ELLIE MAE INC
Form 10-K
March 01, 2019

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

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FORM 10-K

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(Mark One)
x 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
For the transition period from to
Commission File Number: 001-35140

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ELLIE MAE, INC.
(Exact name of registrant as specified in its charter)

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Delaware (State or other jurisdiction of incorporation or organization)	94-3288780 (I.R.S. Employer Identification No.)
4420 Rosewood Drive, Suite 500 Pleasanton, California (Address of principal executive offices)	94588 (Zip Code)

(925) 227-7000
(Registrant's telephone number, including area code)

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, par value $0.0001 per share	New York Stock Exchange

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

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Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes x No o
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 of Section 15(d) of the Act. Yes o No x
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No o
Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes x No o
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the 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. o

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

Large accelerated filer x Accelerated filer o

Non-accelerated filer o Smaller reporting company o

Emerging growth company ¨

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2018, the last business day of the registrant's most recently completed second fiscal quarter, was approximately $3.0 billion (based on the last reported sale price of $103.84 on June 30, 2018).

34,802,452 shares of the registrant's common stock, par value $0.0001 per share, were outstanding as of February 13, 2019.

Documents Incorporated by Reference

Portions of the registrant's Proxy Statement for the registrant's 2019 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K to the extent stated herein. The registrant intends to file the Proxy Statement within 120 days of the registrant's fiscal year ended December 31, 2018.

Ellie Mae, Inc.
Form 10-K
For the Year Ended December 31, 2018
TABLE OF CONTENTS

		Page
Part I.		1
Item 1.	Business	2
Item 1A.	Risk Factors	11
Item 1B.	Unresolved Staff Comments	24
Item 2.	Properties	24
Item 3.	Legal Proceedings	24
Item 4.	Mine Safety Disclosures	24
Part II.		25
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	25
Item 6.	Selected Financial Data	27
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	28
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	44
Item 8.	Financial Statements and Supplementary Data	45
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	81
Item 9A.	Controls and Procedures	81
Item 9B.	Other Information	82
Part III.		83
Item 10.	Directors, Executive Officers and Corporate Governance	83
Item 11.	Executive Compensation	83
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	83
Item 13.	Certain Relationships and Related Transactions, and Director Independence	83
Item 14.	Principal Accounting Fees and Services	83
Part IV.		84
Item 15.	Exhibits and Financial Statement Schedules	84
Item 16.	Form 10-K Summary	89
Signatures		89

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K and the documents incorporated herein by reference contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which are subject to the "safe harbor" created by those sections. Forward-looking statements may include words such as "may," "will," "should," "could," "expect," "plan," "intend," "target," "anticipate," "believe," "estimate," "predict," "potential," "project," "continue," "depend," or other wording indicating future r expectations. These forward-looking statements include, but are not limited to, statements about:

- our pending acquisition by Thoma Bravo, LLC, including our expectations regarding the timing and expected benefits of such transaction, our plans, objectives and intentions with respect to our future operations, and the expected impact of the proposed transaction on our business;
- expectations regarding demand for home purchases;
- the ability of our investments in the security of the Encompass service, as well as our internal systems, processes and monitoring capabilities, to protect our customers' data and help minimize the risk of data security loss;
- the impact of changes in mortgage interest rates, home sale activity, and regulatory changes;
- the seasonality of the residential mortgage industry;
- the impact of seasonality on our revenues;
- estimates of the percentage of our revenues that have direct sensitivities to volume;
- changes in mortgage originator, lender, investor, or service provider behavior and any related impact on the residential mortgage industry;
- our revenue and cost forecasts and drivers;
- the number of users of Encompass and estimated Encompass closed loans;
- our ability to remediate the material weakness in our internal control over financial reporting;
- anticipated benefits of our new solutions;
- the effectiveness of our marketing and sales efforts to attract new and retain existing Encompass users and Ellie Mae Network participants;
- transaction volume on the Ellie Mae Network;
- the level of demand for our Encompass Docs Solution, our Encompass Product & Pricing Service, our Encompass Compliance Service, our Encompass CRM service, our Velocify sales engagement service and the other services we offer;
- anticipated timing of roll-out of new solutions and features;
- our expectations regarding the acceptance of our new offerings by the market;
- our expectations regarding the adoption rate of our platform by mortgage lenders;
- changes in government regulation and tax laws affecting mortgage lenders and Ellie Mae Network participants or our business, and potential structural changes in the U.S. residential mortgage industry;
- our customer retention, renewal and upgrade rates;
- our current and planned investments in our products and services;
- our expectations regarding our current and planned investments;
- our expectations regarding our future costs and expenses;
- our ability to successfully manage our growth and any future acquisitions of businesses, solutions or technologies;
- the anticipated benefits and growth prospects expected from our recent acquisition;
- the impact of uncertain domestic and worldwide economic conditions, including the resulting effect on residential mortgage volumes;
- our ability to compete effectively in a highly competitive market and adapt to technological changes;
- our ability to protect our intellectual property, including our proprietary Encompass software;
- our belief that our existing cash, cash equivalents, and short-term investments will be sufficient to fund capital expenditures, operating expenses, and other cash requirements for at least the next 12 months; and

- our planned stock repurchases.

We caution you that the foregoing list may not contain all of the forward-looking statements made in this Annual Report on Form 10-K. You should not rely upon forward-looking statements as predictions of future events. The outcomes of the events described in these forward-looking statements are subject to substantial risks, uncertainties and other factors described in Part I, Item 1A "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.

In this report, references to "Ellie Mae," "the Company," "we," "our," or "us" refer to Ellie Mae, Inc., unless the context requir otherwise.

PART I

ITEM 1. BUSINESS

Our Company

We are the leading cloud-based platform provider for the mortgage finance industry. Our technology solutions are used by lenders to originate and close residential mortgage loans. At December 31, 2018, approximately 186,500 mortgage professionals used our Encompass digital lending platform ("Encompass") for their mortgage management solution.

Encompass is a comprehensive, end-to-end enterprise solution that handles most of the functions involved in running the business of originating mortgages including: marketing; lead management; loan origination; loan processing; underwriting; preparation of mortgage applications, disclosure documents, and closing documents; funding and closing the loan for the borrower; compliance with regulatory and investor requirements and overall enterprise management that provides one system of record for mortgage loans. Delivery of Encompass as an on-demand Software-as-a-Service ("SaaS") solution provides customers with the added benefits of lower upfront implementation costs and reduced need for an infrastructure of servers, storage and network devices as well as the staff needed to support the infrastructure. SaaS delivery of Encompass enables access to the most current version of our software, including periodic upgrades and regulatory updates. We also host the Ellie Mae Network, a proprietary electronic platform that allows Encompass users to conduct electronic business transactions with service providers as well as mortgage investors (also referred to as "investors") and lenders in order to process and fund loans. The Ellie Mae Network allows these service providers, investors and lenders to digitally integrate their services with Encompass to seamlessly conduct business with mortgage origination professionals using Encompass.

We also offer Encompass users a variety of other on-demand software services delivered within Encompass which are discussed below in our Products and Services overview.

Corporate Information

Founded in 1997 as a California corporation, we were reincorporated as a Delaware corporation in November 2009. Our common stock is listed on the New York Stock Exchange under the symbol "ELLI". Our mailing address and executive offices are located at 4420 Rosewood Drive, Suite 500, Pleasanton, California 94588 and our telephone number at that address is (925) 227-7000. Our website address is www.elliemae.com. Information found on or accessible through our website is not part of and is not incorporated into this report.

On February 11, 2019, we entered into an Agreement and Plan of Merger (the "Merger Agreement") with EM Eagle Purchaser, LLC, a Delaware limited liability company ("Parent"), and EM Eagle Merger Sub, Inc., a Delaware corporation and wholly owned subsidiary of Parent ("Merger Sub"), providing for our acquisition by private equity investment firm Thoma Bravo, LLC in an all-cash transaction valued at approximately $3.7 billion (the "Transaction").

If the Transaction is completed, our stockholders will be entitled to receive $99.00 in cash for each share of our common stock they hold as of the effective time of the Transaction. The Transaction is expected to close in the second or third quarter of 2019, subject to approval by our stockholders and regulatory authorities and the satisfaction of customary closing conditions. See Note 14 “Subsequent Event” in the Notes to Financial Statements for further details.

We are subject to the information and periodic reporting requirements of the Securities Exchange Act of 1934, or Exchange Act, and, in accordance therewith, file periodic reports, proxy statements, and other information with the Securities and Exchange Commission (the "SEC"). The SEC maintains a website at http://www.sec.gov that contains reports, proxy statements, and other information regarding issuers that file electronically with the SEC. We also post on the Investor Relations page of our website, investor.elliemae.com, a link to our filings with the SEC, our Corporate Governance Guidelines, and Code of Business Conduct and Ethics, which applies to all directors and all employees, and the charters of our Audit Committee, Compensation Committee, and Nominating and Corporate Governance Committee of our board of directors. Our filings with the SEC are posted on our website and are available free of charge as soon as reasonably practical after they are filed electronically with the SEC. You can also obtain copies of these documents free of charge by writing to us at: Corporate Secretary, Ellie Mae, Inc., 4420 Rosewood Drive, Suite 500, Pleasanton, CA 94588, or emailing us at: ir@elliemae.com.

We also use our investor relations website as a channel of distribution for important company information. Important information, including press releases, analyst presentations and financial information regarding us, as well as corporate governance information, is routinely posted and accessible on our investor relations website.

The "Ellie Mae," "Encompass," "AllRegs", "Velocify", and other trademarks or service marks of Ellie Mae appearing in this report are the property of Ellie Mae.

Mortgage Industry Overview

Overview of Mortgage Origination Market

Mortgage originators typically advise borrowers, process loan files, collect, and verify the property and borrower data upon which lending decisions are based and, in the majority of cases, fund and close mortgage loans. According to data available pursuant to the Home Mortgage Disclosure Act ("HMDA"), there were approximately 6,000[1] mortgage lenders in 2017 in the United States, including national banks, regional banks, non-bank lenders, and credit unions. Based on estimates provided by the Mortgage Bankers Association, there were $1.6 trillion[2], $1.7 trillion, $2.1 trillion, $1.7 trillion and $1.3 trillion in loans originated for 1- to 4-family homes during the years ended December 31, 2018, 2017, 2016, 2015 and 2014, respectively.

The Mortgage Origination Process

Originating a residential mortgage involves multiple parties and requires a complex series of data-laden transactions that must be handled accurately under tight time constraints. By the time a mortgage has been funded, the typical loan package contains over one thousand pages of documents that come from over a dozen different entities, usually operating on disparate technology systems and databases. Traditionally, much of the data used to prepare these documents has been gathered manually, rather than electronically, with documents exchanged among the many participants by facsimile, courier or mail. The entire process results in significant duplicative efforts, time delays, errors, costs, and redundant paper documentation, and can expose borrower data to potential privacy and security breaches.

(1) Federal Financial Institutions Examination Council, FFIEC Announces Availability of 2017 Data on Mortgage Lending, May 7, 2018.
(2) Mortgage Bankers Association, MBA Mortgage Finance Forecast as of January 17, 2019. Copyright 2019.

The following diagram of the mortgage origination process provides a framework for understanding the complexity and inefficiency of the process and the need for automated solutions:

In addition to the challenges involved in processing loans, mortgage originators must satisfy a multitude of federal, state and local regulations, and address basic business needs, including marketing, sales, product fulfillment, customer support, reporting, and general management functions. Historically, most mortgage originators have operated their businesses using separate task-specific software applications that were interconnected, if at all, through customized integrations. This often resulted in constraints on effective collaboration among operating departments, limited ability to monitor the business comprehensively, increased risk of error due to inconsistent data, failure to incorporate current regulations into work flows, inadequate security and control over the process, and expensive technical integration and maintenance costs.

Recent Mortgage Industry Trends and Developments

The residential mortgage industry continues to evolve and undergo significant changes. The following major trends are currently impacting the residential mortgage industry.

Greater Focus on Operational Efficiencies. The average total production cost per loan was $8,174 in the third quarter of 2018[(3)]. We expect operational costs to continue to be a significant consideration for mortgage originators due to the continuously changing regulatory environment and heightened quality standards. As a result, mortgage originators have sought to increase their efficiency and reduce fixed expenses, leading them to explore technology solutions to automate their business processes as well as methods to avoid or reduce expenses that are not tied to revenue generating activities.

Customers Adopting Multi-Channel Strategies. Customers are developing multi-channel strategies beyond a single retail, correspondent, or wholesale mortgage lending channel in order to grow their businesses. The requirements of these different channels vary, and in order to maintain a single operating system, customers must use a robust system with customizable functionality.

[(3)] Mortgage Bankers Association, IMB Profits Lag in the Third Quarter, November 29, 2018.

Changes in Regulations Affecting Lenders and Investors. Mortgage lending regulations continue to change and many regulatory reforms have been introduced or proposed in recent years to promote increased underwriting standards and accountability by lenders and mortgage originators, ensure meaningful disclosures by lenders to borrowers, increase the transparency and objectivity of settlement services, and protect consumers in the mortgage market from unfair or abusive lending practices. These changes have complicated the mortgage origination process and increased the amount of documentation required to originate and fund residential mortgages. We have made and expect to continue to make significant investments in our products and services to address statutory and regulatory changes.

Consumer Demand for a Digital Based Experience from Lenders. Today's borrowers expect transparency, service and speed, and a human touch. To meet these requirements, lenders must offer a seamless, online experience that continues even after the application has been submitted. Lenders should have access to current and historical data on every individual borrower, and provide an intuitive borrower portal that offers a simple, transparent interaction, the ability to easily upload documents, and real-time status updates.

Increased Quality Standards Imposed by Regulators, Lenders, and Investors. Lenders have eliminated many high-risk loan product offerings and significantly tightened underwriting and processing requirements. Similarly, investors seek higher-quality, lower-risk loans in which to invest. Consistent with these tightened standards and expectations, lenders and investors are demanding increased levels of documentation of the data upon which a lending decision will be based, increased use of third-party services to obtain unbiased and independent verification of borrowers' creditworthiness, greater proof of the adequacy of the collateral securing mortgages, and strict compliance with regulatory requirements. This trend further increases the amount of documentation and the number of services required to originate and fund residential mortgages. Increased enforcement by federal and state regulators continues to encourage mortgage originators to explore technology solutions that provide adequate controls and policy enforcement to facilitate the origination of compliant loans.

Greater focus by customers and regulators on data security and consumer privacy. Recent high-profile data security incidents affecting banking institutions and their third-party service providers have resulted in an increased focus on data security by our customers and our customers' regulators. We expect the industry focus on data security to continue to increase as companies generate greater amounts of data and as future data security incidents occur.

Our Strategy

Our mission is to be the industry standard platform for residential mortgage origination in the United States. Key elements of our strategy include:

Increase the number of lenders using Encompass and the number of loans originated on our platform. We continue to focus our marketing, sales and product development efforts on increasing the number of mortgage lenders, commercial banks and credit unions using Encompass and our additional services, and the number of loans originated on our platform. We intend to continue to focus our efforts on all market segments, including the largest, or enterprise segment, of the lending industry.

Increase adoption and utilization of our solutions and services. We encourage increased customer adoption and utilization of the various products and services we currently offer, such as customer relationship and lead management, document preparation, compliance services, and product and pricing services. As our customers opt for supplemental on-demand software and services, we generate additional revenues, and continue to drive additional revenues per loan originated on Encompass.

Create a true digital mortgage platform. We continue to expand into a more complete digital mortgage strategy to benefit our customers. It is our goal to provide a true digital mortgage process that enables the lender to originate more loans, lower origination costs, reduce the time to close and make smarter decisions through data and predictive analytics, all while ensuring the highest levels of compliance, quality and efficiency.

Invest in new product and platform development. We are investing in the development of the next generation of the Encompass Digital Lending Platform, as well as the Encompass Connect solutions, each of which is built on the new Encompass Digital Lending Platform and utilizes Application Program Interfaces ("APIs") to offer unique capabilities that help improve visibility and collaboration among loan officers, third-party originators, service providers, investors and homebuyers.

Increase our customers' use of, and the services integrated into, the Ellie Mae Network. The Ellie Mae Network provides mortgage originators electronic access to many of the service providers, investors and lenders that they

interact with in order to process and fund loans. We will continue to promote service ordering by our Encompass customers through the Ellie Mae Network as well as encourage providers of settlement services to deliver these services electronically through the Ellie Mae Network.

Investment in our business. We invest in initiatives that we believe will help us continue to grow our business, improve our products and services, and strengthen our competitive advantage while bringing sustainable, long-term value to our customers. We currently anticipate that throughout 2019 we will continue to invest in key areas such as research and development, enterprise sales, services, technical support, and data security. This investment will include the development of our hybrid cloud infrastructure to accommodate the increasing adoption of the Encompass Digital Lending Platform and capabilities, which we expect to continue to roll out to customers in 2019 and 2020.

Acquisitions. Our industry is highly fragmented, and we are continuously exploring and evaluating strategic opportunities available to acquire technology-based companies that will complement and increase the attractiveness of our solutions, enhance the breadth and depth of our solutions, and further our mission of automating the entire end-to-end mortgage process for our customers.

Products and Services

The Encompass Digital Lending Platform

Encompass is our proprietary, comprehensive digital mortgage platform that addresses the entire loan lifecycle and provides seamless access to the service providers, investors and lenders on the Ellie Mae Network. The Encompass Digital Lending Platform gives customers, partners and independent software vendors a secure, scalable platform plus a suite of APIs to enable them to extend the platform by easily integrating with external systems and data, and build custom applications that integrate with the platform. The Encompass platform helps users structure and streamline their mortgage origination process and facilitates collaboration among internal departments of a mortgage origination company. It supports efficiency in gathering, reviewing, and verifying mortgage-related data and in producing accurate documentation. It also enables enforcement of rules and business practices designed to ensure loan quality, adherence to processing standards, and regulatory compliance. Mortgage originators pay for Encompass in one of two models: fees based on the number of loans closed, subject to base fees, which we refer to as Success-Based Pricing, or recurring monthly subscription fees.

The Encompass Digital Lending Platform is designed to help lenders and investors across their entire workflow from the initial point of thought from prospective customers all the way to point of loan delivery when the transaction is executed. We categorize the Encompass Digital Lending Platform in four solution types that allow our customers to:

- Engage and acquire prospective customers or members so as to increase pipeline volume and drive more business;
- Originate & Close loans more efficiently to lower cost of origination and boost productivity;
- Sell loans more efficiently to fund loans faster and ensure a steady flow of capital; and
- Purchase loans efficiently to acquire more loans faster and drive revenue for correspondent businesses.

Each solution includes a number of products and capabilities:

Cross-Platform Products. The Encompass Digital Lending Platform includes functionality and value-added features applicable across all solution types, including a data layer powering reporting and analytics that help lenders drive actionable insights that lead to smarter business decisions. The data layer enables the platform's workflow automation capabilities, including pricing, compliance, document management and rules engines that automate lenders' workflow and reduce manual repetitious tasks that often drive up costs. In addition, we provide a developer portal and a robust set of APIs that enable lenders and their developers to innovate and extend the platform to their business needs.

Channel-Centric Solutions. The Encompass Digital Lending Platform offers technology solutions for all three mortgage channels. For retail lenders, the platform offers a borrower portal, loan officer portal, loan origination system, and investor delivery service intended to help lenders originate and sell loans faster. For wholesale lenders, the platform offers a broker portal for third-party originators, as well as the loan origination system and investor delivery services, all intended to help originate broker generated loans faster. For the correspondent channel, the platform provides the tools to enable sellers to easily deliver loans and for correspondent investors to easily manage their loan acquisition pipeline, validate loan data, and ultimately complete the acquisition transaction.

The Ellie Mae Partner Network. A key component of the Encompass Digital Lending Platform is the partner network, which we refer to as the Ellie Mae Network, which enables mortgage originators to choose from, and connect to, a broad array of third-party service providers, mortgage lenders, and investors essential to the processing and funding of loans. Key functions of the Ellie Mae Network include the following:

- Mortgage originators can electronically order settlement services, including credit, title, appraisal, flood, compliance, mortgage insurance, fraud detection, and other reports.
- Mortgage originators can electronically and securely submit loan files to the investors to whom they intend to sell them, in order to have the loans underwritten and priced and to have loan rates locked.
- Investors and settlement service providers can gain instant electronic access to a large number of mortgage originators, potentially increasing their revenue opportunities and lowering their marketing, loan processing, and customer support costs.
- Investors and service providers can access electronic and real-time marketing and quality enforcement services that facilitate business interactions with mortgage originators.

Service providers and investors enter into contracts with us that allow their proprietary operating systems to inter-operate with the Ellie Mae Network. Service providers and investors generally pay us fees on a per transaction basis when the mortgage originator orders the applicable services through the Ellie Mae Network.

Professional Services, Technical Support, and Education

Our professional services organization promotes best practice implementations and ongoing software upkeep to support our customers' preferred workflows and integrate with other critical systems while improving productivity and supporting compliance. Our technical support and services organization applies expertise in compliance, business workflows, and product knowledge to enable our customers to achieve better levels of productivity and more effective use of Ellie Mae technologies which result in maximization of return on investment. Our education organization develops and delivers training curriculum which facilitates the foundation of knowledge and successful application of our solutions across our user base.

Sales and Marketing

Our sales force, which is deployed across the United States, consists of four distinct teams: Sales Development, New Account Acquisition, Solution Engineering, and Account Management. These teams manage and grow our customer accounts and focus on continuing to expand our customer base. They also encourage adoption of the Ellie Mae Network and our professional services, manage new product introductions, and cross sell solutions that we develop or acquire.

To build brand awareness and generate sales leads, we conduct digital marketing campaigns, webinars, public relations campaigns, and advertising. We attend and sponsor many mortgage and banking industry conferences and promote the Ellie Mae Experience, our annual user conference.

Technology

Our technology infrastructure supports all of our SaaS products and services.

Data Centers and Network Access

Our primary data centers are hosted by a leading SOC 1/SSAE-16 Type II certified provider of hosting services in Santa Clara, California and Elk Grove (Chicago), Illinois. Applications we provide will run actively in either of these two sites at any time. In 2016, we started moving towards a hybrid cloud architecture that leverages our private co-location data centers as well as Amazon Web Services ("AWS"). Moving towards a hybrid cloud architecture provides us with the scalability to expand our platform and application services, as well as increase availability and cost efficiencies to deliver on our product roadmap and service quality.

We rely on private data centers and AWS to host our products and services. Any disruption with our use of private cloud data centers or AWS would impact our operations and our business would be adversely impacted. In the event of a partial or full failure of our private data centers or AWS regions due to any natural disasters or other factors, we can recover services on a separate disaster recovery data center or other Amazon regions as part of our disaster recovery plan.

In 2015, we acquired substantially all of the assets of Mortgage Returns, LLC ("Mortgage Returns"), whose primary data center is hosted by a third-party provider located in St. Louis, Missouri. Currently, our Encompass CRM application runs out of this site. In 2017, we acquired Velocify, whose primary data center is hosted by a third-party provider located in Richardson, Texas. Currently, our Velocify products run out of this data center.

Network Security

All sensitive data transmitted over public networks is encrypted using industry standard encryption protocols in order to protect sensitive data against third-party disclosure. Servers and network components are secured with access control mechanisms and protected by hardened firewalls, virus protection, and intrusion prevention/detection systems. Security services and tools are monitored and updated in order to address emerging vulnerabilities. We have and will continue to commit significant resources to protect against and remedy any potential security breaches and their consequences and intend to keep doing so in the future. In recent years, we made major investments in our network security infrastructure, encryption of customer data, end-point security, and cybersecurity threat intelligence, including headcount and third-party tools and systems. In 2019 and beyond, we will continue to invest in our security infrastructure to protect the confidentiality and integrity of our customer data.

