)	\$(3,262)	\$(3,404)

Due to the uncertainty surrounding the timing of realizing the benefits of its domestic favorable tax attributes in future tax returns, the Company has placed a valuation allowance against its domestic net deferred tax asset, exclusive of goodwill. During the year ended December 31, 2018 and 2017, the valuation allowance decreased by approximately \$0.2 million and \$8.8 million, respectively, due primarily to operations, acquisitions, and the impact of changes in tax law. The valuation allowance change included a reduction of \$10.1 million due to acquired net deferred tax liabilities as a result of domestic business combinations, which was recorded as an income tax benefit in the year ended December 31, 2018.

At December 31, 2018, we did not provide deferred income taxes on temporary differences resulting from earnings of certain foreign subsidiaries which are indefinitely reinvested. The reversal of these temporary differences could result in additional tax; however, it is not practicable to estimate the amount of any unrecognized deferred income tax liabilities at this time. Deferred income taxes are provided as necessary with respect to earnings that are not indefinitely reinvested.

The Company's provision for income taxes differs from the expected tax expense (benefit) amount computed by applying the statutory federal income tax rate to income before taxes due to the following:

	2018	2017	2016
Federal statutory rate	21.0 %	34.0 %	34.0 %
State taxes, net of federal benefit	4.6 %	4.7 %	1.2 %
Tax credits	0.4 %	1.0 %	(0.1)%
Effect of foreign operations	(2.1)%	2.1 %	1.1 %
Stock compensation	12.3 %	7.9 %	(1.7)%
Permanent items and other	(6.6)%	(0.5)%	(1.6)%
Effect of Tax Act	— %	(43.7)%	— %
Tax carryforwards not benefited	17.9 %	(12.9)%	(45.7)%
	47.5 %	(7.4)%	(12.8)%

Under ASC 740-10, Income Taxes - Overall, the Company periodically reviews the uncertainties and judgments related to the application of complex income tax regulations to determine income tax liabilities in several jurisdictions. The Company uses a "more likely than not" criterion for recognizing an asset for unrecognized income tax benefits or a liability for uncertain tax positions. The Company has determined it has the following unrecognized assets or liabilities related to uncertain tax positions as of December 31, 2018. The Company does not anticipate any significant changes in such uncertainties and judgments during the next 12 months. To the extent the Company is required to recognize interest and penalties related to unrecognized tax liabilities, this amount will be recorded as an accrued liability, (in thousands).

Balance at December 31, 2016	\$705
Additional based on tax positions related to the current year	—
Additions for tax positions of prior years	—
Reductions for tax positions of prior years	(225)
Settlements	—
Balance at December 31, 2017	\$480
Additional based on tax positions related to the current year	—
Additions for tax positions of prior years	1,526
Reductions for tax positions of prior years	—
Settlements	—
Balance at December 31, 2018	\$2,006

Due to the existence of the valuation allowance, future changes in our unrecognized tax benefits will not materially impact the Company's effective tax rate. If the Company were to recognize unrecognized tax benefits as of December 31, 2018, \$0.6 million would impact the effective tax rate. The Company's assessment of its unrecognized tax benefits is subject to change as a function of the Company's financial statement audit.

The Company recognizes interest and penalties related to uncertain tax positions in income tax expense. As of December 31, 2018, the Company had \$0.2 million accrued interest or penalties related to uncertain tax positions. The Company and its subsidiaries file tax returns in the U.S. federal jurisdiction and in several state and foreign jurisdictions. The Company is no longer subject to U.S. federal income tax examinations for years ending before December 31, 2015 and is no longer subject to state and local or foreign income tax examinations by tax authorities for years ending before December 31, 2014. The Company is not currently under audit for federal, state or any foreign jurisdictions.

7. Debt

Long-term debt consisted of the following at December 31, 2018 and December 31, 2017 (in thousands):

	December 31,	
	2018	2017
Senior secured loans (includes unamortized discount of \$3,490 and \$2,668 at December 31, 2018 and December 31, 2017, respectively, based on an imputed interest rate of 6.8%)	\$279,728	\$111,144
Less current maturities	(6,015)	(2,301)
Total long-term debt	\$273,713	\$108,843

Loan and Security Agreements

Credit Facility

On May 14, 2015, we entered into a credit agreement (the “Credit Facility”) between the Company, certain of its subsidiaries, and each of the lenders named in the Credit Facility. From time to time we enter into amendments to the Credit Facility typically to expand the available borrowing limit in order to fund the Company's acquisitions. During the year ended December 31, 2018 we entered into amendments six through nine (the “Amendments”) in connection with our 2018 acquisitions. The main provision of The Amendments provide for, among other things:

• Expansion of the Credit Facility from \$200 million as of December 31, 2017 to \$400.0 million as of December 31, 2018;

• A favorable adjustment to decrease the overall applicable interest rate for accounts outstanding under the Credit Facility;

• A favorable adjustment to the leverage ratio to increase the amount of funded indebtedness to EBITDA (as defined in the Credit Facility);

• A favorable increase to the recurring revenue ratio future draw condition to the delayed draw term loan facility;

• A waiver of the requirement that Interfax Communications Limited, Data Guard Limited and Return Fax 2000 Limited become Canadian Guarantors and join the Canadian Guarantee and Security Agreement as Grantors;

• Clarification of certain definitions within the Credit Facility; and

• An increase in the fixed charge coverage ratio (as defined in the Credit Facility).

Loans

The Credit Facility, as amended, provides for a \$400.0 million credit facility, including (i) a fully drawn \$285.0 million term loan, (ii) a fully available \$30.0 million delayed draw term loan commitment (the “DDTL”) , (iii) a fully available \$30.0 million revolving loan commitment, and (iv) a \$55.0 million uncommitted accordion.

Specifically, the Credit Facility provides for \$285.0 million of term debt comprised of (i) a fully drawn U.S. term loan facility in an aggregate principal amount of \$279.8 million (the “U.S. Term Loan”), and (ii) a fully drawn Canadian term loan facility in an aggregate principal amount of \$5.2 million (the “Canadian Term Loan”) (the Canadian Term Loan and the U.S. Term Loan together are referred to as the “Term Loans”).

In addition, the Credit Facility also provides for revolvers of \$30.0 million, comprised of (i) a U.S. revolving credit facility in an aggregate principal amount of up to \$29.0 million (the “U.S. Revolver”), and (ii) a Canadian revolving credit facility in an aggregate principal amount of up to \$1.0 million (the “Canadian Revolver”) (the Canadian Revolver and the U.S. Revolver are referred to as the “Revolver”).

As of December 31, 2018, there were no amounts drawn on its U.S. Revolver or Canadian Revolver loans outstanding under the Credit Facility, and there was \$283.2 million outstanding on the Term Loans comprised of (i)

\$278.0 million in the U.S. Term Loan outstanding under the Credit Facility, and (ii) \$5.2 million in the Canadian Term Loan outstanding under the Credit Facility.

Terms of Term Loans

Under the terms of the Credit Facility, as amended, the Term Loans are repayable, on a quarterly basis by an amount equal to 2.5% per annum on or before September 30, 2020, after which the remaining balance is payable on a straight-line basis by an amount equal to 5.0% per annum thereafter until the facility's maturity date of August 2, 2022. The Amendments also, among other things, provides for updates to the following (i) a favorable adjustment to decrease the overall applicable interest rate for accounts outstanding under the Credit Facility by 50 to 150 basis points resulting in an effective interest rate as of December 31, 2018 6.40% down from the previous effective interest rate as of December 31, 2017 of approximately 7.0%; (ii) a favorable adjustment to the leverage ratio to increase the amount of funded indebtedness to EBITDA (as defined in the Credit Facility) to 4.75 to 1.00 during 2018, along with additional leverage ratio improvements throughout the remainder of the loan term; (iii) a favorable increase to the recurring revenue ratio future draw condition to the delayed draw term loan facility from 1.25:1.0 to 1.50:1.0; and (iv) an increase in the fixed charge coverage ratio (as defined in the Credit Facility) from 1.10 to 1.25.

Also, the maximum amount of purchase consideration payable in respect of an individual permitted acquisition is \$40.0 million and in respect of all permitted acquisitions is \$175.0 million. In addition, the amount of permitted indebtedness to sellers of businesses is \$20.0 million.

Terms of Delay Draw Term Loan

Pursuant to the terms of the Credit Facility, the \$30.0 million DDTL is to be used to finance acquisitions. The DDTL, if all or a portion is drawn, is repayable, on a quarterly basis, by an amount equal to 2.5% per annum on or before September 30, 2020, after which the existing 5.0% per annum is due thereafter until the facility's maturity date of August 2, 2022.