Research and Development

We devote substantial resources to enhance the features and functionality of our offerings as well as to develop new products and services. We are developing the next generation Encompass platform, including the Encompass Connect solutions that leverage our new APIs and platform capabilities. These new products include our Encompass Consumer Connect solution to better equip our customers to deploy customized borrower-facing websites, Encompass TPO Connect which helps our customers better manage third-party originations with their partners, Encompass Loan Officer Connect which exposes a rich set of loan officer-facing functionality on mobile devices, Encompass Developer Connect which provides developers with APIs, tools and developer portal, and Encompass Data Connect which gives lenders access to all of their loan data in near real time.

We will also continue to deliver enhancements to our offerings in support of compliance updates, including the 2018 HMDA collection and reporting changes, as well as the upcoming February 2020 adoption deadline for the redesigned Uniform Residential Loan Application.

Intellectual Property

Our success depends in large part on our proprietary products and technology for which we seek protection by use of a combination of patents, copyrights, trademarks, and trade secret laws and other agreements with employees and third parties. We require our officers, employees, and consultants to enter into standard agreements containing provisions requiring the confidentiality of proprietary information and assignment to us of all inventions made during the course of their employment or consulting relationship. We also enter into nondisclosure agreements with our commercial counterparties and limit access to, and distribution of, our confidential information.

We are committed to developing and protecting our intellectual property and, where appropriate, file patent applications to protect our technology. Our existing patents expire between 2020 and 2035. Our present and future patents may provide only limited protection for our technology and may not be sufficient to provide competitive advantages to us. Third parties may infringe or misappropriate our proprietary rights. Competitors may also independently develop technologies that are substantially equivalent or superior to the technology we offer in our

products and services.

We hold a number of registered and unregistered trademarks, service names and domain names that are used in our business in the United States.

Competition

The mortgage origination software market is highly competitive. We compete against software providers based on our ability to provide:

- a comprehensive, integrated software solution that provides all business-critical functions including customer acquisition, loan processing, task management, communication with borrowers and other mortgage origination participants, reporting, regulatory compliance, and general enterprise management;
- solutions that create efficiencies in gathering, reviewing, and verifying mortgage-related data and producing accurate documentation;
- on-demand solutions that reduce the need for IT infrastructure and overhead while providing the ability to update capabilities and adopt new regulations in a timely manner;
- customizable business rules to automate processes, promote accountability, and enforce business practices that help assure loan quality and regulatory compliance;
- a database architecture designed to reduce data errors and facilitate collaboration among departments within a mortgage origination company and comprehensive monitoring of the business of the entire enterprise;
- attractive pricing options, such as our Success-Based Pricing model, allowing customers to time payments to cash flow;
- an integrated network to submit loan files electronically and securely to lenders and electronically order all of the services necessary to originate a loan;
- a solution that is secure and maintains the confidentiality of sensitive data; and
- a solution that is reliable with minimal planned and unplanned downtime.

Our end-to-end mortgage origination software solution, Encompass, competes with many software providers catering to mortgage banks, mortgage lenders, credit unions, and mortgage brokers. Our principal software competitors include: proprietary systems that lenders have put in place, largely building on top of a legacy third-party technology; Black Knight, Inc. (LoanSphere Empower and LoanSphere LendingSpace); Mortgage Cadence, an Accenture Company; Wipro Gallagher Solutions, Inc.; Blue Sage Solutions; Byte Software Inc; Calyx Technology, Inc.; DH Corporation now Finastra; LendingQB; and Mortgage Builder Software, Inc. Some of these software providers, including Black Knight, also provide connectivity between their software users and lenders and service providers.

We also compete against other service providers that offer various competing software services not only based on the quality of the service we offer, but also on the integration of each specific service provided within our Encompass platform's overall workflow. We believe that the integration of the services with Encompass enhances mortgage originators' control over their processes with the critical result of reducing errors and costs through the seamless exchange of data across applications and services that Encompass offers.

The Ellie Mae Network is our proprietary method of facilitating our Encompass customers' ability to choose from, and connect with, a broad array of mortgage lenders and third-party service providers essential for the processing and funding of loans, and is only available to mortgage originators using Encompass. Its principal competition remains traditional methods of exchanging data and documents among mortgage industry participants, such as by email, facsimile, phone, courier, and mail. In addition, mortgage originators may use a standalone web browser to go individually to each investor, lender, or service provider's website and then manually upload loan data or enter information into that website. Mortgage originators may continue to use these methods due to habit, personal business relationships or for other reasons, despite the disadvantages of duplicative efforts, time delays, errors and costs, redundant paper documentation, and potential privacy and security breaches.

Lenders and service providers, including those who participate on the Ellie Mae Network, can and do connect with mortgage originators that are not Encompass users in a variety of ways, including through other networks between mortgage originators and lenders, and service providers such as Black Knight, Inc.

We compete with respect to the Ellie Mae Network based on:

- offering mortgage originators accessibility to a critical mass of investors, lenders, and service providers;
- enabling mortgage originators to transact all aspects of the mortgage origination process over the network; and
- providing investors, lenders, and service providers with superior technological connectivity with mortgage originators, which enables them to lower costs, reduce errors and increase speed.

Our future financial condition and operating results depend on our ability to continue to develop and offer new products and services. We believe we generally compete favorably with our competitors; however, some of our actual and potential competitors enjoy substantial competitive advantages over us, such as longer operating histories and significantly greater financial, technical, marketing, and other resources.

Government Regulation

The U.S. mortgage industry is heavily regulated. Mortgage originators, lenders, investors, and service providers with which we do business are subject to federal, state, and local laws that regulate and restrict the manner in which they operate in the residential mortgage industry, including Regulation X of the Real Estate Settlement Procedures Act ("RESPA"), Regulation Z of the Truth in Lending Act ("TILA"), the Mortgage Disclosure Improvement Act, and the Secure and Fair Enforcement for Mortgage Licensing Act of 2008, as amended. In addition, the Dodd-Frank Act increased regulation of the mortgage industry, including: generally prohibiting lenders from making residential mortgage loans unless a good faith determination is made of a borrower's creditworthiness based on verified and documented information; requiring the CFPB to enact regulations to help assure that consumers are provided with timely and understandable information about residential mortgage loans that protect them against unfair, deceptive, and abusive practices; and requiring federal regulators to establish minimum national underwriting guidelines for residential mortgages that lenders will be allowed to securitize and sell to third-party investors without retaining any of the loans' default risk. Although we are not directly subject to these laws and regulations, changes to these laws and regulations could broaden the scope of parties or activities subject to regulation and require us to comply with their restrictions, and new products and services developed by us may be subject to, or have to reflect, these laws or regulations.

In addition, we are subject to general business laws and regulations, regulations governing federal contractors, and laws and regulations specifically governing the Internet, such as those covering taxation, tariffs, user privacy, data protection, pricing, content, copyrights, distribution, electronic contracts and other communications, consumer protection, broadband residential Internet access, and the characteristics and quality of services.

Employees

At December 31, 2018, we had approximately 1,570 full-time employees, including approximately 240 in sales and marketing, 1,150 in research and development and technology, and 180 in general and administrative functions. None of our employees are covered by a collective bargaining agreement.

Facilities

Our corporate headquarters are located in Pleasanton, California, totaling approximately 280,700 square feet, under a lease expiring in December 2025. We also have branch offices in Calabasas, California; El Segundo, California; Irvine, California; San Diego, California; Eagan, Minnesota; Creve Coeur, Missouri; Omaha, Nebraska; and Parsippany, New Jersey.

ITEM 1A. RISK FACTORS

You should carefully consider the risks described below and the other information in this report. If any of the following risks materialize, our business could be materially harmed, and our financial condition and results of operations could be materially and adversely affected. The risks described below are not the only ones facing us. Additional risks not currently known to us or that we currently believe are immaterial may also impair our business, results of operations, financial condition, and liquidity.

The following discussion of risk factors contains forward-looking statements. These risk factors may be important to understanding other statements in this Annual Report on Form 10-K. The following information should be read in conjunction with the financial statements and related notes in Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K.

Because of the following risks, as well as other factors affecting our financial condition and operating results, past financial performance should not be considered to be a reliable indicator of future performance, and investors should not use historical trends to anticipate results or trends in future periods.

The Transaction, the pendency of the Transaction or our failure to complete the Transaction could have a material adverse effect on our business, results of operations, financial condition and stock price.

On February 11, 2019, we entered into the Merger Agreement with Parent and Merger Sub, providing for our acquisition by private equity investment firm Thoma Bravo, LLC ("Thoma Bravo"). Completion of the Transaction is subject to the satisfaction of various conditions, including approval of the Transaction by our stockholders, regulatory approvals from various governmental entities, the absence of certain legal impediments and the absence of a material adverse effect on our business. There is no assurance that all of the various conditions will be satisfied, or that the Transaction will be completed on the proposed terms, within the expected timeframe, or at all. Furthermore, there are additional inherent risks in the Transaction, including the risks detailed below.

During the period prior to the closing of the Transaction, our business is exposed to certain inherent risks due to the effect of the announcement or pendency of the Transaction on our business relationships, financial condition, operating results and business, including:

- potential uncertainty in the marketplace, which could lead current and prospective customers to purchase offerings from other providers or delay purchasing from us;
- the possibility of disruption to our business and operations, including diversion of management attention and resources, increased transaction costs, and the potentially negative impact on our relationships with service providers, investors, and lenders on the Ellie Mae Network;
- the inability to attract and retain key personnel, and the possibility that our current employees could be distracted, and their productivity decline as a result, due to uncertainty regarding the Transaction;
- the inability to pursue alternative business opportunities or make changes to our business pending the completion of the Transaction, and other restrictions on our ability to conduct our business;
- our inability to solicit other acquisition proposals during the pendency of the Transaction following the expiration of the "go-shop" period;
- the amount of the costs, fees, expenses and charges related to the Merger Agreement and the Transaction; and
- other developments beyond our control, including, but not limited to, changes in domestic or global economic conditions that may affect the timing or success of the Transaction.

The Transaction may be delayed, and may ultimately not be completed, due to a number of factors, including:

- the failure to obtain the approval of the Merger Agreement by our stockholders;
- the failure to obtain regulatory approvals from various governmental entities (or the imposition of any conditions, limitations or restrictions on such approvals);
- potential future stockholder litigation and other legal and regulatory proceedings, which could delay or prevent the Transaction; and
- the failure to satisfy the other conditions to the completion of the Transaction, including the possibility that a material adverse effect on our business would permit Thoma Bravo not to close the Transaction.

If the Transaction does not close, our business and stockholders would be exposed to additional risks, including:

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to the extent that the current market price of our stock reflects an assumption that the Transaction will be completed, the price of our common stock could decrease if the Transaction is not completed;

- investor confidence could decline, stockholder litigation could be brought against us, relationships with existing and prospective customers, service providers, investors, lenders and other business partners may be adversely impacted, we may be unable to retain key personnel, and profitability may be adversely impacted due to costs incurred in connection with the pending Transaction; and
- the requirement that we pay a termination fee of $55 million (in connection with accepting a superior proposal during the “go-shop” period from a third party, other than with respect to certain restricted parties described in the Merger

Agreement, in which case the termination fee will be $110 million) to Thoma Bravo if we terminate the Merger Agreement under certain circumstances.

Even if successfully completed, there are certain risks to our stockholders from the Transaction, including:

- the amount of cash to be paid under the Merger Agreement is fixed and will not be adjusted for changes in our business, assets, liabilities, prospects, outlook, financial condition or operating results or in the event of any change in the market price of, analyst estimates of, or projections relating to, our common stock;
- the fact that receipt of the all-cash per share merger consideration under the Merger Agreement is taxable to stockholders that are treated as U.S. holders for U.S. federal income tax purposes; and
- the fact that, if the Transaction is completed, our stockholders will forego the opportunity to realize the potential long-term value of the successful execution of our current strategy as an independent company.

Any outages or system interruptions that impair access to Encompass, the Ellie Mae Network, or our other services could damage our reputation and brand and may substantially harm our business and operating results.

The satisfactory performance, reliability, and availability of Encompass, the Ellie Mae Network, and our other services are critical to our reputation and our ability to attract and retain Encompass users and Ellie Mae Network participants. Because our services are complex and incorporate a variety of hardware and proprietary and third-party software, our services may have errors or defects that could result in unanticipated downtime for our customers. Internet-based services frequently contain undetected errors when first introduced or when new versions or enhancements are released, and we have from time to time found errors and defects in our services and new errors and defects in our services may be detected in the future. We are dependent on third parties for the implementation and maintenance of certain aspects of our systems and because some of the causes of system interruptions may be outside of our control, we may not be able to remedy such interruptions in a timely manner.

Moreover, we have experienced and may in the future continue to experience temporary system interruptions to Encompass, the Ellie Mae Network, or our other services for a variety of other reasons, including:

- network or power failures;
- problems with Encompass and other third-party firmware updates;
- an overwhelming number of users trying to access our services during periods of strong demand;
- security or denial of services attacks which result in service interruptions;
- use of our services by our customers in unanticipated ways that may cause a disruption in services for other customers; and
- disruptions or congestions in the portions of the Internet linking us to our customers.

Since our customers use our service for important aspects of their business, any errors, defects, disruptions in service, or other performance problems could result in negative publicity, damage to our reputation and brand, reduce our revenue, increase our operating expenses, negatively impact our ability to run our business, hinder our ability to enroll new customers, cause us to incur legal liability or issue refunds or service credits to our customers and cause us to lose current customers, all of which could substantially harm our business and operating results.

We depend on data centers and computing infrastructure operated by third parties and any disruption in these operations could damage our reputation and brand and substantially harm our business and operating results.

We host our applications and serve our customers from third-party data centers located within the United States. We utilize a hybrid cloud approach to our third-party data centers consisting of (i) two primary production data centers, located in Santa Clara, California and Elk Grove (Chicago), Illinois, which are each hosted by a third-party service provider, as well as third-party data centers located in St. Louis, Missouri and Richardson, Texas, which host our Encompass CRM and Velocify products, and (ii) a network of AWS data centers within the United States which provides a distributed computing infrastructure platform for business operations. We maintain regular oversight but have little direct control over our third-party data centers. In the case of AWS, we do not control any aspects of the AWS data center operations and do not own any of the underlying computing hardware. We rely on these third-party service providers to provide continuous and uninterrupted access to our products and services, including Encompass and the Ellie Mae Network. If for any reason our relationship with any of these third parties were to end unexpectedly, it could require a significant amount of time to transition the hosting of our computing infrastructure to new third-party service providers.

12

Problems faced by our third-party data center providers or AWS, or with the telecommunications network providers with whom we or they rely, could adversely affect the experience of our customers. Our third-party data center operators or AWS could decide to close their facilities or reduce services to us without adequate notice. In addition, any financial difficulties, such as bankruptcy, faced by our third-party data center providers, AWS or any of the other service providers with whom we or they contract may have negative effects on our business, the nature and extent of which are difficult to predict. Additionally, if our data center providers or AWS are unable to keep up with our needs for capacity, this could have an adverse effect on our business. Any changes in third-party service levels at our data centers or at AWS or any errors, defects, disruptions, or other performance problems with our applications or the hosted infrastructure on which they run could adversely affect our reputation and may damage our customers' stored files or result in lengthy interruptions in our services. Interruptions in our services, as discussed in the preceding risk factor, could substantially harm our business and operating results.

Our failure to maintain the security of the confidential information of the customers of the users of our software and services could damage our reputation and brand and substantially harm our business and operating results.

We collect, process, transmit, and maintain certain confidential information relating to the customers (borrowers and loan applicants) of the users of our software and services, including personally identifiable information. This information resides on data center servers hosted by third-party providers and on AWS, and is transmitted to, across, and from our networks. While we have security measures in place to protect this information and prevent security breaches, these security measures may be compromised as a result of third-party action, including intentional misconduct by computer hackers, advanced persistent cyber-attacks (by hacktivists or cybercriminal organizations), employee error or malfeasance, service provider or vendor error, malfeasance or other intentional or unintentional acts by third parties. Furthermore, our customers' data, including personally identifiable information, may be lost, exposed, or subject to unauthorized access and/or use as a result of accidents, errors, or malfeasance by our employees, independent contractors, or others working with us or on our behalf. Our servers and systems, and those of our service providers, may also be vulnerable to computer malware, break-ins, denial-of-service attacks, and similar disruptions from unauthorized tampering with our computer systems, which could result in someone obtaining unauthorized access to our customers' data or our data, including our intellectual property and other confidential business information. Because the techniques used to obtain unauthorized access to, or to sabotage, systems change frequently and often are not recognized until launched against a target, we may be unable to anticipate these techniques or implement adequate preventative measures. We may also experience security breaches that may remain undetected for an extended period. The possession and use of personally identifiable information in conducting our business subjects us to legislative and regulatory burdens that may require notification to customers in the event of a security breach, restrict our use of personally identifiable information, and hinder our ability to acquire new customers or market to existing customers.

We cannot guarantee that our security measures will prevent security breaches or the loss or exposure of confidential information or other information we maintain or process. Any actual or perceived compromise of our security could result in the loss of customer data, intellectual property or trade secrets, and could damage our reputation and brand, negatively affect our ability to attract new customers and retain existing customers, adversely affect investor confidence, and expose us to a risk of litigation or regulatory actions and orders, penalties for violation of applicable laws, regulations, or contractual obligations and/or other liabilities, which would substantially harm our business and operating results. We will need to expend significant resources to protect against and remedy any potential security breaches and their consequences, including costs to deploy additional personnel and protection technologies, train employees, and engage third-party experts and consultants.

A decrease in mortgage lending volume could materially adversely affect our business.

Mortgage lending volume decreased substantially on a year-over-year basis in each of 2017 and 2018, and may continue to decrease in future years. Refer to Results of Operations in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for a discussion on the financial impacts of this decrease on our business and financial results. In 2019 and beyond, a continued decrease in mortgage lending volume could continue to materially adversely affect our business and our operating results. A decline in mortgage lending volume could continue to reduce the closed loan fees we receive as well as fees for transactions on our platform, including Ellie Mae Network transaction fees. In addition, a substantial decline in mortgage lending volumes by our customers could result

in a reduction of Encompass users, consolidation of our customers with other lenders that do not use Encompass, or cessation of operations by our customers, in each case which would decrease the base fee portion of success-based revenues, subscription revenues and professional services revenues we receive from our customers. Furthermore, the volumes of mortgages originated by our customers may decline more than the volume of mortgages originated by lenders who do not use Encompass. Factors that adversely impact mortgage lending volumes include increasing mortgage interest rates, reduced consumer and investor demand for mortgages, more stringent underwriting guidelines, decreased liquidity in the secondary mortgage market, high levels of unemployment, high levels of consumer debt, lower consumer confidence, changes in tax and other regulatory policies (including the passage of the Tax Cuts and Jobs Act (the "Tax Act")), the number of existing mortgages eligible for refinancing, the available inventory of housing, affordability of housing, and other macroeconomic factors.

Mortgage interest rates are influenced by a number of factors, including monetary policy. Since December 2016, the Federal Reserve Bank has raised the target federal funds rate by 0.25% on eight different occasions, the most recent increase from 2.25% to 2.50%, and signaled that the federal funds rate could be increased further over the coming years. The increase in the federal funds rate has contributed to an increase in mortgage interest rates and may result in future mortgage interest rate increases. Increases in mortgage interest rates reduced the volume of new mortgages originated in 2018 relative to 2017, in particular the volume of mortgage refinancings, and future increases may further decrease the volume of new mortgages originated. Furthermore, changes in tax law may have an impact on the number of mortgages originated. The Tax Act, which was enacted in December 2017 and which limits the deductibility of mortgage interest and local property taxes for federal income tax purposes, as well as increases the standard deduction (reducing the number of U.S. tax payers who itemize deductions), may have a negative effect on the number of mortgages originated. In addition, our revenues typically, but not always, track the seasonality of the residential mortgage industry, with increased activity in the second and third quarters and reduced activity in the first and fourth quarters as home buyers tend to purchase their homes during the spring and summer in order to move to a new home before the start of the school year. As a result, a higher percentage of our revenues have historically been recognized during those quarters.

Our future performance will be highly dependent on both our ability to continue to attract new customers to our service offerings and our ability to sell additional service offerings to existing customers.

To maintain or increase our revenues, we may need to (i) increase the number of customers of our service offerings, and (ii) increase the adoption of our suite of other and newer service offerings to existing customers, in each case the failure to do so may have a materially adverse impact on our business.

Our success will depend on (i) the willingness of our customers, primarily mortgage lenders, to continue to accept the SaaS model for delivering software applications that they view as critical to the success of their business, (ii) our ability to successfully deliver new and improved SaaS service offerings that meet the needs of our existing customers and potential customers, and (iii) the available market of potential customers of our services and our ability to sell our services to these potential customers.

It is difficult to predict customer adoption rates and demand for our services, the future growth rate and size of the market for our service offerings, or the entry of competitive applications. The growth of the mortgage technology market depends on a number of factors, including the cost, performance, and perceived value associated with product offerings, most notably SaaS offerings such as our own, including the extent to which SaaS companies are successful in continuing to address security and reliability concerns. If other SaaS providers experience security incidents, loss of customer data, disruptions in delivery or other problems, the market for SaaS applications as a whole, including our own products and services, may be negatively affected. If there is a reduction in demand for mortgage technology caused by technological challenges, weakening economic conditions, interest rate increases, security or privacy concerns, competing technologies and products, decreases in spending by mortgage lenders, or a decrease in the number of potential users of our service offerings, this could result in decreased revenues and our business could be adversely affected. In addition, we will need to continue to optimize our sales infrastructure in order to grow our customer base and our business. Identifying and recruiting qualified personnel and training them in the use of our software requires significant time, expense, and attention.

If we are not able to provide successful enhancements, new features, and modifications to our services, our business could be adversely affected. Further, impairment of software-related assets and other assets may materially adversely affect our operating results.

If we are unable to provide enhancements, new features, and modifications of our existing services, including the successful completion and deployment of our next generation Encompass software, the Encompass Lending Platform and our Encompass Connect solutions as well as changes to our services to reflect changes in laws and regulations relating to residential mortgage lending, our business and operating results could be adversely affected. If we do not successfully manage the migration of our customers to our next generation Encompass software or if the transition takes longer than expected, customers may not experience the benefits of new enhancements and features and our business and operating results could be adversely affected. In addition, we will need to continuously modify and enhance our services to keep pace with changes in software, communication, browser, database, and SaaS infrastructure technologies. We may not be successful in either developing these modifications and enhancements or

in bringing them to market in a timely fashion, which could increase our costs and adversely affect our business. The failure of our services to operate effectively with future technologies could reduce the demand for our services, result in customer dissatisfaction, and adversely affect our business.

We have invested and continue to invest significant resources to develop and acquire technology related to our services that is capitalized to property and equipment, net or intangible assets, net on our balance sheet. We may not launch this developed and acquired technology, the launch of such technology may result in disruptions to our business operations, or such technology might not meet our and our customers' expectations. Also, changes to any of our implementation strategies or the failure of this technology to meet our and our customers' expectations could result in the impairment of software-related assets, and our future operating results could be materially adversely affected if we are required to write down the carrying value of capitalized software development or other intangible assets.

Changes in current legislation or new legislation may increase our costs by requiring us to update our products and services and if our products and services fail to address relevant laws and regulations our business could be adversely affected.