Terms of Revolver

Loans under the Revolver are available up to the lesser of (i) \$30.0 million (the "Maximum Revolver Amount") or (ii) the maximum facility amount of \$345.0 million, less the sum of any amount of Revolver usage plus the outstanding balance of the Term Loans and other uses of the capacity made under the Credit Facility (such amount, the "Credit Amount"). The Revolver provides a subfacility whereby the Company may request letters of credit (the "Letters of Credit") in an aggregate amount not to exceed, at any one time outstanding, \$0.5 million and \$0.25 million, from the U.S and Canadian facilities, respectively. The aggregate amount of outstanding Letters of Credit is reserved against the credit availability under the Maximum Revolver Amount and the Credit Amount.

Loans under the Revolver may be borrowed, repaid and reborrowed until August 2, 2022 (the "Maturity Date"), at which time all amounts borrowed under the Credit Facility must be repaid.

Other Terms of Credit Facility

At the option of the Company, U.S. loans accrue interest at a per annum rate based on (i) the U.S. base rate plus a margin ranging from 2.75% to 3.00% depending on the leverage ratio or (ii) the U.S. LIBOR rate determined in accordance with the Credit Facility (based on 1, 2, 3 or 6-month interest periods) plus a margin ranging from 3.75% to 4.00% depending on the leverage ratio. The U.S. base rate is a rate equal to the highest of (i) the federal funds rate plus a margin equal to 0.5%, the U.S. LIBOR rate for a 1-month interest period plus 1.0%, and (ii) Wells Fargo Capital Finance's prime rate.

At the option of the Company, the Canadian loans accrue interest at a per annum rate based on (i) the Canadian prime rate or the U.S. base rate plus a margin ranging from 2.75% to 3.00% depending on the leverage ratio or (ii) the U.S. LIBOR rate determined in accordance with the Credit Facility (based on 1, 2, 3 or 6-month interest periods) (or the Canadian Bankers' Acceptance ("Canadian BA") rate determined in accordance with the Credit Facility for obligations in Canadian dollars) plus a margin ranging from 3.75% to 4.00% depending on the leverage ratio.

Accrued interest on the loans will be paid monthly, or, with respect to loans that are accruing interest based on the U.S. LIBOR rate or Canadian BA rate, at the end of the applicable U.S. LIBOR or Canadian BA interest rate period. Lenders are entitled to a premium (the "Prepayment Premium") in the event of certain prepayments as follows: (i) from August 2, 2017 to August 1, 2018, 2.0% times the sum of (a) the Maximum Revolver Amount plus (b) the outstanding principal amount of the Term Loans and DDTL on the date immediately prior to the date of the prepayment (such sum, the "Prepayment Amount") and (ii) from August 2, 2018 to August 1, 2019, 1.0% times the Prepayment Amount and (iii) from August 2, 2019 to the Maturity Date, 0.0% times the Prepayment Amount. The Company may also be subject to prepayment fees in the case of commitment reductions of the Revolver and also may be obligated to prepay loans upon the occurrence of certain events.

The Company is also obligated to pay other customary servicing fees, letter of credit fees and unused credit facility fees.

The Credit Facility contains customary affirmative and negative covenants. The negative covenants limit the ability of the Company and its subsidiaries to, among other things (in each case subject to customary exceptions for a credit facility of this size and type):

• Incur additional indebtedness or guarantee indebtedness of others;

• Create liens on their assets;

• Make investments, including certain acquisitions;

• Enter into mergers or consolidations;

• Dispose of assets;

• Pay dividends and make other distributions on the Company's capital stock, and redeem and repurchase the Company's capital stock;

• Enter into transactions with affiliates; and

• Prepay indebtedness or make changes to certain agreements.

There are certain financial covenants that became more restrictive starting June 30, 2019. If an event of default occurs, at the election of the Lenders, a default interest rate shall apply on all obligations during an event of default, at a rate per annum equal to 2.00% above the applicable interest rate.

The Credit Facility permits the Company's to buyback up to \$10.0 million of its capital stock, subject to restrictions including a minimum liquidity requirement of \$25.0 million before and after any such buyback.

Any borrowings and letters of credit pursuant to our Credit Facility are secured by substantially all of our assets, including our intellectual property.

Interest Rate and Debt Discount

Cash interest costs averaged 6.6% under the Credit Facility for the year ended December 31, 2018. In addition, the Company incurred \$1.7 million of financing costs associated with the Credit Facility in the year ended December 31, 2018. These financing costs will be amortized to non-cash interest expense over the term of the Credit Facility.

Seller Notes

In May 2013, the Company issued seller notes payable in connection with the acquisition of FileBound. The notes had an aggregate principal amount of \$3.5 million with 5% stated interest. \$3.0 million of the notes were paid in May 2015, and \$500,000 of the notes were paid in May 2016.

Debt Maturities

Under the terms of the Credit Facility, future debt maturities of long-term debt excluding debt discounts at December 31, 2018 are as follows, (in thousands):

Year ending December 31:

2019	\$7,125
2020	8,906
2021	14,250
2022	252,938
2023	—
Thereafter	—
	\$283,219

8. Net Loss Per Share

The following table sets for the computations of loss per share (in thousands, except share and per share amounts):

	December 31,		
	2018	2017	2016
Numerators:			
Net loss	\$(10,839)	\$(18,725)	\$(13,513)
Denominator:			
Weighted-average common shares outstanding, basic and diluted	19,985,528	18,411,247	16,472,799
Net loss per common share, basic and diluted	\$(0.54)	\$(1.02)	\$(0.82)

Due to the net losses incurred for the years ended December 31, 2018, 2017, and 2016, basic and diluted loss per share were the same, as the effect of all potentially dilutive securities would have been anti-dilutive. The following table sets forth the anti-dilutive common share equivalents excluded from the weighted-average shares used to calculate diluted net loss per common share:

	December 31,		
	2018	2017	2016
Stock options	408,899	549,907	759,719
Restricted stock	997,014	1,047,480	839,477
Total anti-dilutive common share equivalents	1,405,913	1,597,387	1,599,196

9. Commitments and Contingencies

Future minimum payments for operating and capital lease obligations and purchase commitments are as follows (in thousands):

	Capital Leases	Operating Leases	Purchase Commitments
2019	\$ 605	\$ 2,719	\$ 6,273
2020	8	1,269	1,350
2021	—	720	675
2022	—	584	—
2023	—	489	—
Thereafter	—	702	—
Total minimum lease payments	613	\$ 6,483	\$ 8,298
Less amount representing interest	(81)		
Present value of capital lease obligations	532		
Less current portion of capital lease obligations	(544)		
Long-term capital lease obligations	\$ (12)		

Operating Leases

The Company leases office space under operating leases that expire between 2019 and 2025. The terms of the Company's non-cancelable operating lease arrangements typically contain fixed rent increases over the term of the lease, rent holidays and provide for additional renewal periods. Rent expense on these operating leases is recognized over the term of the lease on a straight-line basis. The excess of rent expense over future minimum lease payments due has been reported in 'Accrued expenses and other current liabilities' and 'Other long-term liabilities' in the accompanying consolidated balance sheets.

Total office rent expense for the years ended December 31, 2018, 2017, and 2016 were approximately \$1.9 million, \$3.8 million, and \$2.1 million, respectively. The \$3.8 million office rent expense in 2017 includes approximately \$2.3 million of transformation charges in conjunction with the closures of the Omtool & RightAnswers offices, the remainder represents \$1.5 million in operating rent expense.

The Company has entered into sublease agreements related to excess office space as a result of the Company's transformation activities connected to the Omtool and Right Answers acquisitions. Both sublease agreements end in 2020. For the years ended December 31, 2018, 2017, and 2016 the Company recognized rental income related to these leases, as offsets to rental expense, of \$0.3 million, \$0.3 million and \$0.0 million, respectively. Operating lease obligations in the future minimum payments table above do not include the impact of future rental income of \$0.4 million related to these subleases as of December 31, 2018.

Capital Leases

The current and long-term portion of capital lease obligations are recorded in other current liabilities and other long-term liabilities line items on the balance sheet, respectively. The Company's capital lease agreements are generally for four years and contain a bargain purchase option at the end of the lease term.

Purchase Commitments

The Company has an outstanding purchase commitment with Amazon Web Services ("AWS") to support its cloud infrastructure in conjunction with the consolidation and elimination of a substantial portion of its physical cloud infrastructure formerly maintained around the United States, Canada and the UK. Total expense with AWS for the years ended December 31, 2018, 2017, and 2016 were approximately \$3.9 million, \$1.5 million, and \$0.4 million, respectively.

The Company has an outstanding purchase commitment in 2019 for software development services from DevFactory FZ-LLC (“DevFactory”) pursuant to a technology services agreement in the amount of \$4.9 million. On March 28, 2017, the Company and DevFactory executed an amendment to extend the initial term of the agreement to December 31, 2021. Additionally, the Company amended the option for either party to renew annually for one additional year. The effective date of the amendment was January 1, 2017. For years after 2019, the purchase commitment amount for software development services will be equal to the prior year purchase commitment increased (decreased) by the percentage change in total revenue for the prior year as compared to the preceding year. For example, if 2019 total revenues increase by 10% as compared to 2018 total revenues, then the 2020 purchase commitment will increase by approximately \$0.5 million from the 2019 purchase commitment amount to approximately \$5.4 million.

Litigation

In the normal course of business, the Company may become involved in various lawsuits and legal proceedings. While the ultimate results of these matters cannot be predicted with certainty, management does not expect them to have a material adverse effect on the consolidated financial position or results of operations of the Company.

10. Property and Equipment, Net

Property and equipment consisted of the following (in thousands) at:

	December 31,	
	2018	2017
Equipment (including equipment under capital lease of \$5,773 and \$6,234 at December 31, 2018 and 2017, respectively)	\$ 10,703	\$ 9,861
Furniture and fixtures	434	263
Leasehold improvements	1,012	769
Accumulated depreciation (including for equipment under capital lease of \$4,962 and \$4,329 at December 31, 2018 and 2017, respectively)	(9,322)	(7,966)
Property and equipment, net	\$ 2,827	\$ 2,927

Amortization of assets recorded under capital leases is included with depreciation expense. Depreciation and amortization expense on property and equipment was \$2.3 million, \$2.6 million and \$2.7 million for the years ended December 31, 2018, 2017, and 2016, respectively. The Company recorded no impairment of property and equipment and recorded losses on the disposal of property and equipment of \$0.0 million, \$0.0 million, and \$0.2 million during the years ended December 31, 2018, 2017, and 2016.

11. Stockholders' Equity

Common and Preferred Stock

Our certificate of incorporation authorizes shares of stock as follows: 50,000,000 shares of common stock and 5,000,000 shares of preferred stock. The common and preferred stock have a par value of \$0.0001 per share. No shares of preferred stock are issued or outstanding.

Each share of common stock is entitled to one vote at all meetings of stockholders. The number of authorized shares of common stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of shares of capital stock of the Company representing a majority of the votes represented by all outstanding shares of capital stock of the Company entitled to vote. The holders of common stock are also entitled to receive dividends, when, if and as declared by our board of directors, whenever funds are legally available therefore, subject to the priority rights of any outstanding preferred stock.

In March 2016, the Company issued 1,000,000 shares of common stock valued at approximately \$5,700,000 in connection with the acquisition of HipCricket, Inc.

In July, 2016, the Company issued 318,302 shares of common stock valued at approximately \$2,400,000 in connection with the acquisition of LeadLander, Inc.

In November, 2016, the Company issued 24,587 shares of common stock valued at approximately \$200,000 in connection with the acquisition of Ultriva, Inc.

On May 12, 2017, the Company filed a registration statement on Form S-3 (File No. 333-217977) (the “S-3”), to register Upland securities in an aggregate amount of up to \$75.0 million for offerings from time to time. The S-3 was amended on May 22, 2017 and declared effective on May 26, 2017. On June 6, 2017, the Company completed a registered underwritten public offering pursuant to the S-3. The net proceeds of the offering were approximately \$42.7 million, net of issuance costs, in exchange for 2,139,534 shares of common stock.

On December 12, 2018, the Company filed a registration statement on Form S-3 (File No. 333-228767) (the “Form S-3”), to register Upland securities in an aggregate amount of up to \$250.0 million for offerings from time to time. In connection with the filing of the Form S-3 the Company withdrew its previous registration statement filed on May 12, 2017.

Stock Compensation Plans

The Company maintains two stock-based compensation plans, the 2010 Stock Option Plan (the “2010 Plan”) and the 2014 Stock Option Plan (the “2014 Plan”), which are described below.

2010 Plan

At December 31, 2018, there were 113,536 options outstanding under the 2010 Plan. Following the effectiveness of the Company’s 2014 Plan in November 2014, no further awards have been made under the 2010 Plan, although each option previously granted under the 2010 Plan will remain outstanding subject to its terms. Any such shares of common stock that are subject to awards under the 2010 Plan which are forfeited or lapse unexercised and would otherwise have been returned to the share reserve under the 2010 Plan instead will be available for issuance under the 2014 Plan.

2014 Plan

In November 2014, the Company adopted the 2014 Plan, providing for the granting of incentive stock options, as defined by the Internal Revenue Code, to employees and for the grant of non-statutory stock options, stock appreciation rights, restricted stock, restricted stock units, performance units and performance shares to employees, directors and consultants. The 2014 Plan also provides for the automatic grant of option awards to our non-employee directors. As of December 31, 2018, there were 295,363 options outstanding under the 2014 Plan, and shares of common stock reserved for issuance under the 2014 Plan consist of 623,000 shares. In addition, the number of shares available for issuance under the 2014 Plan will be increased annually in an amount equal to the least of (i) 4% of the outstanding Shares on the last day of the immediately preceding Fiscal Year or (ii) such number of Shares determined by the Board. At December 31, 2018, there were 997,014 restricted stock shares outstanding under the 2014 Plan. Under both the 2010 Plan and 2014 Plan options granted to date generally vest over a four or three year period, with a maximum term of ten years. The Company also grants restricted stock awards (“RSAs”) which generally vest annually over a three or four year period. Shares issued upon any stock option exercise and restricted under the 2010 Plan or 2014 Plan will be issued from the Company's authorized but unissued shares.

Stock Option Activity

A summary of the Company's stock option activity under all Plans is as follows:

	Number of Options Outstanding	Weighted- Average Exercise Price	Weighted- Average Remaining Contractual Term (in Years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2017	549,907	\$ 7.36		
Options granted	4,378	33.39		
Options exercised	(145,313)	6.12		
Options forfeited	—	—		
Options expired	(73)	1.79		
Outstanding at December 31, 2018	408,899	\$ 8.09	6.53	\$ 7,835
Options vested and expected to vest at December 31, 2018	408,616	\$ 8.08	6.53	\$ 7,831
Options vested and exercisable at December 31, 2018	401,149	\$ 7.95	6.50	\$ 7,727

The aggregate intrinsic value of options exercised at December 31, 2018, 2017, and 2016, was approximately \$3.7 million, \$3.5 million and \$0.1 million, respectively. The total fair value of options vested during the years ended December 31, 2018, 2017, and 2016 was approximately \$0.4 million, \$1.0 million and \$1.0 million, respectively. As of December 31, 2018, \$41,000 unrecognized compensation cost related to stock options is expected to be recognized over a weighted-average period of 0.40 years.

The Company received approximately \$0.9 million in cash from option exercises under the respective Plans in 2018.

The Company issued shares from amounts reserved under the respective Plans upon the exercise of these stock options. The Company does not currently expect to repurchase shares from any source to satisfy such obligation under any of the Company's stock option Plans. The exercise of stock options during the year ended December 31, 2018 resulted in an excess tax deduction of approximately \$1.8 million. The expected tax benefit of approximately \$0.5 million is included as part of the deferred tax asset associated with net operating loss carryforwards, currently fully offset by a valuation allowance.

Restricted Stock Awards

A summary of the Company's restricted stock activity under the 2010 and 2014 Plan is as follows:

	Number of Restricted Shares Outstanding	Weighted-Average Grant Date Fair Value
Unvested balances at December 31, 2017	1,047,480	\$13.35
Awards granted	840,241	\$29.00
Awards vested	(873,706)	\$16.18
Awards forfeited	(17,001)	\$21.04
Unvested balances at December 31, 2018	997,014	\$23.93

During 2018, 873,706 restricted stock awards vested with a weighted average grant date fair value of \$16.18 per share. For restricted stock awards, grant date fair value is equal to the closing stock price on the day of the event. As of December 31, 2018, \$22.0 million of unrecognized compensation cost related to unvested restricted stock awards is expected to be recognized over a weighted-average period of 1.8 years.