Changes to existing laws or regulations or adoption of new laws or regulations relating to the residential mortgage industry or mortgage lending may require us to incur significant costs to update our products and services so that our customers remain compliant with such laws and regulations. Our Encompass Compliance Service analyzes mortgage loan data for compliance with consumer protection laws and institutionally mandated compliance policies and must continually be updated to incorporate changes to such laws and policies. The Dodd-Frank Act has caused and will continue to cause us to make similar updates to Encompass, Encompass Compliance Service, Encompass Product and Pricing Service, Encompass Docs Solution, and the Ellie Mae Network to address, among other things, regulations that protect consumers against unfair, deceptive, and abusive practices by lenders. For example, additional tools and product updates were required to address the Ability-to-Repay/Qualified Mortgage and Federal and State High Cost rules that became effective in January 2014. In addition, we have updated certain products to comply with the TILA-RESPA Integrated Disclosure rule changes and the 2013 Loan Originator Rule under TILA (Regulation Z) that became effective on October 3, 2015 (and amended again on August 24, 2017). The final rule amending Regulation C to implement amendments to the HMDA made by section 1094 of the Dodd-Frank Act was published on October 15, 2015. It includes various effective compliance dates, starting with January 1, 2017 through May 30, 2020. The final "Qualified Residential Mortgage" rule which implements the risk retention requirements in the Dodd-Frank Act became effective on December 24, 2015. On August 23, 2016, Fannie Mae and Freddie Mac published the first material updates to the Uniform Residential Loan Application ("URLA") in more than 20 years. In September 2017, Fannie Mae and Freddie Mac announced that they will require the use of the redesigned URLA for all new loan applications beginning in February 2020. These additions and updates have caused us to incur significant expense, and future updates will likely cause us to incur similar significant expense. For example, if the current U.S. presidential administration and U.S. Congress significantly change or repeal the mortgage lending portions of the Dodd-Frank Act or the Consumer Financial Protection Bureau announces new rules or repeals previously announced rules, we may need to incur significant expense to make updates to our products and services.

Our clients use Encompass and our other applications to collect, use, and store personal or identifying information regarding their borrowers or customers, almost exclusively within the United States. U.S. federal and/or state governments have adopted or may adopt laws and regulations regarding the collection, use, storage, processing, and disclosure of personal information obtained from consumers and individuals, which could impact our clients. The costs of compliance with and other burdens imposed by privacy-related laws, regulations, and standards may limit the use and adoption of our services, reduce overall demand for our services, lead to significant fines, penalties, or liabilities for noncompliance, or slow the pace at which we close sales transactions, any of which could harm our business.

In addition, if our products and services fail to adequately address laws or regulations relating to the residential mortgage industry or mortgage lending (including existing laws and regulations or newly introduced laws or regulations), we could be subject to claims by our customers that we have breached our customer contracts as well as potential claims by borrowers or government agencies. Such claims could result from a failure of our product to meet customer expectations regarding functionality or from errors or defects in our products. Such claims could result in substantial costs and we could incur judgments or enter into settlements of claims that could have a material adverse effect on our business and operating results. Furthermore, if our products and services fail to address relevant laws and regulations this could result in negative publicity, damage to our reputation and brand, hinder our ability to enroll new customers and cause us to lose current customers, all of which could substantially harm our business and operating results.

A failure in our continued operation of revenue controls and procedures under Topic 606, the new revenue recognition standard, may impact our ability to produce accurate and timely financial statements, which could have a material adverse effect on our business and the market price of our common stock.

Our adoption of the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 606, Revenue From contracts with Customers, as amended ("Topic 606") on January 1, 2018, required us to make significant updates to our financial information technology systems and significant modifications to our accounting

controls and procedures. The implementation of Topic 606 continues to place a significant burden on our accounting and information technology teams, both financially and through the expenditure of management time. Many of these updates and modifications remain in process as we evolve our systems and controls. The significant system and process updates required to continue to operate and report under Topic 606 remain an on-going initiative. As a result, we cannot provide any assurance that we will continue to timely meet our reporting requirements. Our failure to timely meet our reporting obligations could have a material adverse effect on our business and the market price of our common stock. Furthermore, due to the implementation of Topic 606 and the changes we are making to our internal control environment to adopt Topic 606, there is an increased risk that we fail to maintain an effective internal control environment. For example, during the three months ended September 30, 2018, we identified a material weakness in our controls related to the adoption of Topic 606. Specifically, we determined that: (1) we did not design controls that adequately constrained the variable consideration that is estimated and included in the transaction price for certain customer subscriptions to our Encompass software, such that, at the time we adopted Topic 606, it was probable that a significant revenue reversal would

not occur; and (2) the processes and controls relating to the costs to obtain contracts were not sufficient to identify certain third-party costs to obtain contracts that should have been recorded to our opening balances upon adoption of Topic 606. The material weakness described above resulted in the restatement of our condensed consolidated financial statements for the quarters ended March 31, 2018 and June 30, 2018. Management has implemented a number of remediation actions to address the identified control weakness and continues to review and make the necessary changes to the overall design of our internal control environment, as well as to our policies and procedures, to improve the overall effectiveness of internal control over financial reporting. Our failure to maintain an effective internal control environment may, among other things, result in further material misstatements in our financial statements and failure to meet our reporting obligations.

We cannot accurately predict subscription renewal or upgrade rates and the impact these rates may have on our future revenues and operating results.

Our customers have no obligation to renew their subscriptions for our service after the expiration of their initial subscription term, which ranges from one to five years. They may also choose to renew their subscriptions at lower levels. In addition, in the first year of a subscription, customers often purchase a higher level of professional services than they do in renewal years. As a result, our ability to grow is dependent in part on existing customers renewing their subscriptions and purchasing new services after the initial subscription term. It may be more difficult to predict renewal rates as our customer base grows, as we continue to expand our suite of offerings, and as we continue to expand the number of multi-year subscription contracts. Our customers' renewal rates may decline or fluctuate because of several factors, including merger and acquisition activity, their satisfaction or dissatisfaction with our services, the prices of our services, changes to the standard prices of our services, the prices of services offered by our competitors or reductions in our customers' spending levels due to the macroeconomic environment or other factors. If our customers do not renew their subscriptions for our services, renew on less favorable terms, or do not purchase additional subscriptions or services, our revenues may grow more slowly than expected or decline and our profitability and gross margin may be harmed.

Our future performance will be highly dependent on our ability to expand the third-party services available on, and increase the number of transactions effected through, the Ellie Mae Network.

To grow our base of Ellie Mae Network participants, we must continue to enhance the features and functionality of the Ellie Mae Network, including the APIs we make available to Ellie Mae Network providers. In addition, increasing the number of settlement service and other transactions effected through the Ellie Mae Network will depend, in part, on third-party service providers enhancing their technical capabilities, which is largely beyond our control.

We must also convince a variety of potential Ellie Mae Network participants, including mortgage lenders, originators, settlement service providers, and mega lenders, of the benefits of electronic origination and network participation as compared to traditional mortgage origination methods including paper, facsimile, courier, mail, and email.

We cannot guarantee that our Ellie Mae Network and other service offerings will achieve market acceptance. In the event these efforts are not successful, our business and growth prospects would be adversely affected.

We expect a number of factors to cause our operating results to fluctuate on a quarterly and annual basis, which may make it difficult to predict our future performance.

Our revenues and operating results have in the past varied and could in the future vary significantly from quarter-to-quarter and year-to-year because of a variety of factors, many of which are outside of our control. As a result, comparing our operating results on a period-to-period basis may not be indicative of future operating results. In addition to other risk factors discussed in this section, factors that may contribute to the variability of our quarterly and annual results include:

- the volume of mortgages originated by Encompass users, especially users on our Success-Based Pricing model;
- changes in the overall mortgage market;
- the number of Encompass users;
- transaction volume on the Ellie Mae Network and the demand for our services;
- fluctuations in mortgage lending volume and the number of closed loans relative to loan applications;
- the relative mix of purchase and refinance volume handled by Encompass users;
- the timing of the introduction and acceptance of new services and Ellie Mae Network service providers;
- how quickly larger customers implement our services and use our services to originate and close loans;

- continued investment in the Encompass Lending Platform and our Encompass Connect solutions;
- changes in accounting rules applicable to our business;
- any write-downs in the value of our property and equipment, goodwill or intangible assets as a result of our investment

or acquisition activities;

- changes in government regulation affecting mortgage lenders and Ellie Mae Network participants or our business, and potential structural changes in the U.S. residential mortgage industry; and
- costs associated with defending intellectual property infringement and other litigation claims.

Due to these and other factors, our future results may not reach our financial projections. In addition, our operating results in future periods may not meet the expectations of investors or public market analysts who follow our company, which could cause our stock price to decline rapidly and significantly. The results of any prior quarterly or annual periods should not be relied upon as indications of our future operating performance.

As we sell our services to larger customers, our sales cycle may become longer and more expensive, we may encounter pricing pressure and implementation challenges, and we may have to delay revenue recognition for some complex transactions or experience delays in these customers using our service to originate and close loans, all of which could harm our business and operating results.

Part of our business strategy is to target larger mortgage lenders that handle greater volumes of loans. As we target more of our sales and marketing efforts at larger customers, we could face greater costs, longer sales cycles, and less predictability in completing some of our sales. In this market, the customer's decision to use our products and services may be an enterprise-wide decision and, if so, this type of sale could require us to provide greater levels of education regarding the use and benefits of our products and services. In addition, larger customers may demand more complex integration services, more comprehensive implementation services, and expanded or modified product functionality, which may result in implementations that take longer than we forecast or plan or result in delays in these customers using our service to originate and close loans. As a result of these factors, these sales opportunities may require us to devote greater sales support and professional services resources to individual customers, driving up costs and time required to complete sales and diverting our own sales and professional services resources to a smaller number of larger transactions. Furthermore, if implementations take longer than planned or these customers delay their use of our service to originate and close loans, we may be required to delay revenue recognition on some of these transactions until the technical or implementation requirements have been met and may not generate revenue from these customers as quickly as we had forecast.

If we are unable to scale our operations and increase productivity, we may not be able to successfully implement our business plan.

We continue to experience significant growth in our customer base, which has placed a strain on our management and administrative, operational, and financial infrastructure. Additional investments in our implementation capabilities, technical support, technical operations, research and development, and general and administrative functions will be required to scale our operations and increase productivity, address the needs of our customers, further develop and enhance our products and services, and scale with the overall growth of our company.

In addition, professional services, such as implementation services, are a key aspect of on-boarding new customers. The implementation process is complicated and we may need to scale our capabilities in this area to meet future revenue targets. If a customer is not satisfied with the quality of work performed by us or with the type of services or solutions delivered, then we could incur additional costs to address the situation, the profitability of that work might be impaired, and the customer's dissatisfaction with our products and services could damage our ability to obtain additional work from that customer. In addition, negative publicity related to our customer relationships, regardless of its accuracy, may further damage our business by affecting our ability to compete for new business with current and prospective customers.

Our growth strategy will require significant expenditures and resources to improve our technology, systems, and operational infrastructure in order to support a growing number of customers. We will need to make such expenditures with no assurance that the volume of our business or revenues will actually increase.

Our strategy of growing our business and increasing the number of Encompass users has placed and may continue to place significant demands on our technology systems and operational infrastructure. As our operations grow in size, scope, and complexity, we will need to expand, improve, and upgrade our technology systems and operational infrastructure, including the data center infrastructure we utilize to offer an increasing number of customers enhanced solutions, features, and functionality, and to ensure that our services are reliable.

Our growth and the improvement of our technology systems and operational infrastructure will require significant lead time and substantial financial, operational and technical resources in advance of the anticipated increase in the volume of business, with no assurance that the volume of business or our revenues will actually increase.

We have experienced rapid growth. If we fail to manage our growth effectively, we may be unable to execute our business plan, maintain high levels of service and operational controls, or adequately address competitive challenges.

We have experienced a period of rapid growth in our customers, headcount, and operations. We grew from approximately 270 employees as of December 31, 2011 to approximately 1,570 employees as of December 31, 2018, and have also significantly increased the number of customers and loans originated using Encompass. We anticipate continued near term expansion in both our operations and the number of loans originated on our platform. This growth has placed, and future growth will place, a significant strain on our management, general and administrative resources, and operational infrastructure.

Our success will depend in part on our ability to manage this growth effectively and to scale our operations. To manage the expected growth of our operations, we will need to continue to improve our operational, financial, and management controls and our reporting systems and procedures. As we continue to grow, we also need to ensure that our policies and procedures evolve to reflect our current operations and are appropriately communicated to and observed by employees, and that we appropriately manage our corporate information assets, including confidential and proprietary information. Failure to effectively manage growth could result in difficulty or delays in deploying customers, declines in quality or customer satisfaction, increases in costs, difficulties in introducing new features, or other operational difficulties, and any of these difficulties could adversely impact our business performance and results of operations.

Completing and integrating future acquisitions could disrupt our business, harm our financial condition, and operating results or dilute or adversely affect the price of our common stock.

Our success will depend in part on our ability to expand our solutions and services and to grow our business in response to changing technologies, customer demands, and competitive pressures. In some circumstances, we may pursue growth through the acquisition of complementary businesses, solutions, or technologies rather than through internal development. For example, in October 2017, we purchased Velocify, a leading cloud-based sales engagement platform.

The identification of suitable acquisition candidates can be difficult, time-consuming, and costly, and we may not be able to complete acquisitions successfully. Moreover, if such acquisitions require us to seek additional debt or equity financing, we may not be able to obtain such financing on terms favorable to us or at all. Acquisitions and investments involve numerous risks which may have a negative impact on our results of operations, including:

- write-offs of acquired assets or investments;
- potential financial and credit risks associated with acquired customers;
- unknown liabilities associated with the acquired businesses;
- unanticipated expenses related to acquired technology and its integration into existing technology;
- limitations to our ability to recognize revenue from acquired contract liabilities;
- the potential loss of key employees;
- depreciation and amortization of amounts related to acquired intangible assets, fixed assets, and deferred compensation; and
- adverse tax consequences of any such acquisitions.

Even if we successfully complete an acquisition, we may not be able to assimilate and integrate effectively the acquired business, technologies, solutions, assets, personnel, or operations, particularly if key personnel of an acquired company decide not to work for us. We may encounter difficulty in incorporating acquired technologies into our service and maintaining the quality standards that are consistent with our brand and reputation. In addition, we may issue debt or equity securities to complete an acquisition, which could dilute our stockholders' ownership and adversely affect the price of our common stock.

The residential mortgage industry is heavily regulated and changes in current legislation or new legislation could adversely affect our business.

The U.S. mortgage industry is heavily regulated. Federal and state governments and agencies could enact legislation or other policies that could negatively impact the business of our Encompass users and other Ellie Mae Network participants. Any changes to existing laws or regulations or adoption of new laws or regulations that increase restrictions on the residential mortgage industry may decrease residential mortgage volume or otherwise limit the ability of our Encompass users and Ellie Mae Network participants to operate their businesses, resulting in decreased

usage of our solutions. In addition, reduced regulatory requirements may reduce the demand for certain of our products and services, including the Encompass Compliance service.

Potential structural changes in the U.S. residential mortgage industry, in particular, plans to diminish the role of Fannie Mae and Freddie Mac, could disrupt the residential mortgage market and have a material adverse effect on our business.

Fannie Mae and Freddie Mac play a very important role in providing liquidity, stability, and affordability in the current U.S. residential mortgage market. In particular, they participate in the secondary mortgage market by purchasing mortgage loans and mortgage-related securities for investment and by issuing guaranteed mortgage-related securities. There have been numerous executive branch proposals as well as proposed federal legislation which may wind down or recapitalize Fannie Mae and Freddie Mac and/or eliminate or reduce the government's role in the housing market. Any significant structural change to the role of Fannie Mae and Freddie Mac or to the U.S. residential mortgage industry may cause significant disruption to the residential mortgage market. If we are unable to react effectively and quickly to changes in the residential mortgage industry or if such changes reduce the volume of mortgage lending, our business could be harmed.

We may be limited in the way in which we market our business or generate revenue by U.S. federal law prohibiting referral fees in real estate transactions, and if we are found to be in violation of such laws we would be subject to significant liability.

RESPA generally prohibits the payment or receipt of fees or any other thing of value for the referral of business related to a residential real estate settlement service and prohibits fee shares or splits or unearned fees in connection with the provision of such services. Encompass software and services and the Ellie Mae Network were designed with payment methods that are intended to comply with the restrictions under RESPA. Nonetheless, RESPA may restrict our ability to enter into marketing and distribution arrangements with third parties for existing or newly developed products and services, particularly to the extent that such arrangements may be characterized as involving payments for the referral of residential real estate settlement service business. Additionally, any amendments to RESPA, court opinions interpreting the provisions of RESPA, or changes in the manner that RESPA is interpreted by the regulatory agencies responsible for enforcing RESPA that result in restrictions on our current payment methods, or any determination that our payment methods have been and currently are subject to the restrictions under RESPA, could have a material adverse effect on our business. If we were found to be in violation of RESPA rules, we would be exposed to significant potential liability that could have a material adverse effect on our reputation and business.

We depend on key and highly skilled personnel to operate our business, and if we are unable to retain our current or hire additional personnel, our ability to develop and successfully market our business could be harmed.

We believe our future success will depend in large part upon our ability to attract and retain highly skilled managerial, technical, finance, creative, and sales and marketing personnel. Moreover, we believe that our future success is highly dependent on the contributions of our named executive officers. All of our officers and other employees are at-will employees, which means they may terminate their employment relationship with us at any time, and their knowledge of our business and industry would be extremely difficult to replace. In addition, the loss of any key employee or the inability to attract or retain qualified personnel could delay the development and introduction of, and harm our ability to sell, our solutions and harm the market's perception of us. Competition for qualified personnel is particularly intense in the San Francisco Bay Area, where our headquarters are located. Qualified individuals are in high demand, and we may incur significant costs to attract them. We may be unable to attract and retain suitably qualified individuals who are capable of meeting our growing sales, operational, and managerial requirements, or we may be required to pay increased compensation in order to do so. If we are unable to attract and retain the qualified personnel we need to succeed, our business will suffer.

Volatility or lack of performance in our stock price may also affect our ability to attract and retain our key employees. Most of our named executive officers are vested in a substantial number of stock options and performance shares. Employees may be more likely to leave us if the shares they own or the shares underlying their vested options have significantly appreciated in value relative to the original purchase prices of the shares or the exercise prices of the vested options, or if the exercise prices of the options that they hold are significantly above the market price of our common stock. If we are unable to retain our named executive officers or other key employees, our business will be harmed.

We operate in a highly competitive market, which could make it difficult for us to attract and retain Encompass users and Ellie Mae Network participants.

The mortgage origination software market is highly competitive. There are many software providers that compete with us by offering loan origination software to mortgage originators. These competitors include: proprietary systems that lenders have put in place, largely building on top of a legacy third-party technology; Black Knight, Inc. (LoanSphere Empower and LoanSphere LendingSpace); Mortgage Cadence, an Accenture Company; Wipro Gallagher Solutions, Inc.; Blue Sage Solutions; Byte Software Inc; Calyx Technology, Inc.; DH Corporation now Finastra; LendingQB; and Mortgage Builder Software, Inc. Some of these software providers, including Black Knight, also provide connectivity between their software users and lenders and service providers. We also compete with compliance, document preparation service, and product eligibility and pricing service providers that are more established than us. Finally, we compete with companies that offer “point of sale” or web-based online loan applications services as well. There is vigorous competition among providers of these services, and we may not succeed in convincing potential customers using other services to switch to ours. In addition, some of our competitors are consolidating, which facilitates greater cross-selling of services and could weaken our ability to differentiate our offering in the market. Some of our competitors also

offer services on a per closed loan basis, which could adversely impact the effectiveness of our Success-Based Pricing strategy for increasing the number of Encompass customers. If we are unsuccessful in competing effectively by providing attractive functionality, customer service, or value, we could lose existing Encompass users to our competitors and our ability to attract new Encompass users could be harmed.

There are many service providers that offer our Encompass users competing services, including borrower-facing websites, customer relationship management solutions, document preparation services, compliance services, product eligibility and pricing services, and electronic document management services. We may be unsuccessful in continuing to differentiate our Encompass service offerings to the extent necessary to effectively compete in some or all of these markets.

The Ellie Mae Network is only available to mortgage originators using Encompass. The principal alternative to the use of the Ellie Mae Network by Encompass users remains traditional methods of exchanging data and documents among mortgage industry participants by email, facsimile, phone, courier, and mail. In addition, mortgage originators may use standalone web browsers to go individually to each investor, lender, or service provider's website, and then manually upload loan data or enter information into the website. Mortgage originators may continue to use these methods due to habit, personal business relationships, or otherwise. The success of the Ellie Mae Network depends on our ability to achieve and offer access to both the critical mass of investors, lenders, and service providers necessary to attract and retain mortgage originators using Encompass on the Ellie Mae Network and the critical mass of active mortgage originators necessary to attract and retain investors, lenders, and service providers on our network.

Some of our actual and potential competitors have longer operating histories and significantly greater financial, technical, marketing, and other resources than we do and, as a result, these companies may be able to respond more quickly to changes in regulations, new technologies or customer demands, or devote greater resources to the development, promotion, and sale of their software and services than we can. In addition, we may face increased competition as a result of continuing industry consolidation. We expect the mortgage origination market to continue to attract new competitors and there can be no assurance that we will be able to compete successfully against current or future competitors or that competitive pressures we face will not materially adversely affect our business.

Failure to adapt to technological changes may render our technology obsolete or decrease the attractiveness of our solutions to our customers.

If new industry standards and practices emerge, or if competitors introduce new solutions embodying new services or technologies, Encompass and the Ellie Mae Network technology may become obsolete. Our future success will depend on our ability to:

- enhance our existing solutions;
- develop and potentially license new solutions and technologies that address the needs of our prospective customers; and
- respond to changes in industry standards and practices on a cost-effective and timely basis.

We must continue to enhance the features and functionality of Encompass, our other services, and the Ellie Mae Network. The effective performance, reliability, and availability of Encompass, our other services, and the Ellie Mae Network infrastructure are critical to our reputation and our ability to attract and retain Encompass users, users of our other services, and Ellie Mae Network participants. If we do not continue to make investments in product development and, as a result, or due to other reasons, fail to attract new and retain existing mortgage originators, lenders, investors, and service providers, we may lose existing Ellie Mae Network participants, which could significantly decrease the value of the Ellie Mae Network to all participants and materially adversely affect our business.

We are subject to the risks of current and future legal proceedings, which could have a material adverse effect on our business, financial condition, results of operations, and future prospects.

At any given time, we are a defendant in various legal proceedings and litigation matters arising in the ordinary course of business including commercial and employment disputes. We can give no assurance that the outcome of any such matter would not have a material adverse effect on our financial condition, results of operations, or cash flows. We are unable to predict the ultimate outcome of these disputes or the actual impact of these matters on our profitability at this time, and any views we form as to the viability of these claims or the financial exposure in which they could result, could change from time to time as the matters proceed through their course, as facts are established, and as

various judicial determinations are made.

If we agree to settle these matters or judgments are secured against us, we may incur charges which may have a material and adverse impact on our business, financial conditions, results of operations, and future prospects.

Failure to adequately protect our intellectual property could harm our business.

The protection of our intellectual property rights, including our proprietary Encompass software and Ellie Mae Network technology, is crucial to the success of our business. We rely on a combination of patents, copyrights, trademarks, and trade secret

laws, and contractual restrictions to protect our intellectual property. Our present and future patents may provide only limited protection for our technology and may not be sufficient to provide competitive advantage to us. Furthermore, we cannot guarantee any patents will be issued to us as a result of our patent applications. We also rely in part on confidentiality and invention assignment agreements with our employees, independent contractors, and consultants. Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy aspects of our Ellie Mae Network and Encompass features and functionality or obtain and use information that we consider proprietary. Enforcing our proprietary rights is difficult and may not always be effective.