The vesting of restricted stock during the year ended December 31, 2018 resulted in an excess tax deduction of approximately \$10.3 million. The expected tax benefit of approximately \$2.7 million is included as part of the deferred tax asset associated with net operating loss carryforwards, currently fully offset by a valuation allowance.

Share-based Compensation

The Company recognized share-based compensation expense from all awards in the following expense categories (in thousands):

	Year Ended December 31,		
	2018	2017	2016
Cost of revenue	\$654	\$436	\$44
Research and development	1,250	796	204
Sales and marketing	533	232	105
General and administrative	11,693	8,513	3,980
Total	\$14,130	\$9,977	\$4,333

12. Revenue Recognition

Revenue Recognition Policy

Revenues are recognized when control of the promised goods or services is transferred to the Company's customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services over the term of the agreement, generally when made available to the customers. We enter into contracts that can include various combinations of products and services, which are generally capable of being distinct and accounted for as separate performance obligations. Revenues are recognized net of sales credits and allowances. Revenue is recognized net of any taxes collected from customers, which are subsequently remitted to governmental authorities.

Revenue is recognized based on the following five step model in accordance with ASC 606, Revenue from Contracts with Customers:

- 1 Identification of the contract with a customer
- 2 Identification of the performance obligations in the contract
- 3 Determination of the transaction price
- 4 Allocation of the transaction price to the performance obligations in the contract
- 5 Recognition of revenue when, or as, the Company satisfies a performance obligation

Performance obligations under our contracts consist of subscription and support, perpetual licenses, and professional services revenues within a single operating segment.

Subscription and Support Revenues

The Company's software solutions are available for use as hosted application arrangements under subscription fee agreements without licensing perpetual rights to the software. Subscription fees from these applications are recognized over time on a ratable basis over the customer agreement term beginning on the date the Company's solution is made available to the customer. As our customers have access to use our solutions over the term of the contract agreement we believe this method of revenue recognition provides a faithful depiction of the transfer of services provided. Our subscription contracts are generally 1 to 3 years in length. Amounts that have been invoiced are recorded in accounts receivable and deferred revenues or revenues, depending on whether the revenue recognition criteria have been met. Additional fees for monthly usage above the levels included in the standard subscription fee are recognized as revenue at the end of each month and is invoiced concurrently.

Perpetual License Revenues

The Company also records revenue from the sales of proprietary software products under perpetual licenses. Revenue from distinct on-premises licenses is recognized upfront at the point in time when the software is made available to the customer. The Company's products do not require significant customization.

Professional Services Revenue

Professional services provided with subscription and support licenses and perpetual licenses consist of implementation fees, data extraction, configuration, and training. The Company's implementation and configuration services do not involve significant customization of the software and are not considered essential to the functionality. Revenues from professional services are recognized over time as such services are performed. Revenues for fixed price services are generally recognized over time applying input methods to estimate progress to completion. Revenues for consumption-based services are generally recognized as the services are performed.

Messaging-related Revenue

The Company recognizes subscription revenue for its digital engagement application which provides short code connectivity for its two-way SMS programs and campaigns. The Company evaluates whether it is appropriate to recognize revenue based on the gross amount billed to its customers for these services. Since the Company is primarily obligated in these transactions, has latitude in establishing prices associated with its messaging program management services, is responsible for fulfillment of the transaction, and has credit risk, revenue is recorded on a gross basis. While none of the factors individually are considered presumptive or determinative, in reaching conclusions on gross versus net revenue recognition, the Company places the most weight on the analysis of whether or not it is the primary obligor in the arrangement.

Significant Judgments

Performance Obligations and Standalone Selling Price

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of accounting. Determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment. The Company has contracts with customers that often include multiple performance obligations, usually including professional services sold with either individual or multiple subscriptions or perpetual licenses. For these contracts, the Company accounts for individual performance obligations separately if they are distinct by allocating the contract's total transaction price to each performance obligation in an amount based on the relative standalone selling price, or SSP, of each distinct good or service in the contract.

Judgment is required to determine the SSP for each distinct performance obligation. A residual approach is only applied in limited circumstances when a particular performance obligation has highly variable and uncertain SSP and is bundled with other performance obligations that have observable SSP. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. We determine the SSP based on our overall pricing objectives, taking into consideration market conditions and other factors, including the value of our contracts, historical standalone sales, customer demographics, geographic locations, and the number and types of users within our contracts.

Other Considerations

The Company evaluates whether it is the principal (i.e., report revenues on a gross basis) or agent (i.e., report revenues on a net basis) for vendor reseller agreements. Generally, the Company reports revenues from these types of contracts on a gross basis, meaning the amounts billed to customers are recorded as revenues, and expenses incurred are recorded as cost of revenues. Where the Company is the principal, it first obtains control of the inputs to the specific good or service and directs their use to create the combined output. The Company's control is evidenced by its involvement in the integration of the good or service on its platform before it is transferred to its customers, and is further supported by the Company being primarily responsible to its customers and having a level of discretion in establishing pricing. Revenues provided from agreements in which the Company is an agent are immaterial.

Payment terms and conditions vary by contract type, although terms generally include a requirement of payment within 30 to 60 days and include no general rights of return. In instances where the timing of revenue recognition differs from the timing of invoicing, we have determined our contracts generally do not include a significant financing component. The primary purpose of our invoicing terms is to provide customers with simplified and predictable ways of purchasing our products and services, not to receive financing from our customers or to provide customers with financing. Example includes invoicing at the beginning of a subscription term with revenue recognized ratably over the contract period.

Contract Balances

The timing of revenue recognition, billings and cash collections can result in billed accounts receivable, unbilled receivables (contract assets), and deferred revenues (contract liabilities). Billings scheduled to occur after the performance obligation has been satisfied and revenue recognition has occurred result in contract assets. Contract assets are expected to be billed during the succeeding twelve-month period and are recorded in 'Unbilled receivables' in our consolidated statement of operations. A contract liability results when we receive prepayments or deposits from customers in advance for implementation, maintenance and other services, as well as initial subscription fees. Customer prepayments are generally applied against invoices issued to customers when services are performed and billed. We recognize contract liabilities as revenues upon satisfaction of the underlying performance obligations. Contract liabilities that are expected to be recognized as revenues during the succeeding twelve-month period are recorded in 'Deferred revenue' and the remaining portion is recorded in 'Deferred revenue noncurrent' on the accompanying consolidated balance sheets at the end of each reporting period.

Unbilled Receivables

Unbilled receivables represent amounts for which the Company has recognized revenue, pursuant to its revenue recognition policy, for software licenses already delivered and professional services already performed, but billed in arrears and for which the Company believes it has an unconditional right to payment. As of December 31, 2018 and 2017 unbilled receivables were \$3.7 million and \$0.9 million, respectively.

Deferred Commissions

Sales commissions earned by our sales force are considered incremental and recoverable costs of obtaining a contract with a customer. Deferred commissions and other costs for a particular customer agreement for initial contracts are amortized over the expected life of the customer relationships, which has been determined to be approximately 6 years based on historical data and managements judgment, once revenue recognition criteria are met. We utilized the 'portfolio approach' practical expedient permitted under ASC 606-10-10-4, which allows entities to apply the guidance to a portfolio of contracts with similar characteristics as the effects on the financial statements of this approach would not differ materially from applying the guidance to individual contracts. The portion of capitalized costs expected to be amortized during the succeeding twelve-month period is recorded in current assets as deferred commissions, current, and the remainder is recorded in long-term assets as deferred commissions, net of current portion. Amortization expense is included in sales and marketing expenses in the accompanying condensed consolidated statements of operations. Deferred commissions are reviewed for impairment whenever events or circumstances indicate their carrying value may not be recoverable consistent with the Company's long-lived assets policy as described in Note 2. No indicators of impairment were identified during the year ended December 31, 2018.

The following table presents the activity impacting deferred commissions for the year ended December 31, 2018 (in thousands):

	December 31, 2018
Deferred commissions beginning balance	\$ —
Adoption of ASC 606	6,517
Capitalized deferred commissions	4,775
Amortization of deferred commissions	(2,367)
Deferred commissions ending balance	\$ 8,925

Deferred Revenue

Deferred revenue represents either customer advance payments or billings for which the aforementioned revenue recognition criteria have not yet been met.