We have registered “Ellie Mae,” “Encompass,” “Velocify,” and “AllRegs” and certain of our other trademarks as trademarks in the United States. Competitors may adopt service names similar to ours, thereby impeding our ability to build brand identity and possibly leading to customer confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of the terms Ellie Mae, Encompass, or our other trademarks.

Litigation or proceedings before the U.S. Patent and Trademark Office or other governmental authorities and administrative bodies in the United States and abroad may be necessary in the future to enforce our intellectual property rights, protect our patent and copyright rights, trade secrets and domain names, and determine the validity and scope of the proprietary rights of others. Our efforts to enforce or protect our proprietary rights may be ineffective and could result in substantial costs and diversion of resources and could harm our business.

Assertions that we infringe third-party intellectual property rights could result in significant costs and substantially harm our business.

Other parties have asserted, and may in the future assert, that we have infringed their intellectual property rights. In addition, we generally agree to indemnify our customers against legal claims that our software products infringe intellectual property rights of third parties and, in the event of an infringement, to modify or replace the infringing product or, if those options are not reasonably possible, to refund the cost of the software, as pro-rated over a period of years. We cannot predict whether assertions of third-party intellectual property rights or claims arising from such assertions will substantially harm our business and operating results. If we are forced to defend against any infringement claims, whether they are with or without merit or are determined in our favor, we may face costly litigation and diversion of technical and management personnel. Furthermore, an adverse outcome of a dispute may require us to: pay damages, potentially including treble damages and attorneys’ fees if the infringement were found to be willful; cease providing solutions that allegedly incorporate the intellectual property of others; expend additional development resources to redesign or re-engineer our solutions and products, if feasible; and enter into potentially unfavorable royalty or license agreements in order to obtain the right to use necessary technologies. We cannot be certain of the outcome of any litigation. Any royalty or licensing agreement, if required, may not be available to us on acceptable terms or at all. Our failure to obtain the necessary licenses or other rights could prevent the sale or distribution of some of our products and services and, therefore, could have a material adverse effect on our business.

Our internal information technology systems are critical to our business. System integration and implementation issues could disrupt our operations, which could have a material adverse impact on our business or results in significant deficiencies or material weaknesses in our internal controls.

We rely on the efficient and uninterrupted operation of complex information technology systems, including systems for customer billing, human resources, enterprise resource planning, and customer relationship management. As our business has grown in size and complexity, the growth has placed, and will continue to place, significant demands on our internal information technology systems. To effectively manage this growth, we must commit significant financial resources and personnel to maintain and enhance existing systems and develop or acquire new systems to keep pace with continuing changes in our business and information processing technology as well as evolving industry, regulatory, and accounting standards. If the information we rely upon to run our businesses is determined to be inaccurate or unreliable, or if we fail to properly maintain or enhance our internal information technology systems, we could have operational disruptions, customer disputes, significant deficiencies, or material weaknesses in our internal controls, incur increased operating and administrative expenses, lose our ability to produce timely and accurate financial reports, or suffer other adverse consequences.

For example, as discussed in more detail below, our implementation of Topic 606, a new revenue recognition standard which became effective on January 1, 2018 and as more fully described in Note 2 “Basis of Presentation and

Significant Accounting Policies", required significant updates to our financial technology systems. The timely and precise implementation of necessary systems updates for Topic 606 is critical to our ability to properly record and recognize revenue, and any errors resulting from this implementation could result in significant deficiencies or material weaknesses in our internal controls.

If we fail to maintain proper and effective internal controls, our ability to produce accurate financial statements could be impaired, which could result in a loss of investor confidence in our financial reports, significant expenses to remediate any internal control deficiencies, and ultimately have an adverse effect on the market price of our common stock.

As a publicly-traded company, we are subject to compliance with, among other regulations, Section 404 of the Sarbanes-Oxley Act of 2002 ("SOX"), which requires that we properly implement and maintain our internal control over financial reporting and disclosure controls and procedures. Ensuring that we have adequate functioning internal financial and accounting controls and procedures in place so that we can produce accurate financial statements on a timely basis is a costly and time-consuming effort that needs to be re-evaluated frequently. Our compliance with SOX requires that we incur substantial expense and expend significant management time on compliance-related issues. If we fail to achieve and maintain an effective internal control environment, we could suffer material misstatements in our financial statements and fail to meet our reporting obligations, which would likely cause investors to lose confidence in our reported financial information. This could harm our operating results and lead to a decline in our stock price. Additionally, ineffective internal control over financial reporting could expose us to increased risk of fraud or misuse of corporate assets and subject us to potential delisting from the New York Stock Exchange, regulatory investigations, civil or criminal sanctions, and class action litigation.

During the third quarter of 2018, we identified a material weakness in our controls related to the adoption of Topic 606. Specifically, we determined that we did not design controls that adequately constrained the variable consideration that is estimated and included in the transaction price for certain customer subscriptions to our Encompass software, such that, at the time we adopted Topic 606, it was probable that a significant revenue reversal would not occur; and that the processes and controls relating to the costs to obtain contracts were not sufficient to identify certain third-party costs to obtain contracts which should have been recorded to our opening balances upon adoption of Topic 606. The material weakness described above resulted in the restatement of our condensed consolidated financial statements for the quarters ended March 31, 2018 and June 30, 2018. While we expect that we will be able to remediate this material weakness, we may fail to do so or we could experience unforeseen difficulties causing new significant deficiencies or material weaknesses. In addition, we may need to operate for an extended period of time with the new or revised controls in place before this material weakness will be determined to be remediated.

As a third-party technology service provider of mission-critical products and services to many financial institutions that are regulated by one or more member agencies of the Federal Financial Institutions Examination Council (the "FFIEC"), we are subject to an Information Technology ("IT") Examination by the member agencies of the FFIEC. As a result, the FFIEC conducts recurring IT Examinations in order to identify existing or potential risks associated with our operations or our products and services that could adversely affect the financial institutions to whom we provide products and services, evaluate our risk management systems, and controls and determine our compliance with applicable laws that affect the products and services we provide to financial institutions. In addition to examining areas such as our management of technology, product functionality, data integrity, information confidentiality, and service availability, the reviews also assess our financial stability. A sufficiently unfavorable review from the FFIEC in the future could have a material adverse effect on our business and financial condition.

If one or more U.S. states or local jurisdictions successfully assert that we should have collected or in the future should collect additional sales or use taxes on our fees, we could be subject to additional liability with respect to past or future sales, and the results of our operations could be adversely affected.

We do not collect state and local sales and use taxes on all sales in all jurisdictions in which our customers are located, based on our determination that such taxes are not applicable. Sales and use tax laws and rates vary by jurisdiction and such laws are subject to interpretation. Jurisdictions in which we do not collect sales and use taxes may assert that such taxes are applicable, which could result in the assessment of such taxes, interest, and penalties, and we could be required to collect such taxes in the future. This additional sales and use tax liability could adversely affect the results of our operations.

Adverse tax laws or regulations could be enacted or existing laws could be applied to us, which could increase the costs of our services and adversely impact our business.

The application of federal, state, and local tax laws to services provided electronically is evolving. New income, sales, use or other tax laws, statutes, rules, regulations, or ordinances could be enacted at any time (possibly with retroactive

effect), and could be applied solely or disproportionately to services provided over the Internet. These enactments could adversely affect our sales activity due to the inherent cost increase the taxes would represent and ultimately result in a negative impact on our operating results and cash flows.

In addition, existing tax laws, statutes, rules, regulations, or ordinances could be interpreted, changed, modified, or applied adversely to us (possibly with retroactive effect), which could require us or our customers to pay additional tax amounts, as well as require us or our customers to pay fines or penalties and interest for past amounts. If we are unsuccessful in collecting such taxes from our customers, we could be held liable for such costs, thereby adversely impacting our operating results and cash flows.

Our business is subject to the risks of earthquakes, fires, floods, and other natural catastrophic events and to interruption by man-made problems such as terrorism.

Our systems and operations are vulnerable to damage or interruption from earthquakes, fires, floods, power losses, telecommunications failures, terrorist attacks, acts of war, and similar events. For example, a significant natural disaster, such as an earthquake, fire, or flood, could have a material adverse impact on our business, operating results and financial condition, and our insurance coverage may be insufficient to compensate us for losses that may occur. Our corporate offices and one of the facilities we lease to house our computer and telecommunications equipment are located in the San Francisco Bay Area, a region known for seismic activity. In addition, acts of terrorism, which may be targeted at metropolitan areas with higher population density than rural areas, could cause disruptions in our or our customers' businesses or the economy as a whole. We may not have sufficient protection or recovery plans in certain circumstances, such as natural disasters affecting the San Francisco Bay Area, and our business interruption insurance may be insufficient to compensate us for losses that may occur.

Our stock price is volatile and purchasers of our common stock could incur substantial losses.

The trading price of our common stock may be subject to wide fluctuations in response to various factors, some of which are beyond our control. In addition to the factors discussed in this "Risk Factors" section and elsewhere in our filings with the SEC, these factors include:

- our operating performance and the operating performance of similar companies;
- the overall performance of the equity markets;
- the number of shares our common stock publicly owned and available for trading;
- threatened or actual litigation;
- changes in laws or regulations relating to our solutions;
- any major change in our board of directors or management;
- publication of research reports about us or our industry or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- large volumes of sales of our shares of common stock by existing stockholders; and
- general political and economic conditions.

In addition, the stock market in general has experienced extreme price and volume fluctuations. Securities class action litigation has often been instituted against companies following periods of volatility in the overall market and in the market price of a company's securities. This litigation, if instituted against us, could result in very substantial costs, divert our management's attention and resources, and harm our business.

Our reported financial results may be adversely affected by changes in accounting principles generally accepted in the United States.

Generally accepted accounting principles in the United States are subject to interpretation by the FASB, the SEC, and various bodies formed to promulgate and interpret appropriate accounting principles. A change in these principles or interpretations could have a significant effect on our reported financial results and affect the reporting of transactions completed before the announcement of a change. For example, the adoption of Topic 606, a new revenue recognition standard, which became effective for us on January 1, 2018, has an impact on the timing of revenue recognition of our Encompass subscription and professional services revenues. It also has a material impact to the scope of costs deferred to obtain customer contracts and the timing of recognition of these costs. Refer to Note 2 "Basis of Presentation and Significant Accounting Policies" in the Notes to Financial Statements for additional information on the recent accounting pronouncements and the potential impact on us.

Our stock repurchase programs may be suspended or terminated at any time, which may result in a decrease in the trading price of our common stock.

In August 2017, our Audit Committee, under authority delegated to it by our board of directors, approved a stock repurchase program granting us authority to repurchase up to $250.0 million of our outstanding common stock through August 2020. Stock repurchases under this program or any future program may be limited, suspended, or terminated at any time without prior notice. There can be no assurance that we will repurchase additional shares of our common stock under our stock repurchase program or that any future repurchases will have a positive impact on the trading price of our common stock or earnings per share. Important factors that could cause us to limit, suspend or terminate our stock repurchase program include, among others, unfavorable market conditions, the trading price of our

common stock, the nature of other investment or strategic opportunities presented to us from time to time, the rate of dilution of our equity compensation programs, the status of our corporate trading windows, the availability of adequate funds, and our ability to make appropriate, timely, and beneficial decisions as to when, how, and whether to purchase shares under the stock repurchase program. If we limit, suspend or terminate our stock repurchase program, our stock price may

be negatively affected.

If securities or industry analysts discontinue publishing research or publish inaccurate or unfavorable research about our business, our stock price could decline.

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us or our business. If one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our stock could decrease, which may cause our stock price to decline.

Certain provisions in our charter documents and Delaware law could discourage takeover attempts and lead to management entrenchment.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could have the effect of delaying or preventing changes in control or changes in our board of directors. These provisions include:

- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the exclusive right of our board of directors to elect a director 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;
- the ability of our board of directors to determine to issue shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which 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.

We are also subject to certain anti-takeover provisions under Delaware law. Under Delaware law, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other things, the board of directors has approved the transaction.

Our amended and restated bylaws provide that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees.

Our amended and restated bylaws also provide that the Court of Chancery of the State of Delaware is the sole and exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors or officers or other employees to us or our stockholders, (3) any action asserting a claim against us or any of our directors or officers or other employee arising pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation or our bylaws or (4) any action asserting a claim against us or any of our directors, officers, stockholders or employees governed by the internal affairs doctrine. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits. If a court were to find this choice of forum provision to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our results of operations and financial condition.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

The following table sets forth the location and approximate square footage of each of our principal properties. All properties are leased under operating leases that expire at various times through 2025.

Location	Primary Use	Approximate Square Footage

Pleasanton, CA	Headquarters	280,700
Calabasas, CA	Branch office	3,400
El Segundo, CA	Branch office	35,500
Irvine, CA	Branch office	4,600
San Diego, CA	Branch office	4,900
Eagan, MN	Branch office	4,800
Creve Coeur, MO	Branch office	13,400
Omaha, NE	Branch office	20,100
Parsippany, NJ	Branch office	2,200

We believe that our headquarters and branch offices are adequate for our current needs and that suitable additional or substitute space will be available as needed to accommodate foreseeable expansion of our operations.

ITEM 3. LEGAL PROCEEDINGS

From time to time, we are involved in litigations that we believe are of the type common to companies engaged in our line of business, including commercial and employment disputes. As of the date of this Annual Report on Form 10-K, we are not involved in any pending legal proceedings whose outcome we expect to have a material adverse effect on our financial position, results of operations, or cash flows. However, litigation is unpredictable and excessive verdicts, both in the form of monetary damages and injunctions, could occur. In the future, litigation could result in substantial costs and diversion of resources, and we could incur judgments or enter into settlements of claims that could have a material adverse effect on our business.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

Our common stock is traded on the New York Stock Exchange, or NYSE, under the symbol “ELLI”.

Holders of Our Common Shares

As of February 13, 2019, there were approximately 40 holders of record of our common stock. Because many of our shares are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders.

Dividend Policy

We have never declared or paid, and do not anticipate declaring or paying, any cash dividends on our common stock. Any future determination as to the declaration and payment of dividends, if any, will be at the discretion of our board of directors and will depend on then existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects, and other factors our board of directors may deem relevant.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

In August 2017, our audit committee, under the authority delegated to it by our board of directors, approved a new stock repurchase program under which we are authorized to repurchase up to $250.0 million of our common stock. The stock repurchase program expires in August 2020. Shares under the program are retired upon the repurchase. No shares were purchased in the fourth quarter of 2018. Approximately $200.0 million remains available for future purchases under the authorization as of December 31, 2018.

Stock Performance Graph

The following graph compares the total cumulative shareholder return on our common stock with the total cumulative return of the NYSE Composite Index and the S&P 500 North American Technology-Software Index for each of the last five fiscal years ended December 31, 2018.

	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018
Ellie Mae, Inc.	$ 100.00	$ 150.06	$ 224.15	$ 311.43	$ 332.71	$ 233.83
NYSE Composite	100.00	106.75	102.38	114.61	136.07	123.89
S&P 500 North American Technology-Software	100.00	113.76	123.44	138.31	188.43	191.96

* Assumes that $100.00 was invested in our common stock and in each index at market closing prices on December 31, 2013, and that all dividends were reinvested. No cash dividends have been declared on our common stock since our initial public offering. Stockholder returns over the indicated period should not be considered indicative of future share prices or stockholder returns.

This performance graph shall not be deemed “filed” for purposes of Section 18 of the Exchange Act of 1934, or incorporated by reference into any filing of Ellie Mae, Inc. under the Securities Act of 1933, as amended except as shall be expressly set forth by specific reference in such filing.

ITEM 6. SELECTED FINANCIAL DATA

The statements of comprehensive income data for the years ended December 31, 2018, 2017, and 2016 and the balance sheet data as of December 31, 2018 and 2017 are derived from our audited financial statements included elsewhere in this report. The statements of comprehensive income data for the years ended December 31, 2015 and 2014 and the balance sheet data as of December 31, 2016, 2015 and 2014 are derived from our audited financial statements not included elsewhere in this report. Our historical results are not necessarily indicative of future performance. You should read the following selected financial data below in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the financial statements, related notes, and other financial information included elsewhere in this report. The selected financial data in this section are not intended to replace the financial statements and are qualified in their entirety by the financial statements and related notes included elsewhere in this report.

	Year ended December 31,				
	2018	2017	2016	2015	2014
	(in thousands, except per share data)				
Statements of Comprehensive Income Data:					
Revenues	$480,266	$417,042	$360,285	$253,937	$161,537
Cost of revenues [1]	199,925	160,910	120,145	84,208	46,283
Gross profit	280,341	256,132	240,140	169,729	115,254
Operating expenses:					
Sales and marketing [1]	84,234	65,042	54,704	38,208	26,544
Research and development [1]	88,150	69,266	58,501	40,451	28,228
General and administrative [1]	97,077	79,686	71,318	57,212	39,361
Total operating expenses	269,461	213,994	184,523	135,871	94,133
Income from operations	10,880	42,138	55,617	33,858	21,121
Other income, net	3,920	3,256	989	619	488
Income before income taxes	14,800	45,394	56,606	34,477	21,609
Income tax provision (benefit)	(7,775)	(7,456)	18,830	12,219	6,786
Net income	$22,575	$52,850	$37,776	$22,258	$14,823
Net income per share of common stock:					
Basic	$0.66	$1.55	$1.21	$0.76	$0.53
Diluted	$0.63	$1.48	$1.15	$0.72	$0.50
Weighted average shares outstanding:					
Basic	34,441	34,057	31,180	29,179	27,859
Diluted	35,787	35,806	32,800	30,843	29,594

[1] Stock-based compensation included in the above line items:

	Year ended December 31,				
	2018	2017	2016	2015	2014
	(in thousands)				
Cost of revenues	$8,758	$6,786	$4,835	$3,218	$1,579
Sales and marketing	7,396	5,223	4,429	2,752	1,562
Research and development	8,879	8,281	7,296	5,431	3,672
	14,942	14,177	14,911	12,840	7,735

General and administrative					
Total	$39,975	$34,467	$31,471	$24,241	$14,548

27

	December 31,				
	2018	2017	2016	2015	2014
	(in thousands)				
Balance Sheet Data:					
Cash and cash equivalents	$181,697	$137,698	$380,907	$34,396	$26,756
Short-term investments	$120,898	$103,345	$41,841	$48,975	$49,352
Long-term investments	$61,959	$107,363	$45,931	$55,473	$58,679
Property and equipment, net	$233,590	$186,991	$126,297	$81,360	$28,694
Working capital	$297,233	$225,250	$398,438	$58,731	$78,733
Total assets	$911,610	$831,607	$751,517	$364,891	$290,120
Total stockholders' equity	$804,069	$735,339	$654,908	$290,851	$252,884

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 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 "Risk Factors" included in Item 1A of Part I of this Annual Report on Form 10-K.

Pending Transaction

On February 11, 2019, we entered into an Agreement and Plan of Merger (the "Merger Agreement") with EM Eagle Purchaser, LLC, a Delaware limited liability company ("Parent"), and EM Eagle Merger Sub, Inc., a Delaware corporation and wholly owned subsidiary of Parent ("Merger Sub"), providing for our acquisition by private equity investment firm Thoma Bravo, LLC in an all-cash transaction valued at approximately $3.7 billion (the "Transaction"). If the Transaction is completed, our stockholders will be entitled to receive $99.00 in cash for each share of our common stock they hold as of the effective time of the Transaction. The Transaction is expected to close in the second or third quarter of 2019, subject to approval by our stockholders and regulatory authorities and the satisfaction of customary closing conditions. See Note 14 "Subsequent Event" in the Notes to Financial Statements for further details.

Overview

We are the leading cloud-based platform provider for the mortgage finance industry. Our technology solutions are used by lenders to originate and close residential mortgage loans. Banks, credit unions, and mortgage lenders use our Encompass® all-in-one mortgage management solution to originate and fund mortgages and improve compliance, loan quality, and efficiency.

Mortgage originators use our Encompass software, a comprehensive digital mortgage solution that handles key business and management functions involved in running a residential mortgage origination business. Mortgage originators use Encompass as a single tool for marketing, loan origination, processing, and customer communication, and to interact electronically with lenders, investors, and service providers over the Ellie Mae Network. Our software also enables enforcement of rules and business practices designed to ensure loan quality, adherence to processing standards, and regulatory compliance.

The Ellie Mae Network electronically connects approximately 186,500 mortgage professionals using Encompass to the broad array of third-party service providers, mortgage lenders, and investors integral to the origination and funding of residential mortgages. During the mortgage origination process, mortgage originators may order various services through the Ellie Mae Network, including credit reports, product eligibility and pricing services, automated underwriting services, appraisals, title reports, insurance, flood certifications and flood insurance, compliance reviews, fraud detection, document preparation, and verification of income, identity, and employment. Mortgage originators can also initiate secure data transmission to and from lenders and investors.

On January 1, 2018, we adopted Accounting Standards Update ("ASU") No. 2014-09, Revenue from Contracts with Customers, as amended (Topic 606) using the modified retrospective method and applied Topic 606 to those contracts which were not completed as of January 1, 2018. Prior period amounts were not adjusted and are reported under Topic

605, Revenue Recognition.

Our revenues are generated primarily from subscriptions to the cloud-based Encompass platform, including customers who pay fees based on the number of loans they close, subject to base fees, which we refer to as Success-Based Pricing, or recurring monthly subscription fees and related professional services such as consulting, implementation, and training services. Our revenues also include software-related services that are sold on a transactional basis; Ellie Mae Network fees; fees for education and training; and loan product, policy and guideline data and analytics services.

Seasonality and Current Industry Trends

Our revenues generally follow the seasonality of the residential mortgage industry, with increased activity in the second and third quarters and reduced activity in the first and fourth quarters as home buyers tend to purchase their homes during the spring and summer. Mortgage volumes are also impacted by other factors such as interest rate fluctuations, home sale activity and pricing, regulatory changes, and general economic conditions, which can lead to departures from the typical seasonal pattern. A combination of tight housing inventory and rising mortgage interest rates resulted in a decline in mortgage volumes in 2018 relative to 2017. Although the market for mortgages is expected to transition to one in which increasing volumes are driven primarily by demand for home purchases, a tight housing supply in certain markets is currently limiting the rate of growth in purchase volumes.

We currently estimate that approximately 25% to 35% of our revenues have some direct sensitivity to volume. The base fee portion of success-based revenues, subscription revenues, and professional services revenues are generally not affected by fluctuations in mortgage origination volume. The impact on our revenues from a substantial decline in mortgage volumes is difficult to predict and subject to risk and uncertainty. Refer to the risks relating to a decline in mortgage lending volumes described in Part I, Item 1A “Risk Factors” for additional information.

Our Investments

We are investing aggressively in initiatives that we believe will help us continue to grow our business, improve our products and services, and strengthen our competitive advantage while bringing sustainable long-term value to our customers. Our recent launch of Encompass Developer Connect, Encompass Data Connect, and Encompass Investor Connect will enable developers to create new features for Encompass, easily integrate Encompass with external systems and data, and build and deploy custom applications in the cloud. In addition, lenders are also looking for a technology partner to deliver a better digital mortgage experience to consumers. We recently made generally available Encompass Consumer Connect, which enables our customers to originate loans directly from borrowers by offering an online loan application that can be accessed by anyone with a web browser. Furthermore, our acquisition of Velocify accelerates our vision of offering a fully digital mortgage by combining Velocify’s lead management, engagement, and distribution capabilities with Encompass Consumer Connect.