Deferred revenue is mainly unearned revenue related to subscription and support services. During the twelve months ended December 31, 2018, we recognized \$40.5 million of subscription services revenue that was included in the deferred revenue balances at the beginning of the period, which excludes the \$5.2 million in deferred revenue we recorded related to our 2018 acquisitions as discussed in Note 3. Acquisitions. Professional services revenue recognized in the same period from deferred revenue balances at the beginning of the period was \$2.8 million.

Remaining Performance Obligations

As of December 31, 2018, approximately \$114.8 million of revenue is expected to be recognized from remaining performance obligations for subscription contracts. We expect to recognize revenue on approximately 72% of these remaining performance obligations over the next 12 months, with the balance recognized thereafter. Revenue from remaining performance obligations for professional services contracts as of December 31, 2018 was not material.

Disaggregated Revenue

The Company disaggregates revenue from contracts with customers by geography and revenue generating activity, as it believes it best depicts how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors

Revenue by geography is based on the ship-to address of the customer, which is intended to approximate where the customers' users are located. The ship-to country is generally the same as the billing country. The Company has operations primarily in the U.S., United Kingdom and Canada. Information about these operations is presented below (in thousands):

	December 31,		
	2018	2017	2016
Revenues:			
Subscription and support:			
United States	\$ 106,628	\$ 72,355	\$ 55,846
United Kingdom	11,189	3,127	4,674
Canada	5,395	3,838	3,522
Other International	13,366	6,147	1,510
Total subscription and support revenue	136,578	85,467	65,552
Perpetual license:			
United States	2,378	2,099	1,300
United Kingdom	94	218	150
Canada	303	70	66
Other International	1,127	1,959	134
Total perpetual license revenue	3,902	4,346	1,650
Professional services:			
United States	7,321	5,388	5,388
United Kingdom	487	494	1,556
Canada	591	471	502
Other International	1,006	1,786	119
Total perpetual license revenue	9,405	8,139	7,565
Total revenue	\$ 149,885	\$ 97,952	\$ 74,767

Financial Statement Impact of Adoption of ASC 606

The cumulative effect of the changes made to our consolidated January 1, 2018 balance sheet for the adoption of ASC 606 were as follows (in thousands):

Balance Sheet	Balance at December 31, 2017	Adjustments Due to ASC 606	Balance at January 1, 2018
Assets			
Deferred commissions, current	\$—	\$ 2,070	\$2,070
Deferred commissions, noncurrent	—	4,447	4,447
Liabilities			
Deferred revenue (current)	43,807	225	44,032
Equity			
Accumulated deficit	\$(81,128)	\$ 6,292	\$(74,836)

In accordance with the new revenue standard requirements, the disclosure of the impact of adoption on our consolidated balance sheet, statement of operations and statement of cash flows for the periods ended December 31, 2018 was as follows (in thousands):

Balance Sheet	As of December 31, 2018		
	As Reported	Balances Without Adoption of ASC 606	Effect of Change Higher/ (Lower)
Assets			
Deferred commissions, current	\$2,633	\$—	\$2,633
Deferred commissions, noncurrent	6,292	—	6,292
Liabilities			
Deferred revenue (current)	57,626	57,777	(151)
Equity			
Accumulated earnings (deficit)	\$(85,675)	\$(89,464)	\$3,789

Statement of Operations	Twelve Months Ended December 31, 2018		
	As Reported	Balances Without Adoption of ASC 606	Effect of Change Higher/ (Lower)
Revenues			
Perpetual license	3,902	3,751	151
Operating expenses			
Sales & marketing	20,935	23,287	(2,352)

During the twelve months ended December 31, 2018, the effect on earnings per share of the adoption of ASC 606 was an increase in earnings per share of \$0.13.

13. Employee Benefit Plans

The Company has established two voluntary defined contribution retirement plans qualifying under Section 401(k) of the Internal Revenue Code. The Company made no contributions to the 401(k) plans for the years ended December 31, 2018, 2017, and 2016.

14. Segment and Geographic Information

ASC 280, Segment Reporting, establishes standards for reporting information about operating segments. It defines operating segments as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision-maker (“CODM”) in deciding how to allocate resources and in assessing performance. Our Chief Executive Officer is considered to be our CODM. Our CODM manages the business as a multi-product business that utilizes its model to deliver software products to customers regardless of their geography or IT environment. Operating results are reviewed by the CODM primarily at the consolidated entity level, with the exception of recurring product level revenue, for purposes of making resource allocation decisions and for evaluating financial performance. Accordingly, we considered ourselves to be in a single operating and reporting segment structure.

Revenue

See Note 12 Revenue Recognition for a detail of revenue by geography.

Identifiable Long-Lived Assets

	December 31,		
	2018	2017	2016
Identifiable long-lived assets:			
United States	\$1,648	\$2,768	\$4,054
United Kingdom	756	14	18
Canada	77	145	284
Other International	346	—	—
Total identifiable long-lived assets	\$2,827	\$2,927	\$4,356

15. Related Party Transactions

We are a party to three agreements with companies controlled by a non-management investor in the Company: On March 28, 2017, the Company and DevFactory executed an amendment to the agreement to extend the initial term to December 31, 2021. Additionally, the Company amended the option for either party to renew annually for one additional year. The effective date of the amendment was January 1, 2017. DevFactory is an affiliate of ESW Capital LLC, which holds more than 5% of the Company's capital stock. The Company has an outstanding purchase commitment in 2019 for software development services pursuant to a technology services agreement in the amount of \$4.9 million. For years after 2019, the purchase commitment amount for software development services will be equal to the prior year purchase commitment increased (decreased) by the percentage change in total revenue for the prior year as compared to the preceding year. For example, if 2019 total revenues increase by 10% as compared to 2018 total revenues, then the 2020 purchase commitment will increase by approximately \$0.5 million from the 2019 purchase commitment amount to approximately \$5.4 million. During the years ended December 31, 2018, 2017, and 2016, the Company purchased software development services pursuant to a technology services

agreement with DevFactory FZ-LLC (“DevFactory”), in the amount of \$3.2 million, \$2.4 million, and \$2.3 million, respectively. At December 31, 2018 and December 31, 2017, amounts included in accounts payable owed to this company totaled none and \$0.6 million, respectively. Invoicing is based on hourly contractor rates that management believes is in line with industry pricing.

The Company purchased services from Crossover, Inc. (“Crossover”), a company controlled by ESW Capital, LLC (a non-management investor) of approximately \$3.2 million, \$3.0 million, and \$1.8 million during the years ended December 31, 2018, 2017, and 2016, respectively. Crossover provides a proprietary technology system to help the Company identify, screen, select, assign, and connect with necessary resources from time to time to perform technology software development and other services throughout the Company, and track productivity of such resources. While there are no purchase commitments with Crossover, the Company will continue to use their services in 2019. Invoicing is based on hourly contractor rates that management believes is in line with industry pricing.

On March 14, 2016, Upland completed its purchase of substantially all of the assets of HipCricket, Inc., a cloud-based mobile messaging software provider, and completed the transfer of its EPM Live product business. Prior to the transaction, HipCricket was owned by an affiliate of ESW Capital, LLC, which is a shareholder of Upland. Raymond James & Co. provided a fairness opinion to Upland in connection with the transaction. Refer to Note 3 - Acquisitions for a description of the transaction. Relating to this transaction, the Company provided certain transition services to and received certain transition services from the affiliate. The cost offsets earned by the Company for these services during the year ended December 31, 2016 totaled \$0.7 million and the fees owed to the affiliate by the Company for these services during the year ended December 31, 2016 totaled \$0.1 million. The Company has had no transactions with the affiliate subsequent to the year ended December 31, 2016.

The Company has an arrangement with a former subsidiary, Visionael Corporation (“Visionael”), to provide management, human resource/payroll, and administrative services. John T. McDonald, the Company's Chief Executive Officer and Chairman of the Board, beneficially holds an approximate 26.18% interest in Visionael. The Company received fees from this arrangement during the years ended December 31, 2018, 2017, and 2016 totaled \$60,000, \$285,000, and \$360,000, respectively, and are expected to be approximately \$60,000 in 2019.

16. Subsequent Events

In accordance with ASC Topic 855, “Subsequent Events”, which establishes general standards of accounting for and disclosure of events that occur after the balance sheet date but before financial statements are issued, the Company has evaluated all events and transactions that occurred after December 31, 2018 through the date the consolidated financial statements were available for issuance. During this period the Company did not have any material reportable subsequent events.

17. Quarterly Results (Unaudited)

The following table sets forth our unaudited quarterly condensed consolidated statements of operations data for each of the last eight quarters through December 31, 2018. The data has been prepared on the same basis as the audited consolidated financial statements and related notes included elsewhere in this Annual Report, and you should read the following tables together with such financial statements. The quarterly results of operations include all normal recurring adjustments necessary for a fair presentation of this data. Results of interim periods are not necessarily indicative of results for the entire year and are not necessarily indicative of future results.

	2018 Quarters				2017 Quarters			
	First	Second	Third	Fourth	First	Second	Third	Fourth
(dollars in thousands, except per share data)								
Consolidated Statements of Operations Data:								
Revenue:								
Subscription and support	\$27,729	\$33,154	\$33,919	\$41,776	\$18,135	\$19,407	\$23,169	\$24,756
Perpetual license	1,626	683	915	678	694	1,746	856	1,050
Total product revenue	29,355	33,837	34,834	42,454	18,829	21,153	24,025	25,806
Professional services	2,260	2,109	2,310	2,726	1,923	2,128	2,047	2,041
Total revenue	31,615	35,946	37,144	45,180	20,752	23,281	26,072	27,847
Cost of revenue:								
Subscription and support ⁽¹⁾⁽²⁾	9,249	9,580	10,566	13,486	5,893	6,676	7,737	8,148
Professional services ⁽¹⁾	1,396	1,269	1,517	1,526	1,135	1,327	1,376	1,355
Total cost of revenue	10,645	10,849	12,083	15,012	7,028	8,003	9,113	9,503
Gross profit	20,970	25,097	25,061	30,168	13,724	15,278	16,959	18,344
Operating expenses:								
Sales and marketing ⁽¹⁾	4,408	5,248	5,299	5,980	3,221	4,037	4,258	3,791
Research and development ⁽¹⁾	4,891	5,286	5,400	5,743	3,477	4,003	4,092	4,223
Refundable Canadian tax credits	(102)	(203)	(99)	(2)	(117)	(112)	(195)	(118)
General and administrative ⁽¹⁾	7,000	8,464	8,011	8,566	5,904	6,576	5,084	5,727
Depreciation and amortization	2,130	3,853	3,606	4,683	1,164	1,299	1,648	2,387
Acquisition-related expenses	3,102	3,140	2,497	9,989	3,691	2,278	4,399	4,724
Total operating expenses	21,429	25,788	24,714	34,959	17,340	18,081	19,286	20,734
Loss from operations	(459)	(691)	347	(4,791)	(3,616)	(2,803)	(2,327)	(2,390)
Other expense:								
Interest expense, net	(2,494)	(3,143)	(3,118)	(4,518)	(935)	(1,160)	(2,277)	(2,210)
Loss on debt extinguishment	—	—	—	—	—	(1,634)	1,634	—
Other expense, net	303	(524)	(744)	(816)	(112)	(18)	(130)	549
Total other expense	(2,191)	(3,667)	(3,862)	(5,334)	(1,047)	(2,812)	(773)	(1,661)
Loss before provision for income taxes	(2,650)	(4,358)	(3,515)	(10,125)	(4,663)	(5,615)	(3,100)	(4,051)
Provision for income taxes	(511)	(872)	(735)	11,927	(951)	(196)	(406)	257
Net income (loss)	\$(3,161)	\$(5,230)	\$(4,250)	\$1,802	\$(5,614)	\$(5,811)	\$(3,506)	\$(3,794)
Net income (loss) per common share:								
Basic	\$(0.16)	\$(0.26)	\$(0.21)	\$0.09	\$(0.33)	\$(0.33)	\$(0.18)	\$(0.19)
Diluted ⁽²⁾	\$(0.16)	\$(0.26)	\$(0.21)	\$0.09	\$(0.33)	\$(0.33)	\$(0.18)	\$(0.19)

During the fourth quarter of 2018 we recorded income tax benefits primarily related to our acquisition of companies with deferred tax liabilities that we recorded at the time of acquisition. These deferred tax liabilities (1) enabled us to recognize \$10.1 million of our historic deferred tax assets that had previously been offset by our valuation allowance. This reduction in our valuation allowance was recorded as a tax benefit on our consolidated statement of operations.

(2)

For all quarters, with the exception of the quarter ended December 31, 2018, basic and diluted net loss per share and weighted average common shares outstanding were the same as any additional common stock equivalents would have been anti-dilutive due to the net losses incurred during these periods.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure
None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer (our principal executive officer and principal financial officer, respectively), we have evaluated our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 as of December 31, 2018. Based upon that evaluation, the Chief Executive Officer and the Chief Financial Officer have concluded that, as of December 31, 2018, the Company's disclosure controls and procedures were effective in ensuring information required to be disclosed by the Company in reports that it files or submits under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC and is accumulated and communicated to the Company's management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures will prevent or detect all errors and all fraud. Disclosure controls and procedures, no matter how well designed, operated and managed, can provide only reasonable assurance that the objectives of the disclosure controls and procedures are met. Because of the inherent limitations of disclosure controls and procedures, no evaluation of such disclosure controls and procedures can provide absolute assurance that all control issues and instances of fraud, if any, have been detected.

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 Rules 13a-15(f) and 15d-15(f). 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 policies or procedures may deteriorate. Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of our internal control over financial reporting as of December 31, 2018. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission, or COSO, in Internal Control - Integrated Framework (2013).

Management has excluded Interfax, Rant & Rave and Aestra from its assessment of the effectiveness of internal control over financial reporting as of December 31, 2018, as the acquisition of Interfax was completed in the first quarter of 2018 and the acquisitions of Rant & Rave and Aestra were completed during the fourth quarter of 2018. Interfax, Rant & Rave and Aestra represented 8.7%, 15.5% and 14.4%, respectively, of our total assets and 8.1%, 3.6% and 0.4%, respectively, of our total revenue for the year ended December 31, 2018.

Based on our evaluation using those criteria, our management has concluded that, as of December 31, 2018, our internal control over financial reporting was effective 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.

This Annual Report on Form 10-K does not include an attestation report of our registered public accounting firm on our internal control over financial reporting due to an exemption established by the JOBS Act for "emerging growth companies."

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting during the fourth quarter of fiscal 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

On March 7, 2019, we issued a press release and filed a Current Report on Form 8-K setting forth our 2018 financial results. Subsequent to the issuance of that press release and the filing of the related Form 8-K, the Company and its external auditors determined that the \$890,000 paid in respect of stamp tax obligations for the acquisitions of InterFAX, Rant & Rave and Adestra should be accounted for as acquisition-related costs rather than purchase consideration.

After giving effect to this change, the Company's acquisition-related expense for the fourth quarter ended December 31, 2018 was \$10.0 million instead of \$9.1 million as initially reported. The Company's acquisition-related expense for the year ended December 31, 2018 was \$18.7 million instead of \$17.8 million as initially reported. This change affects the Company's GAAP net income for the quarter as reported in its March 7th press release, which was \$1.8 million instead of \$2.7 million as initially reported, and the GAAP net income per diluted share for the quarter, which was \$0.09 per diluted share instead of \$0.13 as initially reported. GAAP net loss for the year was \$10.8 million instead of \$9.9 million as initially reported, and GAAP net loss per diluted share for the year, was \$0.54 per diluted share instead of \$0.50 as initially reported.

PART III

Item 10. Directors, Officers and Corporate Governance

We have adopted a code of ethics that applies to the Company's directors, officers and employees, including the Chief Executive Officer and the Chief Financial Officer and any other persons performing similar functions. The text of our code of ethics, "Code of Business Conduct and Ethics," has been posted on our website at <http://investor.uplandsoftware.com/code-of-conduct>. We will provide a copy of the code of ethics without charge upon request to Corporate Secretary, Upland Software, Inc., 401 Congress Ave., Suite 1850, Austin, Texas 78701. Additional information required by this item is incorporated by reference from our definitive proxy statement for the 2019 Annual Meeting of Stockholders under the headings "Proposal One: Election of Directors," "Section 16(a) Beneficial Ownership Reporting Compliance," "Directors and Corporate Governance" and "Executive Officers."

Item 11. Executive Compensation

The information required by this item is incorporated by reference from our definitive proxy statement for the 2019 Annual Meeting of Stockholders, under the headings "Executive Compensation" and "Directors and Corporate Governance-Compensation Committee Interlocks and Insider Participation."