In 2017 and 2018, we increased our investment in research and development, technology infrastructure, and data security to support our growing user base. This includes the roll out of our Connect solutions, the development of our hybrid cloud infrastructure, the additions and updates to loan applications required by the redesigned URLA, and the development of our next generation Encompass platform and capabilities, which we expect to continue to progressively roll out to customers in 2019 and 2020.

We have also invested in our sales and client services capabilities to continue to increase sales of our products and to assist our customers in implementing our solutions. To continue to support customers as we grow our business and further differentiate ourselves, we intend to invest in key areas, such as research and development, enterprise sales, services, technical support, data security, and our hybrid cloud infrastructure. We expect that our cost of revenues will continue to increase as we make additional and accelerated investments to bolster our infrastructure and enhance our system capacity, reliability, and data security, and as we place new internal-use software into service.

In addition to our internal initiatives, our business strategy has evolved in response to recent industry trends as follows:

Greater focus on operational efficiencies. The average total production cost per loan was $8,174 in the third quarter of 2018[(1)]. We expect operational costs to continue to be a significant consideration for mortgage originators due to the continuously changing regulatory environment and heightened quality standards. By automating many of the functions of mortgage origination, we enable our users to comply with regulations and process quality loans more efficiently and effectively. This reduces the cost of originating loans and lowers the risk of buy-back demands from investors resulting from poorly originated or documented loans or loans that fail to comply with applicable regulations. We continually address the changing needs of our customers by developing and enhancing tools to allow

for simplified regulatory compliance, increased availability of information, and enhanced system functionality and performance.

With an eye towards providing customers with ever-improving tools to enhance efficiency, we currently anticipate that we will continue to develop new service offerings through the Ellie Mae Network and encourage adoption of our services through initiatives such as our Encompass Connect Solutions. By integrating and expanding our current and new services, we aim to provide a more comprehensive solution to our users.

Customers adopting multi-channel strategies. Customers are developing multi-channel strategies beyond a single retail, correspondent, or wholesale mortgage lending channel in order to grow their businesses. The requirements of these different channels vary, and in order to maintain a single operating system, customers must use a robust system with customizable functionality. Encompass includes support for multi-channel workflows, allowing our customers to drive efficiencies and boost productivity by creating distinct workflows for each channel that map to our customers' business needs. Encompass users can customize workflows based on channel, loan purpose or specific loan criteria - all of which can vary between lending channels. With the introduction of Encompass TPO Connect, Encompass users are able to utilize a customizable and interactive web experience for wholesale and correspondent lending channels, which gives lenders and investors a modern and collaborative web experience for their TPO partners that promotes compliance, data integrity, and easy bi-directional communication throughout the entire loan process. Additionally, Encompass Consumer Connect supports our customers' retail channel by enabling our customers to originate loans directly from borrowers by offering an online loan application that can be accessed by anyone with a web browser.

Changes in regulation affecting lenders and investors. Mortgage lending regulations continue to change and many regulatory reforms have been introduced or proposed in recent years to promote increased underwriting standards and accountability by lenders and mortgage originators, ensure meaningful disclosures by lenders to borrowers, increase the transparency and objectivity of settlement services, and protect consumers in the mortgage market from unfair or abusive lending practices. We devote considerable resources to continually upgrade our software to help our customers address regulatory changes. We offer Encompass Compliance Service, which analyzes mortgage loan data for compliance with consumer protection laws and institutionally mandated compliance policies and also alerts users to possible violations of these laws and policies. In addition, we have a staff of attorneys who work with compliance experts and help ensure that documents prepared using our software and the processes recommended by the Encompass workflow comply with applicable rules and regulations. For example, additional tools and product updates were required to address the Ability-to-Repay/Qualified Mortgage and Federal and State High Cost rules that became effective in January 2014. In addition, we updated certain of our products to comply with the TILA-RESPA Integrated Disclosure rule changes that took effect in October 2015, and are providing complete offering of readiness initiatives, tools and training programs in advance of the 2018 Home Mortgage Disclosure Act and Regulation C collection and reporting changes which take effect through 2020. We are also making substantial changes to our products and services to accommodate the upcoming February 2020 adoption deadline for the redesigned Uniform Residential Loan Application. We believe we are well-positioned to help our customers comply with changing regulatory requirements as they are published and become effective. However, changes to existing laws or regulations or adoption of new laws or regulations relating to the residential mortgage industry could require us to incur significant costs to update our products and services so that our customers remain compliant with such laws and regulations.

Consumer Demand for a Digital Based Experience from Lenders. Today's borrowers expect transparency, service and speed, and a human touch. To meet these requirements, lenders must offer a seamless, online experience that continues even after the application has been submitted. It is our goal to provide a true digital mortgage process that enables the lender to originate more loans, lower origination costs, reduce the time to close and make smarter decisions through data and predictive analytics, all while ensuring the highest levels of compliance, quality and efficiency. Our digital mortgage vision encompasses all phases of the mortgage loan lifecycle, with each milestone in the mortgage origination process informing the next.

Increased quality standards imposed by regulators, lenders, and investors. Lenders have eliminated many high-risk loan product offerings and significantly tightened underwriting and processing requirements. Similarly, investors seek higher-quality, lower-risk loans in which to invest. Encompass is designed to automate and streamline the process of originating mortgages to, among other things, satisfy increased quality requirements of investors. Relevant features of Encompass include enabling customers' management to impose processing rules and formats, and providing milestone and process reminders, automated population of forms with accurate data, and accurate and automated transmission of loan files and data from originators to investors and lenders.

In response to the increased quality standards and compliance mandates affecting the industry, we expect many non-Encompass mortgage lenders to assess new platform options and replace their legacy systems. We have increased the size of our customer acquisition, implementation, and support teams in order to address anticipated demand for our software solutions.

Greater focus by customers and regulators on data security and consumer privacy. Recent high-profile data security incidents affecting banking institutions and their third-party service providers have resulted in an increased focus on data security by our customers and our customers' regulators. We are making significant investments in the security of the Encompass service, as well as our internal systems, processes, and monitoring capabilities to protect our customers' data and help minimize the risk of data security loss. We expect the industry focus on data security to continue to increase, and we anticipate that our investments in data security will increase substantially over time.

(1) Mortgage Bankers Association, IBM Profits Lag in the Third Quarter, November 29, 2018.

Increase the number of lenders using Encompass and the number of loans originated on our platform. In addition to addressing the industry trends discussed above, we continue to focus our marketing, sales and product development efforts on increasing the number of mortgage lenders, commercial banks and credit unions using Encompass and our additional services, and the number of loans originated on our platform. We intend to continue to focus our efforts on all market segments, including the largest, or enterprise segment, of the lending industry.

Operating Metrics

We use certain operational metrics to evaluate our business, determine allocation of our resources, and make decisions regarding corporate strategy. We focus on these metrics to determine our success in leveraging our user base to increase our revenues and to gauge the degree of our market penetration.

Our key operating metrics are defined below.

Contracted revenues. Contracted revenues are those revenues that are fixed by the terms of a contract and are generally not affected by fluctuations in mortgage origination volume. These revenues consist of the base fee portion of Success-Based Pricing revenues, monthly per-user subscription revenues, professional services revenues, and subscription revenues paid for products other than Encompass.

Active users. An active user is a mortgage origination professional who has used Encompass at least once within a 90-day period preceding the measurement date. A user is a mortgage origination professional working at an Encompass mortgage lender, such as a mortgage bank, commercial bank, thrift or credit union, which sources and funds loans and generally sells these funded loans to investors; or a mortgage brokerage, which typically processes and submits loan files to a mortgage lender or mega lender that funds the loan.

Average active users. Average active users during a period is calculated by averaging the monthly active users during a reporting period.

Estimated Encompass closed loans. Estimated Encompass closed loans is an estimate of the number of loans originated by Encompass users, calculated as loans originated by our Success-Based Pricing customers, which does not include certain brokered loans or correspondent purchased loans, plus an estimate of the number of loans originated by Encompass customers who only subscribe to our SaaS offering, which estimate is derived by applying the ratio of active Success-Based Pricing customers to loans originated by these customers to the number of active SaaS users of Encompass for the same period of time.

Revenues per loan. Revenue per loan is the sum of our revenues for the applicable period of time divided by Estimated Encompass closed loans originated during the same period.

The following table shows these operating metrics as of and for the years ended December 31, 2018, 2017, and 2016:

	Year Ended December 31,		
	2018	2017	2016
Revenues (in thousands):			
Revenues	$480,266	$417,042	$360,285
Contracted revenues	$349,545	$283,183	$208,005
Users:			
Active users	186,543	183,900	164,648
Average active users during the period	190,576	177,465	152,902
Loans:			
Estimated Encompass closed loans	2,596,000	2,552,000	2,507,000
Revenues per loan	$185	$163	$144

Basis of Presentation

Revenue Recognition

Effective January 1, 2018, we apply the provisions of Topic 606 for revenue recognition on contracts with customers. Pursuant to Topic 606, we recognize revenues under the core principle to depict the transfer of control to our customers in an amount reflecting the consideration to which we expect to be entitled. In order to achieve that core principle, the following five step approach is applied:

- Identification of the contract, or contracts, with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and
- Recognition of revenue when, or as, we satisfy a performance obligation.

We generate revenues primarily from cloud-based subscription services, transaction-based fees and related services, including professional services and our annual user conference, and recognize revenues as performance obligations are satisfied. Sales taxes assessed by governmental authorities are excluded from transaction price.

Our revenues are generated from subscriptions to our cloud-based Encompass platform that customers access through the Internet. Our revenues are also comprised of fees for software services sold both as a subscription and on a transactional basis, including fees based on a per closed loan, or success basis, subject to monthly base fees, which we refer to as Success-Based Pricing, as well as Ellie Mae Network fees, fees for loan product, policy and guideline data and analytics services, fees for lead management, marketing and customer relationship management, and fees for professional services which include consulting, implementation, and education and training services.

Cost of Revenues and Operating Expenses

Cost of Revenues

Our cost of revenues consists primarily of: salaries and benefits, including stock-based compensation expense; data center operating costs; depreciation on data center computer equipment; amortization of internal-use software and acquired intangible assets such as developed technology; customer support; professional services associated with implementation of our software; third-party royalty expenses; and allocated facilities costs. We expect that our cost of revenues will continue to increase in absolute dollars as we make additional and accelerated investments to bolster our infrastructure and enhance our system capacity, reliability, and data security, as we place new internal-use software into service. We anticipate that we will continue to invest in key areas such as development of internal-use software, technical support, data security, and data center infrastructure to better support our customers and further differentiate ourselves. This includes development of our next generation Encompass platform, which we expect to continue to roll out to customers in 2019 and 2020, as well as our continuous effort to move toward a hybrid cloud architecture.

Sales and Marketing

Our sales and marketing expenses consist primarily of: salaries, benefits and incentive compensation, including stock-based compensation expense and commissions; allocated facilities costs; expenses for trade shows, public relations, our annual user conference, and other promotional and marketing activities; expenses for travel and entertainment; and amortization of acquired intangible assets such as customer relationships and trade names. We expect that our sales and marketing expenses will continue to increase as we pursue additional strategic customer acquisitions and as our annual user conference continues to increase in size.

Research and Development

Our research and development expenses consist primarily of: salaries and benefits, including bonuses and stock-based compensation expense; fees to contractors engaged in the development of the Encompass software, Ellie Mae Network, and other products; and allocated facilities costs. We expect that our research and development expenses will continue to increase in absolute dollars as we continue to invest in our products and services, related next-generation enhancements and in our scalability efforts to expand our platform, including hiring additional engineering and product development personnel, and as we pursue additional strategic acquisitions.

General and Administrative

Our general and administrative expenses consist primarily of: salaries and benefits, including bonuses and stock-based compensation expense for employees involved in finance, accounting, human resources, administration, information technology, and legal; third-party provider expenses such as general consulting, legal, accounting, and other professional services; and allocated facilities costs. We expect general and administrative expenses to continue to increase in absolute dollars as we expand our facilities, hire additional personnel, and invest in our back-office infrastructure to enhance our system capacity, reliability, and security.

Other Income, Net

Other income, net consists of interest income earned on investments and cash accounts and investment premium accretion, offset by investment discount amortization, interest expense paid on equipment and software leases, and loss on the disposal of fixed assets.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based on our financial statements which are prepared in accordance with generally accepted accounting principles in the United States ("U.S. GAAP"). The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses, and related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results could differ from these estimates.

We believe that the assumptions and estimates associated with revenue recognition, income taxes, stock-based compensation, goodwill and intangible assets, fair value of investments, deferred contract costs, and software and website development costs have the greatest potential impact on our financial statements. Therefore, we consider these to be our critical accounting policies and estimates. For further information on all of our significant accounting policies, refer to Note 2 "Basis of Presentation and Significant Accounting Policies" in the Notes to Financial Statements.

Revenue Recognition

We apply the provisions of Topic 606 for revenue recognition on contracts with customers. Pursuant to Topic 606, we recognize revenues under the core principle to depict the transfer of control to our customers in an amount reflecting the consideration to which we expect to be entitled. In order to achieve that core principle, the following five step approach is applied:

- Identification of the contract, or contracts, with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and
- Recognition of revenue when, or as, we satisfy a performance obligation.

We generate revenues primarily from cloud-based subscription services, transaction-based fees, and related services including professional services and our annual user conference, and recognize revenues as performance obligations are satisfied. For subscription services where the customer simultaneously receives and consumes the benefit from our performance, revenues are recognized over time using an output method based on the passage of time as this provides a faithful depiction of the transfer of control. Under Encompass subscriptions that customers access through the Internet, revenues are comprised of software services sold both as a subscription and on a variable basis. Variable fees include fees billed on a per closed loan, or success basis, subject to monthly base fees, which we refer to as Success-Based Pricing. Other cloud-based subscription services consist of policy, guideline, data and analytics, lead management, marketing, and customer relationship management. Transaction-based fees are comprised of Ellie Mae Network fees and transaction fees charged for other services, including fees for loan products and the annual user conference. Fees for professional services include consulting, implementation, and education and training services. Sales taxes assessed by governmental authorities are excluded from the transaction price.

In contracts where recognizing variable consideration in the month it is earned does not meet the allocation objective of Topic 606, variable consideration is estimated and included in the transaction price. We estimate such amounts at contract inception considering historical trends, industry data, and contract specific factors to determine an expected amount to which we expect to be entitled. Estimates are included in the transaction price to the extent that it is considered probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. The assessment of whether such an estimate is constrained requires us to consider methods, inputs, and assumptions relating to the nature of the underlying products, customer-specific trends, and economic factors including industry data. Other forms of variable consideration such as refunds and penalties, which are recorded in accrued and other current liabilities, are estimated at contract inception and are allocated to the performance obligations to which they relate.

We enter into arrangements that generally include multiple subscriptions and professional services. For arrangements with multiple services, we evaluate whether the individual services qualify as distinct performance obligations. In our assessment of whether a service is a distinct performance obligation, we determine whether the customer can benefit from the service on its own or with other readily available resources and whether the service is separately identifiable from other services in the contract. This evaluation requires that we assess the nature of each individual service offering and how the services are provided in the context of the contract, including whether the services are significantly integrated, highly interrelated, or significantly modify each other, which may require judgment based on the facts and circumstances of the contract.

When agreements involve multiple distinct performance obligations, we allocate arrangement consideration to all performance obligations at the inception of an arrangement based on the relative standalone selling prices of each performance obligation. Where we have standalone sales data for performance obligations which are indicative of the price at which we sell a promised good or service separately to a customer, such data is used to establish standalone selling prices. In instances where standalone sales data is not available for a particular performance obligation, we estimate standalone selling prices by maximizing the use of observable market and cost-based inputs.

When estimating standalone selling prices, we review company-specific factors used to determine list price and make adjustments as appropriate to reflect current market conditions and pricing behavior. Our process for establishing list price includes assessing the cost to provide a particular product or service, surveying customers to determine market expectations, analyzing customer demographics, and taking into account our similar products and services historically sold. We continue to review the factors used to establish list price and will adjust standalone selling price methodologies as necessary on a prospective basis.

Cloud-Based Subscription Revenues. Cloud-based subscription revenues generally include a combination of our products delivered as SaaS subscriptions that are a performance obligation consisting of a series of distinct services and support services. These arrangements are generally non-cancelable and do not contain refund-type provisions. These revenues typically include the following:

Encompass Revenues. We offer web-based, on-demand access to our cloud-based Encompass platform which has been determined to be a stand-ready obligation. Revenues are recognized over the contract terms as performance obligations are satisfied as this method best depicts the pattern of performance for such services. Contracts generally range from one year to five years.

Some Encompass customers elect to pay on a success basis. Success basis contracts are subject to monthly billing calculations whereby customers are obligated to pay the greater of a contractual base fee or variable closed loan fee based on the number of closed loan transactions processed by the customer in the specific month. Under success basis contracts, monthly base fees are recognized ratably over the contract terms as subscription performance obligations are satisfied and closed loan fees in excess of base fees are considered variable consideration.

For the majority of Encompass contracts that include variable consideration, such fees are recognized in the month in which they are earned because the terms of the variable payments relate specifically to the outcome from transferring the distinct time increment (month) of service and because such amounts reflect the fees to which we expect to be entitled for providing access to the Encompass platform for that period, consistent with the allocation objective of Topic 606.

For certain contracts where the allocation objective would not be met by allocating variable consideration in this way, total variable consideration to be received is estimated at contract inception and recognized ratably over the contract

term. The estimates of the total variable consideration expected to be received under such agreements is updated at each reporting date. For these contracts, variable consideration is estimated using the expected value method, utilizing forecast data for each contract to determine the expected value.

We evaluate our ability to accurately estimate such variable consideration considering all relevant facts and circumstances associated with both the likelihood of a downward adjustment in the estimate of variable consideration and the potential magnitude of a significant revenue reversal relative to the cumulative revenue recognized to-date under the contract. Because the amount of consideration is highly susceptible to broad economic factors outside our influence, have a broad range of possible consideration amounts, and the uncertainty is not expected to be resolved for a long period of time, our ability to accurately estimate the variable consideration is limited. Therefore, the amount of variable consideration included in the transactions price is constrained to ensure that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the amount of variable consideration is subsequently resolved.

Other Subscription Revenues. We provide a variety of mortgage-related and other business services, including lead management, marketing, compliance services and customer relationship management. Such services include fixed fee subscriptions and are a single performance obligation consisting of a series of distinct services. These fixed fees are recognized ratably over the contract terms as this method best depicts our pattern of performance for such services. Variable fees are recognized in the month in which they are earned because the terms of the variable payments relate specifically to the outcome from transferring the distinct time increment (month) of service and because such amounts reflect the fees to which we expect to be entitled for providing the access to services for that period, consistent with the allocation objective.

Online Research and Data Resources Subscription Revenues. We provide mortgage originators and underwriters with access to online databases of various federal and state laws and regulations and forms as well as investor product guidelines. Fixed fees are recognized over time, using an output method of the passage of time or ratably over the contract terms as this method best depicts our pattern of performance for such services.

Transactional Revenues. Transactional revenues include the following:

Ellie Mae Network Revenues. We have entered into agreements with various lenders, service providers and certain government-sponsored entities participating in the mortgage origination process to provide those suppliers with access to, and ability to interoperate with, mortgage originators on the Ellie Mae Network. The services delivered are comprised of a performance obligation consisting of a series of distinct services. We act as an agent when arranging for services to be provided by the supplier to the customer. Fixed fees are recognized ratably over the contract terms as this method best depicts our pattern of performance for such services. Variable fees are recognized in the month in which they are earned because the allocation objective is met by allocating the fees to each distinct month in the series.

Other Transactional Revenues. We provide other services delivered on a transactional basis including automated documentation; fraud detection, valuation, validation, and risk analysis; income verification; flood zone certifications; website and electronic document management; compliance reports; and our annual user conference. Fees are recognized as transactions occur which is the point in time when control is transferred. Variable fees are recognized in the month in which they are earned because the terms of the variable payments relate specifically to the outcome from transferring the distinct time increment (month) of service and because such amounts reflect the fees to which we expect to be entitled for providing the access to services for that period, consistent with the allocation objective.

Professional Services Revenues. Professional services, including implementation services for our subscription products, are performance obligations which are determined to be distinct from our subscription services and other performance obligations. Such services are generally provided on a time and materials or fixed price basis and the customer simultaneously receives and consumes the benefit from our performance. The majority of our professional services are provided on a fixed price basis, and we recognize revenue over time as the performance obligations are satisfied utilizing an input method based on the proportion of hours incurred to total estimated hours. Any changes in the estimate of progress towards completion are accounted for in the period of change using the cumulative catch-up method. Revenues from professional services contracts provided on a time and materials basis are recognized when invoiced under the practical expedient as amounts correspond directly with the value of the services rendered to date.

Income Taxes

We account for income taxes under the asset and liability method, which requires the recognition of taxes payable or refundable for the current year, and deferred tax liabilities and assets for the future tax consequences of events that have been recognized in our financial statements or tax returns. The measurement of current and deferred tax

liabilities and assets is based on provisions of the enacted tax law.

We operate in various tax jurisdictions and are subject to audit by various tax authorities. We recognize the tax benefit of an uncertain tax position only if it is more likely than not that the position is sustainable upon examination by the taxing authority, based on the technical merits. The tax benefit recognized is measured as the largest amount of benefit which is greater than 50 percent likely to be realized upon settlement with the taxing authority. We recognize interest accrued and penalties related to unrecognized tax benefits in our income tax provision.

Valuation allowances are established when necessary to reduce deferred tax assets to the amounts that are more likely than not to be realized based on the weighting of positive and negative evidence. Future realization of deferred tax assets ultimately depends on estimates of future sources of taxable income for the jurisdictions in which we operate and the periods over which our deferred tax assets will be realizable. To the extent we establish a valuation allowance or change the valuation allowance in a period, we reflect the change with a corresponding increase or decrease to our tax provision in our statements of comprehensive income.

Stock-Based Compensation

We recognize compensation expense related to restricted stock units ("RSUs"), performance shares, and performance-vesting restricted stock units based on the fair market value of the underlying shares of common stock as of the date of grant. Expense related to the RSUs is recognized on a straight-line basis over the requisite service period of the award, which generally equals the vesting period. Expense related to the performance shares and performance-vesting RSUs is recognized under the graded vesting method over the requisite service period of the award, which results in the recognition of a larger portion of the expense during the beginning of the vesting period than in the end of the vesting period. We evaluate the probability of performance attainment, estimate the number of shares of common stock that will be granted, and record the expense accordingly.

We recognize compensation expense related to stock option grants that are ultimately expected to vest and shares issued under the Employee Stock Purchase Plan ("ESPP") based on estimated fair values on the date of grant using the Black-Scholes option-pricing model. Expense related to stock options is recognized on a straight-line basis over the requisite service period, which generally equals the vesting period. Expense related to shares issued under the ESPP is recognized on a straight-line basis over the offering period.

The date of grant is the date at which we reach a mutual understanding of the key terms and conditions of the award with the employee, appropriate approvals are received by the equity incentive committee of the board of directors, and we become contingently obligated to issue equity instruments to the employee who renders the requisite service.

We estimate potential forfeitures of stock grants and adjust recorded compensation cost accordingly. The estimate of forfeitures is based on historical experience and is adjusted over the requisite service period to the extent that actual forfeitures differ, or are expected to differ, from the prior estimates. Changes in estimated forfeitures will be recognized in the period of change and will impact the amount of stock-based compensation expense to be recognized in future periods.