Amendments to Executive Employment Agreements

On March 13, 2019, the Company entered amendments to each of those certain Executive Employment Agreements dated as of March 28, 2017, by and between the Company and each of (i) John T. McDonald, the Company's Chief Executive Officer and Chairman of the Board (filed as Exhibit 10.21 to the Company's Annual Report on Form 10-K filed on March 30, 2017) (the "McDonald Employment Agreement Amendment"), (ii) Timothy W. Mattox, the Company's Chief Operating Officer and President (filed as Exhibit 10.22 to the Company's Annual Report on Form 10-K filed on March 30, 2017) (the "Mattox Employment Agreement Amendment") and (iii) Michael D. Hill, the Company's Chief Financial Officer, Secretary and Treasurer (filed as Exhibit 10.23 to the Company's Annual Report on Form 10-K filed on March 30, 2017) (the "Hill Employment Agreement Amendment" and together with the McDonald Employment Agreement Amendment and the Mattox Employment Agreement Amendment, the "Employment Agreement Amendments").

The McDonald Employment Agreement Amendment increases Mr. McDonald's target bonus from 100 to 200 percent of Mr. McDonald's base salary, with 75% of his bonus attributable to the Company's achievement of its merger and acquisition objectives and 25% of his bonus attributable to the Company's achievement of its corporate and financial objectives. The Mattox Employment Agreement Amendment increases Mr. Mattox's target bonus from

100 to 150 percent of Mr. Mattox's base salary, with 50% of his bonus attributable to the Company's achievement of its merger and acquisition objectives and 50% of his bonus attributable to the Company's achievement of its corporate and financial objectives. The Hill Employment Agreement Amendment increases Mr. Hill's target bonus from 100 to 125 percent of Mr. Hill's base salary, with 50% of his bonus attributable to the Company's achievement of its merger and acquisition objectives and 50% of his bonus attributable to the Company's achievement of its corporate and financial objectives.

The foregoing description of the Employment Agreement Amendments is not complete and is qualified in its entirety by reference to the complete text of the McDonald Employment Agreement Amendment, the Mattox Employment Agreement Amendment and the Hill Employment Agreement Amendment, copies of which are filed as Exhibit 10.23, 10.24 and 10.25, respectively to this Annual Report on Form 10-K and incorporated herein by reference.

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

The information required by this item is incorporated by reference from our definitive proxy statement for the 2019 Annual Meeting of Stockholders under the headings "Equity Compensation Plan Information" and "Security Ownership of Certain Beneficial Owners and Management."

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

The information required by this item is incorporated by reference from our definitive proxy statement for the 2019 Annual Meeting of Stockholders under the headings "Certain Relationships and Related Party Transactions" and "Directors and Corporate Governance-Director Independence."

Item 14. Principal Accounting Fees and Services

The information required by this item is incorporated by reference from our definitive proxy statement for the 2019 Annual Meeting of Stockholders under the heading "Proposal Two: Ratification of Selection of Independent Registered Public Accounting Firm."

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) Financial Statements

The financial statements filed as part of this Annual Report on Form 10-K are listed on the "Index to Consolidated Financial Statements" included in Item 8 herein.

(b) Exhibits

See Exhibit Index at the end of this Annual Report on Form 10-K, which is incorporated by reference.

Item 16. Form 10-K Summary

Not applicable.

Schedule II-Valuation and Qualifying Accounts

This schedule has been omitted as the required information has been included in the notes to the consolidated financial statements.

EXHIBIT INDEX

Exhibit No.	Description of Exhibit	Incorporated by Reference		
		Form	File No.	Exhibit Filing Date
<u>2.1</u>	<u>Agreement and Plan of Merger by and among the Registrant, Steering Wheel Acquisition Corp., PowerSteering Software, Inc. and Michael Pehl, as Stockholder representative, dated February 3, 2012</u>	S-1	333-1985742.1	September 4, 2014
<u>2.2</u>	<u>Stock Purchase Agreement by and among the Registrant, Tenrox Inc., the stockholders named therein and Novacap II, L.P. and Aramazd Israilian, as representatives, dated February 10, 2012</u>	S-1	333-1985742.2	September 4, 2014
<u>2.3</u>	<u>Membership Interest Purchase Agreement by and among the Registrant, LMR Solutions, LLC, Joseph Larscheid and Cheryl Larscheid, dated November 13, 2012</u>	S-1	333-1985742.3	September 4, 2014
<u>2.4</u>	<u>Stock Purchase Agreement by and among the Registrant, Marex Group Inc., FileBound Solutions, Inc., the Selling Stockholders (as defined therein) and Rex Lamb, as representative of the Selling Stockholders, dated May 16, 2013</u>	S-1	333-1985742.4	September 4, 2014
<u>2.5</u>	<u>Membership Interest Purchase Agreement by and among the Registrant, Upland Software, Inc., ComSci, LLC and Robert Svec, dated November 7, 2013</u>	S-1	333-1985742.5	September 4, 2014
<u>2.6</u>	<u>Stock Purchase Agreement by and among the Registrant, Clickability, Inc. and Limelight Networks, Inc. dated December 23, 2013</u>	S-1	333-1985742.6	September 4, 2014
<u>2.7</u>	<u>Agreement and Plan of Merger by and among Upland Software, Inc., Ovidian Corporation, Quest Acquisition Corporation I and Christian Meininger, as Securityholder Representative, dated as of November 16, 2017</u>	8-K	001-36720 10.1	November 16, 2017
<u>2.8</u>	<u>Share Purchase Agreement by and among Powersteering Software Limited, Upland Software, Inc., Nigel Shanahan, Erica Shanahan and other sellers, dated as of October 3, 2018</u>	8-K	001-36720 10.1	October 3, 2018
<u>3.1</u>	<u>Amended and Restated Certificate of Incorporation, as currently in effect</u>	10-K	001-36720 3.1	March 30, 2016
<u>3.2</u>	<u>Amended and Restated Bylaws, as currently in effect</u>	10-K	001-36720 3.2	March 30, 2016
<u>4.1</u>	<u>Amended and Restated Investors' Rights Agreement among the Registrant and certain stockholders, dated December 20, 2013</u>	S-1	333-1985744.1	September 4, 2014
<u>10.1+</u>	<u>Form of Indemnification Agreement for directors and officers</u>	S-1	333-198574 10.2	October 27, 2014
<u>10.2+</u>	<u>Amended and Restated 2010 Stock Plan, as amended September 2, 2014</u>	S-1	333-198574 10.3.1	September 4, 2014
<u>10.3+</u>	<u>Form of Stock Option Agreement under Amended and Restated 2010 Stock Plan (Standard)</u>	S-1	333-198574 10.4	September 4, 2014
<u>10.3.1+</u>	<u>Form of Stock Option Agreement under Amended and Restated 2010 Stock Plan (Former ComSci, LLC Employees)</u>	S-1	333-198574 10.4.1	September 4, 2014
<u>10.3.2+</u>	<u>Form of Stock Option Agreement under Amended and Restated 2010 Stock Plan (Executive)</u>	S-1	333-198574 10.4.2	September 4, 2014
<u>10.3.3+</u>	<u>Form of Amendment to Stock Option Agreement under Amended and Restated 2010 Stock Plan with Certain Executives</u>	S-1	333-198574 10.4.3	September 4, 2014
<u>10.4+</u>	<u>Form of Restricted Stock Purchase Agreement under Amended and Restated 2010 Stock Plan</u>	S-1	333-198574 10.5	September 4, 2014