Goodwill

We record goodwill in a business combination when the consideration paid exceeds the fair value of the identifiable net assets acquired. Goodwill is not amortized but is tested for impairment at least annually, or whenever changes in circumstances indicate that the fair value of a reporting unit is less than its carrying amount, including goodwill. The annual test is performed at the reporting unit level using a fair-value based approach. Our operations are organized as one reporting unit. In testing for a potential impairment of goodwill, we first compare the net aggregate carrying value of assets and liabilities to our aggregate estimated fair value. If estimated fair value is less than carrying value, then potential impairment exists. Impairment is equivalent to any excess of goodwill carrying value over its implied fair value.

The process of evaluating the potential impairment of goodwill requires significant judgment at many points during the analysis, including calculating fair value of the reporting unit based on estimated future cash flows and discount rates to be applied.

Intangible Assets

Intangible assets are stated at cost less accumulated amortization. Intangible assets include developed technology, trade names, customer relationships, and order backlog. Intangible assets with finite lives are amortized on a straight-line basis over the estimated periods of benefit, as follows:

Developed technology	2-8 years
Trade names with finite lives	2-3 years
Customer relationships	4-10 years
Order backlog	1 year

The AllRegs tradename is the only intangible asset with an indefinite useful life. We evaluate the remaining useful life of indefinite-lived intangible assets each reporting period to determine whether events and circumstances continue to support an indefinite useful life. We test intangible assets with indefinite lives at least annually or if events or circumstances indicate that such assets might be impaired. If potential impairment exists, the amount of any impairment is calculated by using a discounted cash flow model, which is based on the assumptions we believe hypothetical marketplace participants would use. For indefinite-lived intangible assets, other than goodwill, if the carrying amount exceeds the fair value, an impairment charge is recognized in an amount equal to that excess.

We evaluate our finite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset or asset group to future undiscounted net cash flows expected to be generated by the asset or asset group. If such assets or asset groups are considered to be impaired, the impairment loss to be recognized is measured by the amount by which the carrying amounts of the assets or asset groups exceed the fair value of the assets or asset groups. Assets to be disposed of are reported at the lower of the carrying amount and fair value less costs to sell.

Fair Value Measurement of Financial Instruments

We invest excess cash primarily in money market funds and investment-grade, fixed maturity interest-bearing debt securities, such as certificates of deposit, commercial paper, corporate bonds, municipal and government agency obligations, and guaranteed obligations of the U.S. government. All of our investments that have maturities of greater than 90 days are classified as available-for-sale and are carried at fair value. The cost of available-for-sale investments sold is based on the specific identification method. Unrealized gains and losses on available-for-sale investments are reported in stockholders' equity as accumulated other comprehensive income (loss). Realized gains and losses are included in other income (expense), net. Interest and dividends are included in other income (expense), net when they are earned.

Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value measurements are classified and disclosed in one of the following three categories:

Level 1 — Valuations based on quoted prices in active markets for identical assets or liabilities.

Level 2 — Valuations based on other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 — Valuations based on inputs that are generally unobservable and typically reflect management's estimates of assumptions that market participants would use in pricing the assets or liabilities.

We classify our money market funds and U.S. government obligations as Level 1 instruments due to the use of observable market prices for identical securities that are traded in active markets.

When we use observable market prices for identical securities that are traded in less active markets, we classify our marketable financial instruments as Level 2. When observable market prices for identical securities are not available, we price our marketable financial instruments using non-binding market consensus prices that are corroborated with observable market data; quoted market prices for similar instruments; or pricing models with all significant inputs derived from or corroborated with observable market data. Non-binding market consensus prices are based on the proprietary valuation models of pricing providers. These valuation models incorporate a number of inputs, including non-binding and binding broker quotes; observable market prices for identical or similar securities; and the internal assumptions of pricing providers or brokers that use observable market inputs and, to a lesser degree, unobservable market inputs. We corroborate non-binding market consensus prices with observable market data as such data exists.

We had no investments classified as Level 3 as of December 31, 2018, 2017, and 2016.

The fair values of our cash equivalents, accounts receivable, and accounts payable approximate their carrying values due to the short maturities of the instruments. The fair value of our capital lease obligations approximates the carrying value due to the terms continuing to approximate prevailing market terms.

Deferred Contract Costs

Deferred contract costs mainly consist of sales commissions and related fringe benefits that are incremental costs of obtaining contracts with customers, as well as partners' referral fees. We amortize the costs incurred on initial contracts on a straight-line basis over an estimated period of benefit of approximately five years. The period of benefit is determined based on a review of customer churn rates and technological lifecycles of the underlying product offerings. All deferred contract costs on renewal contracts are amortized on a straight-line basis over the applicable renewal period. Additionally, we exercise the practical expedient to expense commissions on arrangements in which the amortization period is expected to be one year or less. Deferred contract costs that will be recognized during the succeeding 12-month period are recorded as prepaid expenses and other current assets, and the remaining portion is recorded as deposits and other long-term assets.

Software and Website Development Costs

We capitalize internal and external costs incurred to develop internal-use software and website applications. Capitalized internal costs include salaries, benefits, and stock-based compensation charges for employees that are directly involved in developing the software or website application, and depreciation of assets used in the development process. Capitalized external costs include third-party consultants involved in the development process, as well as other direct costs incurred therein.

Capitalization of costs begins when the preliminary project stage has been completed, management authorizes and commits to funding a project and it is probable that the project will be completed and the software or website application will be used to perform the function intended. Internal and external costs incurred as part of the preliminary project stage are expensed as incurred.

Capitalization ceases at the point at which the project is substantially complete and ready for its intended use. Internal and external training costs and maintenance costs during the post-implementation operation stage are expensed as incurred.

Internal-developed core software is amortized on a straight-line basis over its estimated useful life of five years. Amortization of product related internal-use software and website applications is recorded in cost of revenues, and amortization of other internal-use software and website applications is recorded to the operating expense line to which it most closely relates. We evaluate the useful lives of these assets on an annual basis and tests for impairment whenever events or changes in circumstances occur that could impact the recoverability of these assets. The capitalized costs are included in property and equipment, net on our balance sheet.

Results of Operations

The following tables set forth our results of operations for the periods presented and as a percentage of our revenues for those periods. The period-to-period comparison of financial results is not necessarily indicative of future results.

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Revenues	$480,266	$417,042	$360,285
Cost of revenues [1]	199,925	160,910	120,145
Gross profit	280,341	256,132	240,140
Operating expenses:			
Sales and marketing [1]	84,234	65,042	54,704
Research and development [1]	88,150	69,266	58,501
General and administrative [1]	97,077	79,686	71,318
Total operating expenses	269,461	213,994	184,523
Income from operations	10,880	42,138	55,617
Other income, net	3,920	3,256	989
Income before income taxes	14,800	45,394	56,606
Income tax provision (benefit)	(7,775)	(7,456)	18,830
Net income	$22,575	$52,850	$37,776

[1] Amounts in the above line items include stock-based compensation as follows:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Cost of revenues	$8,758	$6,786	$4,835
Sales and marketing	7,396	5,223	4,429
Research and development	8,879	8,281	7,296
General and administrative	14,942	14,177	14,911
	$39,975	$34,467	$31,471

	Year Ended December 31,		
	2018	2017	2016
	(as a percentage of revenues)		
Revenues	100.0%	100.0%	100.0%
Cost of revenues	41.6	38.6	33.3
Gross profit	58.4	61.4	66.7
Operating expenses:			
Sales and marketing	17.5	15.6	15.2
Research and development	18.4	16.6	16.2
General and administrative	20.2	19.1	19.8
Total operating expenses	56.1	51.3	51.2
Income from operations	2.3	10.1	15.5
Other income, net	0.8	0.8	0.3
Income before income taxes	3.1	10.9	15.8
Income tax provision (benefit)	(1.6)	(1.8)	5.3
Net income	4.7%	12.7%	10.5%

Revenues

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Revenues	$480,266	$417,042	$360,285

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017. Total revenues increased $63.2 million, or 15.2%, for the year ended December 31, 2018 as compared to the same period of 2017. The increase in revenues is primarily due to the inclusion of a full year of revenues from Velocify which we acquired on October 2, 2017 as well as increased adoption of our service offerings and a larger user base.

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016. Total revenues increased $56.8 million, or 15.8%, for the year ended December 31, 2017 as compared to the same period of 2016. The increase in revenues is primarily due to increased adoption of our service offerings including Velocify and a larger user base.

Gross Profit

	Year Ended December 31,		
	2018	2017	2016
	(in thousands, except percentages)		
Gross profit	$280,341	$256,132	$240,140
Gross margin	58.4 %	61.4 %	66.7 %

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017. Gross profit increased by $24.2 million and gross margin decreased by 3.0 percentage points during the year ended December 31, 2018 as compared to the same period in 2017. The increase in costs was primarily related to an $11.0 million increase in amortization related to intangibles acquired from the Velocify acquisition, a $13.2 million increase in amortization related to internal-use software and depreciation related to infrastructure hardware, a $10.3 million increase in employee related expenses associated with additional headcount, and a $7.1 million increase in expenses related to our technology and infrastructure services as we increased capacity in our hybrid cloud architecture to accommodate new customers.

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016. Gross profit increased by $16.0 million and gross margin decreased by 5.3 percentage points during the year ended December 31, 2017 as compared to the same period in 2016. The increase in costs primarily related to an $18.4 million increase in amortization related to internal-use software and intangibles acquired from the Velocify acquisition as well as depreciation related to infrastructure hardware, a $12.4 million increase in salaries, employee benefits, and stock-based compensation expenses associated with additional headcount, a $5.3 million increase in expenses related to upgrades and services to data center hardware and technology as we increased capacity relating to new customers through our hybrid cloud architecture, and a $3.1 million increase in third-party royalty expenses as a result of the increased revenues.

Sales and Marketing

	Year Ended December 31,		
	2018	2017	2016
	(in thousands, except percentages)		
Sales and marketing	$84,234	$65,042	$54,704
Sales and marketing as a % of revenues	17.5 %	15.6 %	15.2 %

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017. Sales and marketing expenses increased by $19.2 million, or 29.5%, for the year ended December 31, 2018 as compared to the same period in 2017. Sales and marketing expenses as a percentage of revenues increased by 1.9 percentage points. The increase in the sales and marketing expenses was primarily due to an $8.8 million increase in salaries, employee benefits, and stock-based compensation expenses related to increased headcount as we continued to grow our sales and marketing departments in an effort to increase our market share and address anticipated demand for our software solutions, a $4.9 million increase in commissions related to higher amortization of deferred contract costs and reclassification of certain costs to obtain contracts, and a $2.3 million increase in other marketing and promotion expenses, including our user conference and trade shows.

40

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016. Sales and marketing expenses increased by $10.3 million, or 18.9%, for the year ended December 31, 2017 as compared to the same period in 2016. Sales and marketing expenses as a percentage of revenues increased by 0.4 percentage points. The increase in the sales and marketing expenses was primarily due to a $6.1 million increase in salaries, employee benefits, and stock-based compensation expenses related to increased headcount as we continued to grow our sales and marketing departments in an effort to increase our market share and address anticipated demand for our software solutions and a $1.8 million increase in other marketing and promotion expenses related to marketing events.

Research and Development

	Year Ended December 31,		
	2018	2017	2016
	(in thousands, except percentages)		
Research and development	$88,150	$69,266	$58,501
Research and development as a % of revenues	18.4 %	16.6 %	16.2 %

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017. Research and development expenses increased by $18.9 million, or 27.3%, for the year ended December 31, 2018 as compared to the same period in 2017. Research and development expenses as a percentage of revenues increased by 1.8 percentage points. The increase in the research and development expenses was primarily driven by salaries, employee benefits, and stock-based compensation expenses related to increased headcount as we continued to invest in our products and services.

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016. Research and development expenses increased by $10.8 million, or 18.4%, for the year ended December 31, 2017 as compared to the same period in 2016. Research and development expenses as a percentage of revenues increased by 0.4 percentage points. The increase in the research and development expenses was primarily due to an increase in salaries, employee benefits, and stock-based compensation expenses related to increased headcount and fees to contractors as we continued to invest in our products and services.

General and Administrative

	Year Ended December 31,		
	2018	2017	2016
	(in thousands, except percentages)		
General and administrative	$97,077	$79,686	$71,318
General and administrative as a % of revenues	20.2 %	19.1 %	19.8 %

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017. General and administrative expenses increased by $17.4 million, or 21.8%, for the year ended December 31, 2018 as compared to the same period in 2017. General and administrative expenses as a percentage of revenues increased by 1.1 percentage points. The increase in the general and administrative expenses was primarily due to a $5.0 million increase in salaries, stock-based compensation, and employee benefits related to increased headcount, a $4.4 million increase in professional services, and a $4.2 million increase in fees to contractors mostly related to the adoption of the new revenue standard.

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016. General and administrative expenses increased by $8.4 million, or 11.7%, for the year ended December 31, 2017 as compared to the same period in 2016. General and administrative expenses as a percentage of revenues decreased by 0.7 percentage points. The increase in the general and administrative expenses was primarily due to a $4.2 million increase in salaries, stock-based compensation, and employee benefits related to increased headcount and a $1.4 million increase in third-party services related to consulting services.

Other Income, Net

Other income, net consists of interest income earned on investments and cash accounts and investment premium accretion, offset by investment discount amortization, interest expense paid on equipment and software leases, and loss on the disposal of fixed assets. Other income, net for the years ended December 31, 2018, 2017, and 2016 was $3.9 million, $3.3 million, and $1.0 million respectively, primarily due to increased investments' income.

41

Income Taxes

We recorded a provision expense (benefit) for income taxes of $(7.8) million, $(7.5) million, and $18.8 million for the years ended December 31, 2018, 2017, and 2016, respectively. Our effective tax rate for the year 2018 differs from the U.S. statutory federal income tax rate of 21%, primarily due to the income tax benefits from excess stock-based compensation deductions, research and development credits, and a reduction in the state blended income tax rate, offset by income tax expense related to the measurement of certain deferred tax assets as a result of the Tax Act.

Our effective tax rate for the year 2017 differs from the U.S. statutory federal income tax rate of 35%, primary due to the income tax benefit from re-measurement of net deferred tax liabilities related to the enacted change to the corporate tax rate in December 2017, excess tax benefits of stock-based compensation from the adoption of ASU No. 2016-09, Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting, and federal research and development credits.

Our effective tax rate for the year 2016 slightly differs from the U.S. statutory federal income tax rate of 35%, primarily due to non-deductible expenses and state income taxes, offset by federal research and development credits.

Refer to Note 9 “Income Taxes” in the Notes to Financial Statements for more information about our effective tax rates.

The valuation allowance increased by $4.4 million in 2018, increased by $6.8 million in 2017, and increased by $1.2 million in 2016. The valuation allowance is primarily against the deferred tax assets related to certain state research and development tax credits and net operating losses, the realization of which are uncertain as we expect to generate additional credits at a faster rate than our ability to utilize them. We will continue to regularly assess the need for a valuation allowance on deferred tax assets by evaluating all available evidence, both positive and negative, that may exist. Any adjustment to the deferred tax asset valuation allowance will be recorded in the income statement for the periods that the adjustment is determined to be required.

In December 2017, the SEC staff issued Staff Accounting Bulletin No. 118, which allows companies to record provisional amounts for the Tax Act during a measurement period not to extend beyond one year of the enactment date in order for companies to complete their accounting under ASC 740, Income Taxes. In December 2018, we finalized our accounting for the Tax Act. Adjustments included an additional $1.2 million tax expenses recorded in September 2018 for the remeasurement of our deferred tax assets related to Velocify acquisition.

Liquidity and Capital Resources

As of December 31, 2018, we had cash, cash equivalents, and short-term investments of $302.6 million and long-term investments of $62.0 million. Cash and cash equivalents consist of cash, money market funds, and highly liquid investments purchased with an original maturity of three months or less. Both short and long-term investments consist of U.S. government notes, and U.S. government agency securities, corporate bonds and obligations, certificates of deposit and municipal obligations.

We believe our existing cash, cash equivalents, and short-term investments will be sufficient to fund capital expenditures, operating expenses and other cash requirements for at least the next 12 months. We have used our cash and investments to repurchase our stock and may continue to do so in future periods. Acquisitions that we enter into are funded by our cash and investments or may require us to seek additional equity or debt financing. Additional funds may not be available on terms favorable to us or at all.

The following table sets forth our statements of cash flows data for the periods presented:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Net cash provided by operating activities	$123,673	$116,221	$112,899
Net cash used in investing activities	$(65,192)	$(329,032)	$(44,598)
Net cash provided by (used in) financing activities	$(14,482)	$(30,398)	$278,210
Net increase (decrease) in cash and cash equivalents	$43,999	$(243,209)	$346,511

Operating Activities

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017. Cash provided by operating activities increased by $7.5 million from $116.2 million in 2017 to $123.7 million in 2018. The increase in cash provided by operating activities was primarily due to increased revenues and related cash collections, partially offset by higher payments for operating expenses primarily driven by increased headcount, costs related to the integration of Velocify,

and an increase in professional and consulting services due to the adoption of the new revenue standard.

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016. Cash provided by operating activities increased by $3.3 million from $112.9 million in 2016 to $116.2 million in 2017. The increase in cash provided by operating activities was primarily due to increased revenue and related cash collections, partially offset by higher payments for operating expenses primarily driven by increased headcount and costs related to the integration of Velocify.

Investing Activities

Our primary investing activities have consisted of acquisitions, purchases and maturities of investments, and purchases of property and equipment (including costs incurred to develop internal-use software). Purchases of property and equipment may vary from period to period due to the timing of the expansion of our operations and the timing of our internal-use software projects subject to capitalization. We plan to continue to invest in the expansion of our operations and facilities as well as the next generation Encompass platform, and we intend to continue pursuing strategic acquisitions.

Cash used in investing activities of $65.2 million for the year ended December 31, 2018 was primarily the result of $24.3 million in expenditures for purchases of property, including capital improvements to our corporate headquarters, investments to bolster our infrastructure and enhance our system capacity, reliability, and security, $68.9 million in expenditures incurred to develop internal-use software and website applications, including the development of our next generation Encompass Digital Lending platform, and $136.2 million in purchases of investments, offset by $164.0 million in maturities of investments.

Cash used in investing activities of $329.0 million for the year ended December 31, 2017 was primarily the result of $119.3 million in cash payments for the Velocify acquisition, $28.4 million in expenditures for purchases of property, including capital improvements to our corporate headquarters, investments to bolster our infrastructure and enhance our system capacity, reliability, and security, $59.5 million in expenditures incurred to develop internal-use software and website applications, including the development of our next generation Encompass Digital Lending platform, and $221.4 million in purchases of investments, offset by $99.5 million in maturities of investments.

Cash used in investing activities of $44.6 million for the year ended December 31, 2016 was primarily the result of $25.2 million in expenditures for purchases of property and equipment, including capital improvements to our new corporate headquarters, investments to bolster our infrastructure and enhance our system capacity, reliability, and security, $35.1 million in expenditures incurred to develop internal-use software and website applications, including the development of our next generation Encompass Digital Lending platform, and $62.5 million in purchases of investments, offset by $78.2 million in sales and maturities of investments.

Financing Activities

Financing activities have consisted primarily of cash provided from the exercise of stock options and purchases under the employee stock purchase plan, reduced by the payments related to capital lease obligations, repurchases of common stock, and tax payments related to shares withheld for vested RSUs. In August 2016, we completed a public offering of common stock and sold approximately 3,163 thousand shares of our common stock for total cash proceeds of approximately $271.4 million, net of underwriting discounts, and offering costs and expenses of approximately $13.2 million, which will be used for general corporate purposes, including working capital, sales and marketing activities, general and administrative matters and capital expenditures. We may also use the net proceeds for the acquisition of, or investment in, technologies, solutions, or businesses that complement our business. In August 2017, our audit committee, under the authority delegated to it by our board of directors, approved a stock repurchase program under which we are authorized to repurchase up to $250.0 million of our common stock, which expires in August 2020. As of December 31, 2018, $200.0 million remained available for repurchases. Under the program, purchases may be made from time to time on the open market, and will be funded from available working capital.

Cash used in financing activities of $14.5 million for the year ended December 31, 2018 consisted primarily of $14.7 million in common stock repurchases and $19.0 million in tax payments related to shares withheld for vested RSUs, offset by $19.4 million in proceeds from employee stock purchases and the exercise of stock options.

Cash used in financing activities of $30.4 million for the year ended December 31, 2017 consisted primarily of $35.2 million in common stock repurchases and $13.8 million in tax payments related to shares withheld for vested RSUs, offset by $19.3 million in proceeds from employee stock purchases and the exercise of stock options.

Cash provided by financing activities of $278.2 million for the year ended December 31, 2016 consisted primarily of $271.4 million in net proceeds from our August 2016 public offering of 3,163 thousand shares of common stock, $17.3 million in proceeds from employee stock purchase and exercise of stock options, partially offset by $6.0 million in tax payments related to shares withheld for vested RSUs, payments of capital leases of $3.8 million, and $0.7 million in common stock repurchases.

Off Balance Sheet Arrangements

As of December 31, 2018, we had no off-balance sheet arrangements, and operating leases were the only financing arrangements not reported on our financial statements.

Contractual Obligations

At December 31, 2018, our contractual payment obligations are as follows:

	Payment due by period (as of December 31, 2018)				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
	(in thousands)				
Capital lease obligations	$308	$141	$154	$13	$—
Operating lease obligations	85,772	14,553	25,372	22,607	23,240
Purchase obligations[1]	57,921	32,335	25,586	—	—
Total	$144,001	$47,029	$51,112	$22,620	$23,240

[1] Purchase obligations are associated with agreements that are enforceable and legally binding and that specify all significant terms, including: fixed or minimum services to be used; fixed, minimum or variable price provisions; and the approximate timing of the transaction. Purchase obligations include non-cancelable contractual obligations for the purchase of goods and services, licenses of third-party software, sponsorships, and construction commitments. Obligations under contracts that we can cancel without a significant penalty are not included in the table above. Refer to Note 10 “Commitments and Contingencies” in the Notes to Financial Statements.

Recent Accounting Pronouncements

Refer to Note 2 “Basis of Presentation and Significant Accounting Policies” in the Notes to Financial Statements for a full description of recent accounting pronouncements, including the expected dates of adoption and estimated effects on results of operations and financial condition, which is incorporated herein by reference.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate risks and inflation.

Interest Rate Fluctuation Risk

We do not have any long-term borrowings.

Our investments include cash, cash equivalents, and both short-term and long-term investments including investment-grade interest-bearing securities, such as certificates of deposit, commercial paper, corporate bonds, municipal and government agency obligations, and guaranteed obligations of the U.S. government. The primary objective of our investment activities is to preserve principal while maximizing income without significantly increasing risk. We do not enter into investments for trading or speculative purposes. Our investments are exposed to market risk due to a fluctuation in interest rates, which may affect our interest income and the fair market value of our investments.

A hypothetical increase in interest rates of 1.0% would have resulted in a decrease in the fair value of our investment portfolio of $1.6 million as of December 31, 2018. The fluctuations in fair value of our investment portfolio reflect only the direct impact of the change in interest rates. Other economic variables, such as equity market fluctuations and changes in relative credit risk, could result in a significantly higher decline in the fair value of our net investment position. For further information on how credit risk is factored into the valuation of our investment portfolio, refer to Note 5 “Financial Instruments and Fair Value Measurement” in the Notes to Financial Statements.

Inflation Risk

We do not believe that inflation has had a material effect on our business, financial condition or results of operations. 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

Index to Financial Statements

	Page
Reports of Independent Registered Public Accounting Firm	46
Balance Sheets as of December 31, 2018 and 2017	49
Statements of Comprehensive Income for the Years Ended December 31, 2018, 2017, and 2016	50
Statements of Stockholders' Equity for the Years Ended December 31, 2018, 2017, and 2016	51
Statements of Cash Flows for the Years Ended December 31, 2018, 2017, and 2016	52
Notes to Financial Statements	54
Schedule II - Valuation and Qualifying Accounts	80

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

Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders
Ellie Mae, Inc.
Opinion on the financial statements
We have audited the accompanying balance sheets of Ellie Mae, Inc. (a Delaware corporation) (the "Company") as of December 31, 2018 and 2017, the related statements of comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and schedule (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 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 accounting principles generally accepted in the United States of America.
We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in the 2013 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated March 1, 2019 expressed an adverse opinion.
Adoption of new accounting standard
As discussed in Note 2 to the financial statements, the Company has changed its method of accounting for revenue in 2018 due to the adoption of Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers (Topic 606), and the related amendments.
Basis for opinion
These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.
We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence supporting 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/ GRANT THORNTON LLP
We have served as the Company's auditor since 2005.
San Francisco, California
March 1, 2019

Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders
Ellie Mae, Inc.
Opinion on internal control over financial reporting
We have audited the internal control over financial reporting of Ellie Mae, Inc. (a Delaware corporation) (the "Company") as of December 31, 2018, based on criteria established in the 2013 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, because of the effect of the material weakness described in the following paragraphs on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2018, based on criteria established in the 2013 Internal Control-Integrated Framework issued by COSO.
A material weakness is a deficiency, or combination of control deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be prevented or detected on a timely basis. The following material weakness has been identified and included in management's assessment. Certain of the Company's controls related to the adoption of Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers (Topic 606) were not designed or operating effectively.
We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the financial statements of the Company as of and for the year ended December 31, 2018. The material weakness identified above was considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2018 financial statements, and this report does not affect our report dated March 1, 2019 which expressed an unqualified opinion on those financial statements.
Basis for opinion
The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.
We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.
Definition and limitations of internal control over financial reporting
A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.
Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

47

Other information
We do not express an opinion or any other form of assurance on Management's Plan for Remediation of Material Weakness.

/s/ GRANT THORNTON LLP
San Francisco, California
March 1, 2019

Ellie Mae, Inc.
BALANCE SHEETS
(in thousands, except per share amounts)

	December 31,	
	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	$181,697	$137,698
Short-term investments	120,898	103,345
Accounts receivable, net of allowance for doubtful accounts of $438 and $340 as of December 31, 2018 and December 31, 2017, respectively	43,876	43,121
Prepaid expenses and other current assets	32,905	18,474
Total current assets	379,376	302,638
Property and equipment, net	233,590	186,991
Long-term investments	61,959	107,363
Intangible assets, net	59,486	80,874
Goodwill	141,168	144,451
Deposits and other long-term assets	36,031	9,290
Total assets	$911,610	$831,607
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$18,539	$24,913
Accrued and other current liabilities	39,247	26,188
Contract liabilities	24,357	26,287
Total current liabilities	82,143	77,388
Other long-term liabilities	25,398	18,880
Total liabilities	107,541	96,268
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Common stock, $0.0001 par value per share; 140,000 authorized shares, 34,775 and 34,228 shares issued and outstanding as of December 31, 2018 and December 31, 2017, respectively	4	3
Additional paid-in capital	694,607	649,817
Accumulated other comprehensive loss	(747)	(880)
Retained earnings	110,205	86,399
Total stockholders' equity	804,069	735,339
Total liabilities and stockholders' equity	$911,610	$831,607

See accompanying notes to these financial statements.

Ellie Mae, Inc.
STATEMENTS OF COMPREHENSIVE INCOME
(in thousands, except per share amounts)

	Year Ended December 31,		
	2018	2017	2016
Revenues	$480,266	$417,042	$360,285
Cost of revenues	199,925	160,910	120,145
Gross profit	280,341	256,132	240,140
Operating expenses:			
Sales and marketing	84,234	65,042	54,704
Research and development	88,150	69,266	58,501
General and administrative	97,077	79,686	71,318
Total operating expenses	269,461	213,994	184,523
Income from operations	10,880	42,138	55,617
Other income, net	3,920	3,256	989
Income before income taxes	14,800	45,394	56,606
Income tax provision (benefit)	(7,775)	(7,456)	18,830
Net income	$22,575	$52,850	$37,776
Net income per share of common stock:			
Basic	$0.66	$1.55	$1.21
Diluted	$0.63	$1.48	$1.15
Weighted average common shares used in computing net income per share of common stock:			
Basic	34,441	34,057	31,180
Diluted	35,787	35,806	32,800
Net income	$22,575	$52,850	$37,776
Other comprehensive income (loss), net of taxes:			
Unrealized gain (loss) on investments	133	(661)	38
Comprehensive income	$22,708	$52,189	$37,814

See accompanying notes to these financial statements.

Ellie Mae, Inc.
STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)

	Common Stock					
	Shares	Amount	Additional Paid- in Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Stockholders' Equity
Balances, December 31, 2015	29,567	$ 3	$285,342	$ (257)	$5,763	$ 290,851
Issuance of common stock under stock incentive plans	934	—	10,573	—	—	10,573
Issuance of common stock in public offering, net of issuance costs	3,162	—	271,309	—	—	271,309
Shares withheld for employee taxes related to vested restricted stock units	(71)	—	(5,976)	—	—	(5,976)
Issuance of common stock under employee stock purchase plan	102	—	6,724	—	—	6,724
Stock-based compensation	—	—	34,302	—	—	34,302
Excess tax benefit from stock-based compensation	—	—	9,974	—	—	9,974
Stock repurchase	(8)	—	(150)	—	(513)	(663)
Unrealized gains on investments	—	—	—	38	—	38
Net income	—	—	—	—	37,776	37,776
Balances, December 31, 2016	33,686	3	612,098	(219)	43,026	654,908
Issuance of common stock under stock incentive plans	961	—	10,208	—	—	10,208
Shares withheld for employee taxes related to vested restricted stock units	(139)	—	(13,826)	—	—	(13,826)
Issuance of common stock under employee stock purchase plan	121	—	9,098	—	—	9,098
Stock-based compensation	—	—	39,762	—	—	39,762
Stock repurchase	(401)	—	(7,523)	—	(27,721)	(35,244)
Excess tax benefits cumulative-effect adjustment resulting from the adoption of ASU 2016-09	—	—	—	—	18,244	18,244
Unrealized losses on investments	—	—	—	(661)	—	(661)
Net income	—	—	—	—	52,850	52,850
Balances, December 31, 2017	34,228	3	649,817	(880)	86,399	735,339
Cumulative-effect adjustment resulting from the adoption of Topic 606 (Note 2)	—	—	—	—	12,935	12,935
Balances after the adoption of Topic 606 (Note 2)	34,228	3	649,817	(880)	99,334	748,274
Issuance of common stock under stock incentive plans	756	1	7,600	—	—	7,601
Shares withheld for employee taxes related to vested restricted stock units	(209)	—	(19,042)	—	—	(19,042)
Issuance of common stock under employee stock purchase plan	159	—	11,784	—	—	11,784
Stock-based compensation	—	—	47,483	—	—	47,483
Stock repurchase	(159)	—	(3,035)	—	(11,704)	(14,739)
Unrealized gains on investments	—	—	—	133	—	133
Net income	—	—	—	—	22,575	22,575

Balances, December 31, 2018	34,775	$ 4	$694,607	$ (747)	$110,205	$ 804,069

See accompanying notes to these financial statements.

Ellie Mae, Inc.
STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31,		
	2018	2017	2016
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income	$22,575	$52,850	$37,776
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	50,275	36,482	20,460
Amortization of acquisition-related intangibles	21,388	9,515	5,521
Stock-based compensation expense	39,975	34,467	31,471
Amortization of deferred contract costs	8,927	3,500	2,522
Deferred income taxes	(8,238)	(7,849)	7,784
Other	504	(1,704)	1,029
Changes in operating assets and liabilities:			
Accounts receivable, net	(755)	(997)	(10,791)
Prepaid expenses, other current assets, and other long-term assets	(7,503)	(780)	(6,378)
Deferred contract costs	(9,107)	(4,254)	(4,942)
Accounts payable	(1,250)	4,943	3,678
Accrued liabilities, other current liabilities, and other long-term liabilities	8,779	(11,750)	17,585
Contract liabilities	(1,897)	1,798	7,184
Net cash provided by operating activities	123,673	116,221	112,899
CASH FLOWS FROM INVESTING ACTIVITIES:			
Acquisition of property and equipment	(24,301)	(28,355)	(25,191)
Acquisition of internal-use software	(68,881)	(59,514)	(35,097)
Purchases of investments	(136,162)	(221,383)	(62,533)
Maturities of investments	163,980	99,490	58,223
Sale of investments	—	—	20,000
Cash paid for acquisitions, net of cash acquired	—	(119,270)	—
Other investing activities, net	172	—	—
Net cash used in investing activities	(65,192)	(329,032)	(44,598)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Payment of capital lease obligations	(85)	(619)	(3,827)
Proceeds from issuance of common stock under employee stock plans	19,385	19,306	17,297
Proceeds (payment of issuance costs) relating to common stock issued in public offering, net	—	(15)	271,379
Payments for repurchase of common stock	(14,740)	(35,244)	(663)
Tax payments related to shares withheld for vested restricted stock units	(19,042)	(13,826)	(5,976)
Net cash provided by (used in) financing activities	(14,482)	(30,398)	278,210
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	43,999	(243,209)	346,511
CASH AND CASH EQUIVALENTS, Beginning of period	137,698	380,907	34,396
CASH AND CASH EQUIVALENTS, End of period	$181,697	$137,698	$380,907

Ellie Mae, Inc.
STATEMENTS OF CASH FLOWS - (continued)
(in thousands)

	Year Ended December 31,		
	2018	2017	2016
Supplemental disclosure of cash flow information:			
Cash paid for interest	$509	$515	$294
Cash paid for (refunded from) income taxes	$216	$(1,299)	$267
Supplemental disclosure of non-cash investing and financing activities:			
Fixed asset purchases not yet paid	$3,990	$9,114	$5,945
Stock-based compensation capitalized to property and equipment	$7,508	$5,295	$2,831
Acquisition of property and equipment under capital leases	$288	$—	$—

See accompanying notes to these financial statements.

Ellie Mae, Inc.
NOTES TO FINANCIAL STATEMENTS
NOTE 1—Description of Business
Ellie Mae, Inc. ("Ellie Mae" and the "Company") is the leading cloud-based platform provider for the mortgage finance industry. The Company's technology solutions enable lenders to originate and close residential mortgage loans. Banks, credit unions, and mortgage lenders use the Company's Encompass® all-in-one mortgage management solution ("Encompass") to originate and fund mortgages and improve compliance, loan quality, and efficiency.
NOTE 2—Basis of Presentation and Significant Accounting Policies
Principles of Consolidation
The presentation of the financial statements in this Annual Report on Form 10-K reflects the merger of all wholly-owned subsidiaries of the Company with and into the Company effective December 31, 2017. The Balance Sheet as of December 31, 2017, and the related Statements of Comprehensive Income, Stockholders' Equity, and Cash Flows for the years ended December 31, 2017 and 2016 are consolidated with Ellie Mae's then-subsidiaries Velocify, Inc., Mavent Holdings Inc. and Mavent Inc. The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated. Certain prior period amounts reported in the Company's financial statements have been reclassified to conform to current period presentation.
Applicable Accounting Guidance
Any reference in these notes to applicable accounting guidance is meant to refer to the authoritative generally accepted accounting principles in the United States ("U.S. GAAP"), as found in the Financial Accounting Standards Board's ("FASB") Accounting Standards Codification ("ASC").
Use of Estimates
The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Management evaluates estimates on a regular basis including those relating to the transaction price of customer contracts, constraints of variable consideration, allowance for doubtful accounts, goodwill, intangible assets, valuation of deferred income taxes, stock-based compensation, and unrecognized tax benefits, among others. Actual results could differ from those estimates and such differences may have a material impact on the Company's financial statements and footnotes.
Segment Information
The Company operates in one industry—mortgage-related software and services. The Company's chief operating decision maker is its chief executive officer, who makes decisions about resource allocation and reviews financial information presented as a single segment. Accordingly, the Company has determined that it has a single reporting segment and operating unit structure, specifically, technology-enabled solutions to help streamline and automate the residential mortgage origination process in the United States.
Cash and Cash Equivalents
All highly liquid investments with original maturities of 90 days or less are considered to be cash equivalents. Cash equivalents primarily consist of money market funds, government agency obligations, and guaranteed obligations of the U.S. government.
Fair Value Measurement of Financial Instruments
The Company invests excess cash primarily in money market funds and investment-grade, fixed maturity interest-bearing debt securities, such as certificates of deposit, commercial paper, corporate bonds, municipal and government agency obligations, and guaranteed obligations of the U.S. government. All of the Company's investments that have maturities of greater than 90 days are classified as available-for-sale and are carried at fair value. The cost of available-for-sale investments sold is based on the specific identification method. Unrealized gains and losses on available-for-sale investments are reported in stockholders' equity as accumulated other comprehensive income (loss). Realized gains and losses are included in other income (expense), net. Interest and dividends are included in other income (expense), net when they are earned.

54

Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value measurements are classified and disclosed in one of the following three categories:

Level 1 — Valuations based on quoted prices in active markets for identical assets or liabilities.

Level 2 — Valuations based on other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 — Valuations based on inputs that are generally unobservable and typically reflect management's estimates of assumptions that market participants would use in pricing the assets or liabilities.

The Company classifies its money market funds and U.S. government obligations as Level 1 instruments due to the use of observable market prices for identical securities that are traded in active markets.

When the Company uses observable market prices for identical securities that are traded in less active markets, the Company classifies its marketable financial instruments as Level 2. When observable market prices for identical securities are not available, the Company prices its marketable financial instruments using non-binding market consensus prices that are corroborated with observable market data; quoted market prices for similar instruments; or pricing models with all significant inputs derived from or corroborated with observable market data. Non-binding market consensus prices are based on the proprietary valuation models of pricing providers. These valuation models incorporate a number of inputs, including non-binding and binding broker quotes; observable market prices for identical or similar securities; and the internal assumptions of pricing providers or brokers that use observable market inputs. The Company corroborates non-binding market consensus prices with observable market data as such data exists.

The fair values of the Company's cash equivalents, accounts receivable, and accounts payable approximate their carrying values due to the short maturities of the instruments. The fair value of the Company's capital lease obligations approximates the carrying value due to the terms continuing to approximate prevailing market terms.

Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable consist of amounts billed to customers in connection with sale of services. The Company analyzes individual trade accounts receivable by considering historical bad debts, customer creditworthiness, current economic trends, changes in customer payment terms, and collection trends when evaluating the adequacy of the allowance for doubtful accounts. Allowances for doubtful accounts are recognized in the period in which the associated receivable balance is not considered recoverable. Any change in the assumptions used in analyzing accounts receivable may result in changes to the allowance for doubtful accounts and is recognized in the period in which the change occurs. The Company writes off a receivable when all rights, remedies, and recourse against the account and its principals are exhausted and records a benefit when previously reserved accounts are collected.

Concentration of Credit Risk

The financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash and cash equivalents, investments, and accounts receivable. The Company's cash and cash equivalents are deposited with major financial institutions in the United States. At times, such deposits may be in excess of federally insured limits. Management believes that the Company's investments in cash equivalents and available-for-sale investments are financially sound. The Company's accounts receivable are derived from revenue earned from customers located in the United States. The Company had no customers that represented 10% or more of revenues for the years ended December 31, 2018, 2017, and 2016. No customer represented more than 10% of accounts receivable as of December 31, 2018 and 2017.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation and are depreciated on a straight-line basis over their estimated useful lives, which is generally three to seven years. Leasehold improvements are amortized on a straight-line basis over their estimated useful lives or over the term of the lease, whichever is shorter.

Software and Website Development Costs

The Company capitalizes internal and external costs incurred to develop internal-use software and website applications. Capitalized internal costs include salaries, benefits, and stock-based compensation charges for employees that are directly involved in developing the software or website application, and depreciation of assets used in the

development process. Capitalized external costs include third-party consultants involved in the development process, as well as other direct costs incurred therein.

Capitalization of costs begins when the preliminary project stage has been completed, management authorizes and commits to funding a project and it is probable that the project will be completed and the software or website application will be used to perform the function intended. Internal and external costs incurred as part of the preliminary project stage are expensed as incurred.

Capitalization ceases at the point at which the project is substantially complete and ready for its intended use. Internal and external training costs and maintenance costs during the post-implementation operation stage are expensed as incurred.

Internal-developed core software is amortized on a straight-line basis over its estimated useful life of five years. Amortization of product related internal-use software and website applications is typically recorded to cost of revenues, and amortization of other internal-use software and website applications is typically recorded to the operating expense line to which it most closely relates. Management evaluates the useful lives of these assets on an annual basis and tests for impairment whenever events or changes in circumstances occur that could impact the recoverability of these assets. The capitalized costs are included in property and equipment, net on the balance sheet.

Business Combinations

The Company recognizes and measures the identifiable assets acquired in a business combination, the liabilities assumed, and any non-controlling interest in the acquiree at their fair values as of the acquisition date. The Company recognizes contingent consideration arrangements at their acquisition-date fair values with subsequent changes in fair value reflected in earnings, recognizes pre-acquisition loss and gain contingencies at their acquisition-date fair values, capitalizes in-process research and development assets, and expenses acquisition-related transaction costs as incurred. Due to the inherent uncertainty in the estimates and assumptions used by the Company in its fair value measurements, recorded amounts may be subject to refinement. During the measurement period, which may be up to one year from the acquisition date, the Company may record adjustments to the fair value of assets acquired and liabilities assumed, with the corresponding offset to goodwill. Any subsequent adjustments, including changes in accounting for deferred tax asset valuation allowances and acquired income tax uncertainties after the measurement period, are recognized in current period earnings.

Goodwill

The Company records goodwill in a business combination when the consideration paid exceeds the fair value of the identifiable net assets acquired. Goodwill is not amortized but is tested for impairment at least annually, or whenever changes in circumstances indicate that the fair value of a reporting unit is less than its carrying amount, including goodwill. The annual test is performed at the reporting unit level using a fair-value based approach. The Company’s operations are organized as one reporting unit. In testing for a potential impairment of goodwill, the Company first compares the net aggregate carrying value of assets and liabilities to the aggregate estimated fair value of the Company. If estimated fair value is less than carrying value, then potential impairment exists. Impairment is equivalent to any excess of goodwill carrying value over its implied fair value.

The process of evaluating the potential impairment of goodwill requires significant judgment at many points during the analysis, including calculating fair value of the reporting unit based on estimated future cash flows and discount rates to be applied.

Intangible Assets

Intangible assets are stated at cost less accumulated amortization. Intangible assets include developed technology, trade names, customer relationships, and order backlog. Intangible assets with finite lives are amortized on a straight-line basis over the estimated periods of benefit, as follows:

Developed technology	2-8 years
Trade names with finite lives	2-3 years
Customer relationships	4-10 years
Order backlog	1 year

The AllRegs tradename is the only intangible asset with an indefinite useful life. The Company evaluates the remaining useful life of indefinite-lived intangible assets each reporting period to determine whether events and circumstances continue to support an indefinite useful life. The Company tests intangible assets with indefinite lives at least annually or if events or circumstances indicate that such assets might be impaired. If potential impairment exists, the amount of any impairment is calculated by using a discounted cash flow model, which is based on the assumptions

the Company believes hypothetical marketplace participants would use. For indefinite-lived intangible assets, other than goodwill, if the carrying amount exceeds the fair value, an impairment charge is recognized in an amount equal to that excess.

The Company evaluates its finite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset or asset group to future undiscounted net cash flows expected to be generated by the asset or asset group. If such assets or asset groups are considered to be impaired, the impairment loss to be recognized is measured by the amount by which the carrying amounts of the assets or asset groups exceed the fair value of the assets or asset groups. Assets to be disposed of are reported at the lower of the carrying amount and fair value less costs to sell.

Impairment of Long-Lived Assets

The Company evaluates its long-lived assets for indications of possible impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

Revenue Recognition

The Company applies the provisions of ASU No. 2014-09, Revenue from Contracts with Customers ("ASU 2014-09"), as amended ("Topic 606") for revenue recognition on contracts with customers. Pursuant to Topic 606, the Company recognizes revenues under the core principle to depict the transfer of control to the Company's customers in an amount reflecting the consideration to which the Company expects to be entitled. In order to achieve that core principle, the following five step approach is applied:

- Identification of the contract, or contracts, with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and
- Recognition of revenue when, or as, the Company satisfies a performance obligation.

The Company generates revenues primarily from cloud-based subscription services, transaction-based fees, and related services including professional services and its annual user conference, and recognizes revenues as performance obligations are satisfied. For subscription services where the customer simultaneously receives and consumes the benefit from the Company's performance, revenues are recognized over time using an output method based on the passage of time as this provides a faithful depiction of the transfer of control. Under Encompass subscriptions that customers access through the Internet, revenues are comprised of software services sold both as a subscription and on a variable basis. Variable fees include fees billed on a per closed loan, or success basis, subject to monthly base fees, which the Company refers to as Success-Based Pricing. Other cloud-based subscription services consist of policy, guideline, data and analytics, lead management, marketing, and customer relationship management. Transaction-based fees are comprised of Ellie Mae Network fees and transaction fees charged for other services, including fees for loan products and the annual user conference. Fees for professional services include consulting, implementation, and education and training services. Sales taxes assessed by governmental authorities are excluded from the transaction price.

In contracts where recognizing variable consideration in the month it is earned does not meet the allocation objective of Topic 606, variable consideration is estimated and included in the transaction price. The Company estimates such amounts at contract inception considering historical trends, industry data, and contract specific factors to determine an expected amount to which the Company expects to be entitled. Estimates are included in the transaction price to the extent that it is considered probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. The assessment of whether such an estimate is constrained requires the Company to consider methods, inputs, and assumptions relating to the nature of the underlying products, customer-specific trends, and economic factors including industry data. Other forms of variable consideration such as refunds and penalties, which are recorded in accrued and other current liabilities, are estimated at contract inception and are allocated to the performance obligations to which they relate.

The Company enters into arrangements that generally include multiple subscriptions and professional services. For arrangements with multiple services, the Company evaluates whether the individual services qualify as distinct performance obligations. In its assessment of whether a service is a distinct performance obligation, the Company determines whether the customer can benefit from the service on its own or with other readily available resources and whether the service is separately identifiable from other services in the contract. This evaluation requires the Company to assess the nature of each individual service offering and how the services are provided in the context of the

contract, including whether the services are significantly integrated, highly interrelated, or significantly modify each other, which may require judgment based on the facts and circumstances of the contract.

When agreements involve multiple distinct performance obligations, the Company allocates arrangement consideration to all performance obligations at the inception of an arrangement based on the relative standalone selling prices of each performance obligation. Where the Company has standalone sales data for its performance obligations which are indicative of the price at which the Company sells a promised good or service separately to a customer, such data is used to establish standalone selling prices. In instances where standalone sales data is not available for a particular performance obligation, the Company estimates standalone selling prices by maximizing the use of observable market and cost-based inputs.

When estimating standalone selling prices, the Company reviews company-specific factors used to determine list price and makes adjustments as appropriate to reflect current market conditions and pricing behavior. The Company's process for establishing list price includes assessing the cost to provide a particular product or service, surveying customers to determine market expectations, analyzing customer demographics, and taking into account similar products and services historically sold by the Company. The Company continues to review the factors used to establish list price and will adjust standalone selling price methodologies as necessary on a prospective basis.