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				Incorporated by Reference
<u>10.4.1+</u>	<u>Form of Amendment to Restricted Stock Purchase Agreement under Amended and Restated 2010 Stock Plan</u>	S-1	333-198574 10.5.1	September 4, 2014
<u>10.5+</u>	<u>2014 Equity Incentive Plan</u>	S-1	333-198574 10.6	October 27, 2014
<u>10.6+</u>	<u>Form of Stock Option Award Agreement under 2014 Equity Incentive Plan</u>	S-1	333-198574 10.7	October 27, 2014
<u>10.6.1+</u>	<u>Form of Stock Option Award Agreement under 2014 Equity Incentive Plan (Executive)</u>	S-1	333-198574 10.7.1	October 27, 2014
<u>10.7+</u>	<u>Form of Restricted Stock Purchase Agreement under 2014 Equity Incentive Plan</u>	S-1	333-198574 10.8	October 27, 2014
<u>10.7.1+</u>	<u>Form of Restricted Stock Purchase Agreement under 2014 Equity Incentive Plan (Executive)</u>	S-1	333-198574 10.8.1	October 27, 2014
<u>10.8+</u>	<u>Form of Restricted Stock Unit Award Agreement under 2014 Equity Incentive Plan</u>	S-1	333-198574 10.9	October 27, 2014
<u>10.8.1+</u>	<u>Form of Restricted Stock Unit Award Agreement under 2014 Equity Incentive Plan (Executive)</u>	S-1	333-198574 10.9.1	October 27, 2014
<u>10.9+</u>	<u>Employment Agreement between the Registrant and John T. McDonald, dated May 9, 2014</u>	S-1	333-198574 10.12	September 4, 2014
<u>10.10+</u>	<u>Offer of Employment between the Registrant and Timothy Mattox, dated July 7, 2014</u>	10-K	001-36720 10.13	March 31, 2015
<u>10.11</u>	<u>Office Lease between the Registrant and TPG-401 Congress LLC, dated February 27, 2014</u>	S-1	333-198574 10.17	September 4, 2014
<u>10.11.1</u>	<u>First Amendment to Office Lease between Registrant and TPG-401 Congress LLC</u>	S-1	333-198574 10.17.1	September 4, 2014
<u>10.11.2*</u>	<u>Second Amendment to Office Lease between Registrant and CSHV-401 Congress LLC</u>			
<u>10.12</u>	<u>Lease Agreement between Tenrox Inc. and A.R.E. Quebec, dated November 5, 2012, as amended</u>	S-1	333-198574 10.18	September 4, 2014
<u>10.13</u>	<u>Sublease Agreement between Marex Properties, LLC and Marex Group Inc., dated May 10, 2013</u>	S-1	333-198574 10.19	September 4, 2014
<u>10.14</u>	<u>Amended and Restated Technology Services Agreement between the Registrant and DevFactory FZ-LLC, dated January 1, 2014</u>	S-1	333-198574 10.37	October 27, 2014
<u>10.14.1</u>	<u>Second Amended and Restated Technology Services Agreement between the Registrant and DevFactory FZ-LLC, dated January 1, 2017</u>	10-K	001-36720 10.18.1	March 30, 2017
<u>10.15</u>	<u>Stock Purchase Agreement between the Registrant and DevFactory FZ-LLC, dated January 27, 2014</u>	S-1	333-198574 10.39	September 4, 2014
<u>10.16</u>	<u>Lease by and between Lincoln One, LLC and the Registrant dated June 19, 2015</u>	8-K	001-36720 10.1	June 22, 2015
<u>10.17</u>	<u>Credit Agreement by and between the Registrant and Wells Fargo Finance, dated May 14, 2015</u>	10-Q	001-36720 10.1	August 14, 2015
<u>10.17.1</u>	<u>First Amendment to Credit Agreement, among the Registrant, Wells Fargo Bank, N.A. and the other parties thereto, dated September 23, 2015.</u>	10-K	001-36720 10.18.1	March 30, 2017
<u>10.17.2</u>	<u>Second Amendment to Credit Agreement, among the Registrant, Wells Fargo Bank, N.A. and the other parties thereto, dated April 25, 2016.</u>	10-K	001-36720 10.18.2	March 30, 2017
<u>10.17.3</u>	<u>Third Amendment to Credit Agreement, among the Registrant, Wells Fargo Bank, N.A. and the other parties thereto, dated November 15,</u>	10-K	001-36720 10.18.3	March 30, 2017

2016.

Fourth Amendment to Credit Agreement, among the Registrant,

10.17.4 Wells Fargo Bank, N.A. and the other parties thereto, dated April 21, 10-Q001-36720 10.1

August 14,
2017

2017

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	Incorporated by Reference
<u>10.17.5</u> <u>Fifth Amendment to Credit Agreement, among the Registrant, Wells Fargo Bank, N.A. and the other parties thereto, dated August 2, 2017</u>	10-Q001-36720 10.1 November 14, 2017
<u>10.17.6</u> <u>Sixth Amendment to Credit Agreement dated as of March 21, 2018, among, inter alia, the Company and certain of its domestic and Canadian subsidiaries, as borrowers, and each of the lenders party thereto.</u>	10-Q001-36720 10.1 May 5, 2018
<u>10.17.7</u> <u>Seventh Amendment to Credit Agreement dated July 31, 2018, among, inter alia, the Company and certain of its domestic and Canadian subsidiaries, as borrowers, and each of the lenders party thereto.</u>	10-Q001-36720 10.1 August 9, 2018
<u>10.17.8</u> <u>Eighth Amendment to Credit Agreement dated October 2, 2018, among, inter alia, the Company and certain of its domestic and Canadian subsidiaries, as borrowers, and each of the lenders party thereto.</u>	10-Q001-36720 10.1 November 11, 2018
<u>10.17.9*</u> <u>Ninth Amendment to Credit Agreement dated December 12, 2018, among, inter alia, the Company and certain of its domestic and Canadian subsidiaries, as borrowers, and each of the lenders party thereto.</u>	
<u>10.18</u> <u>Guaranty and Security Agreement by and between the Registrant and Wells Fargo Capital Finance, dated May 14, 2015</u>	10-Q001-36720 10.2 August 14, 2015
<u>10.19</u> <u>Canadian Guarantee and Security Agreement by and between the Registrant and Wells Fargo Capital Finance, dated May 14, 2015</u>	10-Q001-36720 10.3 August 14, 2015
<u>10.20+</u> <u>Employment Agreement between the Registrant and Michael D. Hill, dated March 28, 2017</u>	10-K001-36720 10.21 March 30, 2017
<u>10.21+</u> <u>Employment Agreement between the Registrant and Timothy Mattox, dated March 28, 2017</u>	10-K001-36720 10.22 March 30, 2017
<u>10.22+</u> <u>Employment Agreement between the Registrant and John T. McDonald, dated March 28, 2017</u>	10-K001-36720 10.23 March 30, 2017
<u>10.23*</u> <u>Amendment #1 to Employment Agreement between the Registrant and Michael D. Hill, dated March 28, 2017</u>	
<u>10.24*</u> <u>Amendment #1 to Employment Agreement between the Registrant and Timothy Mattox, dated March 28, 2017</u>	
<u>10.25*</u> <u>Amendment #1 to Employment Agreement between the Registrant and John T. McDonald, dated March 28, 2017</u>	
<u>21.1*</u> <u>List of subsidiaries of Upland Software, Inc.</u>	
<u>23.1*</u> <u>Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm</u>	
<u>24.1*</u> <u>Power of Attorney (included on signature pages hereto)</u>	
<u>31.1*</u> <u>Certification of the Principal Executive Officer Required Under Rules 13a-14(a) and 15d-14(a) of the Securities Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>	
<u>31.2*</u> <u>Certification of the Principal Financial Officer Required Under Rules 13a-14(a) and 15d-14(a) of the Securities Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>	
<u>32.1*(1)</u> <u>Certification of Principal Executive Officer Required Under Rules 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u>	
<u>32.2*(1)</u> <u>Certification of Principal Financial Officer Required Under Rules 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u>	

Incorporated
by
Reference

101.INS XBRL Instance Document
101.SCH XBRL Taxonomy Extension Schema
101.CAL XBRL Taxonomy Extension Calculation Linkbase
101.LAB XBRL Taxonomy Extension Label Linkbase
101.PRE XBRL Taxonomy Extension Presentation Linkbase
101.DEF XBRL Taxonomy Extension Definition Linkbase

+ Indicates management contract, compensatory plan or arrangement.

* Filed herewith.

(1) The material contained in Exhibit 32.1 and Exhibit 32.2 is not deemed “filed” with the SEC and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date hereof and irrespective of any general incorporation language contained in such filing, except to the extent that the Company specifically incorporates it by reference.

SIGNATURES

Pursuant to the requirement of Sections 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.

Date: March 15, 2019

Upland Software, Inc.

By: /s/ John T. McDonald

John T. McDonald

Chief Executive Officer and Chairman

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints John T. McDonald and Michael D. Hill and each of them, as his true and lawful attorney-in-fact and agent with full power of substitution, for him in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent the full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute, may lawfully do or cause to be done by virtue thereof.

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/ John T. McDonald John T. McDonald	Chief Executive Officer and Chairman (Principal Executive Officer)	March 15, 2019
/s/ Michael D. Hill Michael D. Hill	Chief Financial Officer, Secretary and Treasurer (Principal Financial Officer and Principal Accounting Officer)	March 15, 2019
/s/ Joe C. Ross Joe C. Ross	Director	March 15, 2019
/s/ David May David May	Director	March 15, 2019
/s/ Stephen E. Courter Stephen E. Courter	Director	March 15, 2019
/s/ Rodney C. Favaron Rodney C. Favaron	Director	March 15, 2019