Cloud-Based Subscription Revenues. Cloud-based subscription revenues generally include a combination of the Company's products delivered as software-as-a-service ("SaaS") subscriptions that are a performance obligation consisting of a series of distinct services and support services. These arrangements are generally non-cancelable and do not contain refund-type provisions. These revenues typically include the following:

Encompass Revenues. The Company offers web-based, on-demand access to its cloud-based Encompass platform which has been determined to be a stand-ready obligation. Revenues are recognized over the contract terms as performance obligations are satisfied as this method best depicts the Company's pattern of performance for such services. Contracts generally range from one year to five years.

Some Encompass customers elect to pay on a success basis. Success basis contracts are subject to monthly billing calculations whereby customers are obligated to pay the greater of a contractual base fee or variable closed loan fee based on the number of closed loan transactions processed by the customer in the specific month. Under success basis contracts, monthly base fees are recognized ratably over the contract terms as subscription performance obligations are satisfied and any closed loan fees in excess of base fees are considered variable consideration.

For the majority of Encompass contracts that include variable consideration, such fees are recognized in the month in which they are earned because the terms of the variable payments relate specifically to the outcome from transferring the distinct time increment (month) of service and because such amounts reflect the fees to which the Company expects to be entitled for providing access to the Encompass platform for that period, consistent with the allocation objective of Topic 606.

For certain contracts where the allocation objective would not be met by allocating variable consideration in this way, total variable consideration to be received is estimated at contract inception and recognized ratably over the contract term. The estimates of the total variable consideration expected to be received under such agreements is updated at each reporting date. For these contracts, variable consideration is estimated using the expected value method, utilizing forecast data for each contract to determine the expected value.

The Company evaluates its ability to accurately estimate such variable consideration considering all relevant facts and circumstances associated with both the likelihood of a downward adjustment in the estimate of variable consideration and the potential magnitude of a significant revenue reversal relative to the cumulative revenue recognized to-date under the contract. Because the amount of consideration is highly susceptible to broad economic factors outside the Company's influence, have a broad range of possible consideration amounts, and the uncertainty is not expected to be resolved for a long period of time, the Company's ability to accurately estimate the variable consideration is limited. Therefore, the amount of variable consideration included in the transactions price is constrained to ensure that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the amount of variable consideration is subsequently resolved.

Other Subscription Revenues. The Company provides a variety of mortgage-related and other business services, including lead management, marketing, compliance services and customer relationship management. Such services include fixed fee subscriptions and are a single performance obligation consisting of a series of distinct services. These fixed fees are recognized ratably over the contract terms as this method best depicts the Company's pattern of performance for such services. Variable fees are recognized in the month in which they are earned because the terms

of the variable payments relate specifically to the outcome from transferring the distinct time increment (month) of service and because such amounts reflect the fees to which the Company expects to be entitled for providing the access to services for that period, consistent with the allocation objective.

Online Research and Data Resources Subscription Revenues. The Company provides mortgage originators and underwriters with access to online databases of various federal and state laws and regulations and forms as well as investor product guidelines. Fixed fees are recognized over time, using an output method of the passage of time or ratably over the contract terms as this method best depicts the Company's pattern of performance for such services.

Transactional Revenues. Transactional revenues include the following:

Ellie Mae Network Revenues. The Company has entered into agreements with various lenders, service providers and certain government-sponsored entities participating in the mortgage origination process to provide those suppliers with access to, and ability to interoperate with, mortgage originators on the Ellie Mae Network. The services delivered are comprised of a performance obligation consisting of a series of distinct services. The Company acts as an agent when it arranges for services to be provided by the supplier to the customer. Fixed fees are recognized ratably over the contract terms as this method best depicts the Company's pattern of performance for such services. Variable fees are recognized in the month in which they are earned because the allocation objective is met by allocating the fees to each distinct month in the series.

Other Transactional Revenues. The Company provides other services delivered on a transactional basis including automated documentation; fraud detection, valuation, validation, and risk analysis; income verification; flood zone certifications; website and electronic document management; compliance reports; and the Company's annual user conference. Fees are recognized as transactions occur which is the point in time when control is transferred. Variable fees are recognized in the month in which they are earned because the terms of the variable payments relate specifically to the outcome from transferring the distinct time increment (month) of service and because such amounts reflect the fees to which the Company expects to be entitled for providing the access to services for that period, consistent with the allocation objective.

Professional Services Revenues. Professional services, including implementation services for the Company's subscription products, are performance obligations which are determined to be distinct from our subscription services and other performance obligations. Such services are generally provided on a time and materials or fixed price basis and the customer simultaneously receives and consumes the benefit from the Company's performance. The majority of the Company's professional services are provided on a fixed price basis, and the Company recognizes revenue over time as the performance obligations are satisfied utilizing an input method based on the proportion of hours incurred to total estimated hours. Any changes in the estimate of progress towards completion are accounted for in the period of change using the cumulative catch-up method. Revenues from professional services contracts provided on a time and materials basis are recognized when invoiced under the practical expedient as amounts correspond directly with the value of the services rendered to date.

Contract Liabilities

Contract liabilities represent billings or payments received in advance of revenue recognition and are recognized upon transfer of control. Balances consist primarily of prepaid subscription services and professional and training services not yet provided as of the balance sheet date. Contract liabilities that will be recognized during the succeeding 12-month period are recorded as current contract liabilities, and the remaining portion is recorded as other long-term liabilities.

Contract Assets

Contract assets represent amounts recognized as revenues for which the Company does not have the unconditional right to consideration. Amounts related to invoices expected to be issued during the succeeding 12-month period are recorded as prepaid expenses and other current assets, and the remaining portion is recorded as deposits and other long-term assets.

Deferred Contract Costs

Deferred contract costs mainly consist of sales commissions and related fringe benefits that are incremental costs of obtaining contracts with customers, as well as partners' referral fees. The Company amortizes the costs incurred on initial contracts on a straight-line basis over a period of benefit determined to be approximately five years. The period of benefit is determined based on a review of customer churn rates and technological lifecycles of the underlying product offerings. All deferred contract costs on renewal contracts are amortized on a straight-line basis over the applicable renewal period. Additionally, the Company exercises the practical expedient to expense commissions on arrangements in which the amortization period is expected to be one year or less. Deferred contract costs that will be recognized during the succeeding 12-month period are recorded as prepaid expenses and other current assets, and the remaining portion is recorded as deposits and other long-term assets.

Warranties and Indemnification

The Company provides a warranty for its software products and services to its customers and accounts for its warranties as a contingent liability. The Company's software is generally warranted to perform substantially as described in the associated product documentation and to satisfy defined levels of uptime reliability. The Company's services are generally warranted to be performed consistent with industry standards. The Company has not provided for a warranty accrual as of December 31, 2018 or 2017. To date, the Company's product warranty expense has not been significant.

The Company generally agrees to indemnify its customers against legal claims that the Company's software products infringe certain third-party intellectual property rights and accounts for its indemnification obligations as a contingent liability. In addition, the Company may also incur a liability under its contracts if it breaches its warranties, as well as under certain data security and/or confidentiality obligations. To date, the Company has not been required to make any payment resulting from either infringement claims asserted against its customers or from claims in connection with a breach of the data security and/or confidentiality obligations in the Company's contracts. The Company has not recorded a liability for related costs as of December 31, 2018 or 2017.

The Company has obligations under certain circumstances to indemnify each executive officer and member of the Company's board of directors against judgments, fines, settlements, and expenses related to claims against such executive officer or director and otherwise to the fullest extent permitted under Delaware law and the Company's bylaws and certificate of incorporation.

Cost of Revenues

The Company's cost of revenues consists primarily of: salaries and benefits, including stock-based compensation expense; data center operating costs; depreciation on data center computer equipment; amortization of internal-use software and acquired intangible assets such as developed technology; customer support; professional services associated with implementation of the Company's software; third-party royalty expenses; and allocated facilities costs.

Research and Development Costs

The Company's research and development expenses consist primarily of: salaries and benefits, including bonuses and stock-based compensation expense; fees to contractors engaged in the development and support of the Ellie Mae Network, Encompass software and other products; and allocated facilities costs. Research and development costs that are not capitalized as internal-use software are expensed as they are incurred.

Advertising Expenses

The Company expenses advertising costs as incurred. Advertising expenses for the years ended December 31, 2018, 2017, and 2016 were $1.6 million, $1.3 million, and $1.0 million, respectively.

Stock-Based Compensation

The Company recognizes compensation expense related to restricted stock units ("RSUs"), performance shares, and performance-vesting restricted stock units based on the fair market value of the underlying shares of common stock as of the date of grant. Expense related to the RSUs is recognized on a straight-line basis over the requisite service period of the award, which generally equals the vesting period. Expense related to the performance shares and performance-vesting RSUs is recognized under the graded vesting method over the requisite service period of the award, which results in the recognition of a larger portion of the expense during the beginning of the vesting period than in the end of the vesting period. Management evaluates the probability of performance attainment, estimates the number of shares of common stock that will be granted, and records the expense accordingly.

The Company recognizes compensation expense related to stock option grants that are ultimately expected to vest and shares issued under the Employee Stock Purchase Plan ("ESPP") based on estimated fair values on the date of grant using the Black-Scholes option-pricing model. Expense related to stock options is recognized on a straight-line basis over the requisite service period, which generally equals the vesting period. Expense related to shares issued under the ESPP is recognized on a straight-line basis over the offering period.

The date of grant is the date at which the Company and the employee reach a mutual understanding of the key terms and conditions of the award, appropriate approvals are received by the equity incentive committee of the board of directors and the Company becomes contingently obligated to issue equity instruments to the employee who renders the requisite service.

The Company estimates potential forfeitures of stock grants and adjusts recorded compensation cost accordingly. The estimate of forfeitures is based on historical experience and is adjusted over the requisite service period to the extent that actual forfeitures differ, or are expected to differ, from the prior estimates. Changes in estimated forfeitures will be recognized in the period of change and will impact the amount of stock-based compensation expense to be recognized in future periods.

Income Taxes

The Company accounts for income taxes under the asset and liability method, which requires the recognition of taxes payable or refundable for the current year, and deferred tax liabilities and assets for the future tax consequences of

events that have been recognized in the Company's financial statements or tax returns. The measurement of current and deferred tax liabilities and assets is based on provisions of the enacted tax law.

The Company operates in various tax jurisdictions and is subject to audit by various tax authorities. The Company recognizes the tax benefit of an uncertain tax position only if it is more likely than not that the position is sustainable upon examination by the taxing authority, based on the technical merits. The tax benefit recognized is measured as the largest amount of benefit which is greater than 50 percent likely to be realized upon settlement with the taxing authority. The Company recognizes interest accrued and penalties related to unrecognized tax benefits in the income tax provision.

Valuation allowances are established when necessary to reduce deferred tax assets to the amounts that are more likely than not expected to be realized based on the weighting of positive and negative evidence. Future realization of deferred tax assets ultimately depends on estimates of future sources of taxable income for the jurisdictions in which the Company operates and the periods over which the deferred tax assets will be realizable. To the extent the Company establishes a valuation allowance or changes the valuation allowance in a period, the Company reflects the change with a corresponding increase or decrease to the tax provision in the statement of comprehensive income.

Comprehensive Income

Comprehensive income consists of net income and other comprehensive income. Other comprehensive income includes certain changes in equity that are excluded from net income, specifically unrealized gains (losses) on marketable securities. Except for net realized gain (loss) on investments, which was not significant, there were no reclassifications out of accumulated other comprehensive income that affected net income during the years ended December 31, 2018, 2017, and 2016.

Geographical Information

The Company is domiciled in the United States, had no international operations, and had minimal sales to customers outside of the United States for the years ended December 31, 2018, 2017, and 2016.

Recent Accounting Pronouncements

ASU No. 2016-02

In February 2016, the FASB issued Accounting Standards Update (“ASU”) No. 2016-02, Leases (Topic 842) (“ASU 2016-02”), as subsequently amended, which requires lessees to put most leases on their balance sheets, but recognize the expenses on their income statements in a manner similar to current practice. ASU 2016-02 states that a lessee would recognize a right-of-use (“ROU”) asset for the right to use the underlying asset for the lease term and a lease liability for the obligation to make lease payments.

The standard is effective for interim and annual periods beginning after December 15, 2018, and early adoption is permitted. A modified retrospective transition approach is required, applying the new standard to all leases existing at the date of initial application. An entity may choose to use either (1) its effective date or (2) the beginning of the earliest comparative period presented in the financial statements as its date of initial application. The Company plans to adopt this new standard on January 1, 2019 and use the effective date as its date of initial application. Consequently, the Company will not restate comparative periods.

While the Company is finalizing all of the effects of adoption including changes to its processes, the most significant effects of the standard are expected to be related to (1) recognition of new ROU assets of approximately $60.6 million and lease liabilities of approximately $75.0 million on its balance sheet for its operating leases, and (2) providing significant new disclosures about its leasing activities. The Company does not expect the adoption to have a significant impact to its results of operations or cash flows.

ASU No. 2018-07

In June 2018, the FASB issued ASU No. 2018-07, Compensation—Stock Compensation (Topic 718), Improvements to Nonemployee Share-Based Payment Accounting (“ASU 2018-07”), which expands the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from non-employees. ASU 2018-07 supersedes the guidance in ASC 505-50, Equity-Based Payments to Non-Employees, which previously included the accounting for non-employee awards. The standard is effective for interim and annual periods beginning after December 15, 2018, and early adoption is permitted. The Company does not believe the adoption of this standard will have a material impact on its financial statements and related disclosures.

ASU No. 2018-13

In August 2018, the FASB issued ASU No. 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement ("ASU 2018-13"), which modifies the disclosure requirements on fair value measurements. This standard removes the requirement to disclose the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy, the policy for timing of transfers between levels, and the valuation processes for Level 3 fair value measurements. The standard is effective for interim and annual periods beginning after December 15, 2019, and early adoption is permitted. The Company does not believe the adoption of this standard will have a material impact on its financial statements and related disclosures.

ASU No. 2018-15

In August 2018, the FASB issued ASU No. 2018-15, Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract ("ASU 2018-15"), which aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The standard is effective for interim and annual reporting periods beginning after December 15, 2019, and can be applied either prospectively to implementation costs incurred after the date of adoption or retrospectively to all arrangements. Early adoption is permitted. The Company is currently gathering information and evaluating the impact of this accounting standard update on its financial statements and related disclosures.

Standards Adopted

ASU No. 2014-09

On January 1, 2018, the Company adopted ASU No. 2014-09, Revenue from Contracts with Customers (ASU 2014-09), as amended (Topic 606) using the modified retrospective method and applied Topic 606 to those contracts which were not completed as of January 1, 2018.

On January 1, 2018, the Company recognized the cumulative effect of initially applying Topic 606 as an adjustment to the opening balance of retained earnings and the corresponding balance sheet accounts. The impact on the Company's opening balances is primarily related to the Company's straight-line calculations for subscription revenue, the estimation of variable consideration associated with certain of its contracts and the capitalization of additional commission costs under Topic 606. Prior to the adoption of Topic 606, billings that were contingent upon future performance were deferred, variable consideration was not estimated and the capitalization of contract acquisition costs was more limited. The comparative information has not been restated and continues to be reported under the accounting standards in effect in those prior periods. Refer to the tables below and Note 3 "Revenue Recognition" for additional accounting policy and transition disclosures.

The Company recognized the cumulative effect of initially applying Topic 606 as an adjustment to retained earnings in the balance sheet as of January 1, 2018 as follows:

Selected Balance Sheet Line Items

	Balance at December 31, 2017	Adjustments	Balance at January 1, 2018
	(in thousands)		
Current assets:			
Prepaid expenses and other current assets	$18,474	$ 8,900	$27,374
Non-current assets:			
Deposits and other long-term assets	$9,290	$ 22,013	$31,303
Current liabilities:			
Accrued and other current liabilities	$26,188	$ 3,138	$29,326
Contract liabilities	$26,287	$ (1,706)	$24,581
Non-current liabilities:			
Other long-term liabilities	$18,880	$ 16,546	$35,426

Stockholders' equity:			
Retained earnings	$86,399	$ 12,935	$99,334

The following tables summarize the impacts of Topic 606 adoption on the Company's financial statements for the periods ended December 31, 2018:

Selected Balance Sheet Line Items

	December 31, 2018 (in thousands)		
	As Reported	Adjustments	Balances without adoption of Topic 606
Current assets:			
Accounts receivable, net	$43,876	$ (140)	$43,736
Prepaid expenses and other current assets	$32,905	$ (10,716)	$22,189
Non-current assets:			
Deposits and other long-term assets	$36,031	$ (15,526)	$20,505
Current liabilities:			
Accrued and other current liabilities	$39,247	$ (2,584)	$36,663
Contract liabilities	$24,357	$ 233	$24,590
Non-current liabilities:			
Other long-term liabilities	$25,398	$ (8,365)	$17,033
Stockholders' equity:			
Retained earnings	$110,205	$ (15,666)	$94,539

Selected Statement of Comprehensive Income Line Items

	Year Ended December 31, 2018 (in thousands, except per share amounts)		
	As Reported	Adjustments	Balances without adoption of Topic 606
Revenues	$480,266	$ (2,064)	$478,202
Gross profit	$280,341	$ (2,064)	$278,277
Operating expenses:			
Sales and marketing	$84,234	$ 1,548	$85,782
Income from operations	$10,880	$ (3,612)	$7,268
Income tax benefit	$(7,775)	$ (882)	$(8,657)
Net income	$22,575	$ (2,730)	$19,845
Basic net income per share of common stock	$0.66	$ (0.08)	$0.58
Diluted net income per share of common stock	$0.63	$ (0.08)	$0.55

Selected Statement of Cash Flows Line Items

	Year Ended December 31, 2018 (in thousands)		
	As Reported	Adjustments	Balances without adoption of Topic 606
Net income	$22,575	$ (2,730)	$19,845
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of deferred contract costs	$8,927	$ (4,733)	$4,194
Deferred income taxes	$(8,238)	$ (881)	$(9,119)
Other	$504	$ (114)	$390
Changes in operating assets and liabilities:			
Accounts receivable, net	$(755)	$ 140	$(615)
Prepaid expenses, other current assets, and other long-term assets	$(7,503)	$ 1,088	$(6,415)
Deferred contract costs	$(9,107)	$ 6,114	$(2,993)
Accrued liabilities, other current liabilities, and other long-term liabilities	$8,779	$ 1,093	$9,872
Contract liabilities	$(1,897)	$ 23	$(1,874)
Net cash provided by operating activities	123,673	$ —	$123,673

ASU No. 2018-05

In March 2018, the FASB issued ASU No. 2018-05, Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118 (“ASU 2018-05”). ASU 2018-05 addresses certain circumstances arising in accounting for the income tax effects of the Tax Cuts and Jobs Act (the “Tax Act”) in conformity with the Securities and Exchange Commission (“SEC”) Staff Accounting Bulletin No. 118 (“SAB 118”) including provisional estimates of those effects. The Company adopted SAB 118 in the fourth quarter of 2017. In December 2018, the Company finalized the accounting for the Tax Act which resulted in an additional $1.2 million tax expense for the remeasurement of deferred tax assets.

NOTE 3—Revenue Recognition

Disaggregation of Revenue

The following table provides information about disaggregated revenue from customers:

	Year Ended December 31, 2018 (in thousands)
Cloud-based subscription revenues	$ 349,149
Transactional revenues	97,399
Professional services revenues	33,718
Revenues	$ 480,266

Contract Balances

The following table provides information about receivables, contract assets and contract liabilities from contracts with customers:

	Balance Sheet Line Reference	December 31, 2018 (in thousands)
Unbilled receivables	Accounts receivables, net	$ 25,753
Contract assets - current	Prepaid expenses and other current assets	$ 5,089
Contract assets - noncurrent	Deposits and other long-term assets	$ 9,432
Contract liabilities - current	Contract liabilities	$ 24,357
Contract liabilities - noncurrent	Other long-term liabilities	$ 3,440

Changes in the contract assets and the contract liabilities balances during the year ended December 31, 2018 are as follows:

	January 1, 2018	December 31, 2018	$ Change
	(in thousands)		
Contract assets	$13,428	$ 14,521	$1,093
Contract liabilities	$29,694	$ 27,797	$(1,897)
Net contract assets (liabilities)	$(16,266)	$ (13,276)	$2,990

The decrease in net contract liabilities from $(16.3) million as of January 1, 2018 to $(13.3) million as of December 31, 2018 was primarily the result of a $4.3 million increase in estimated transaction price including changes in the constraint of variable consideration, $1.3 million of fixed consideration recognized as revenues from subscription and other services in excess of billings, offset by $2.6 million of variable consideration billed for subscription services in excess of revenues recognized.

Revenues of $23.3 million recognized during the year ended December 31, 2018 were included in the contract liabilities balance at January 1, 2018.

Revenues Allocated to Remaining Performance Obligations

Remaining performance obligations represent amounts included in the contractual transaction price that have not yet been recognized, which includes contract liabilities and amounts that will be invoiced and recognized as revenues in future periods.

The Company expects to recognize revenues on the remaining performance obligations as follows:

	December 31, 2018 (in thousands)
Within 1 year	$ 278,103
2-3 years	257,461
Thereafter	61,241
	$ 596,805

Remaining performance obligations exclude variable consideration allocated entirely to future distinct services as well as variable consideration in most arrangements that involve services revenues priced on a transactional basis and professional services invoiced on a time and materials basis as these arrangements include revenues recognized under the as invoiced expedient. Additionally, in instances where an estimate of variable consideration is constrained, the amount of such constraint is not included in revenues allocated to remaining performance obligations.

Deferred Contract Costs

Deferred contract costs, which consist of deferred sales commissions as well as partners' referral fees, were $23.3 million and $8.5 million as of December 31, 2018 and 2017, respectively. For the years ended December 31, 2018, 2017, and 2016, amortization expense for deferred contract costs was $8.9 million, $3.5 million, and $2.5 million, respectively. Impairment loss related to the costs capitalized was $0.2 million for the year ended December 31, 2018. There was no impairment loss related to the costs capitalized for the years ended December 31, 2017 and 2016.

NOTE 4—Net Income Per Share of Common Stock

Basic net income per share of common stock is computed by dividing net income by the weighted average shares of common stock outstanding during the period. Diluted net income per share of common stock is computed by dividing net income by the weighted average shares of common stock outstanding plus the additional shares of common stock that would have been outstanding if potentially dilutive securities had been issued. Potentially dilutive securities include outstanding stock options, unvested RSUs, unvested performance shares, unvested performance-vesting RSUs, and shares to be purchased under the ESPP. The dilutive effect of potentially dilutive securities is reflected in diluted net income per share of common stock by application of the treasury stock method.

The components of net income per share of common stock were as follows:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands, except per share amounts)		
Net income	$22,575	$52,850	$37,776
Weighted average common shares outstanding used to compute basic net income per share	34,441	34,057	31,180
Effect of potentially dilutive securities:			
Employee stock options, RSUs, performance shares, performance-vesting RSUs, and ESPP shares	1,346	1,749	1,620
Weighted average common shares outstanding used to compute diluted net income per share	35,787	35,806	32,800
Net income per share of common stock:			
Basic	$0.66	$1.55	$1.21
Diluted	$0.63	$1.48	$1.15

The following potential weighted average common shares were excluded from the computation of diluted net income per share of common stock, as their effect would have been anti-dilutive:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Employee stock options and awards	302	212	48

Performance shares and performance-vesting RSUs are included in the diluted shares outstanding for each period if the established performance criteria have been met at the end of the respective periods. However, if none of the required performance criteria have been met for such awards, the Company includes the number of shares that would be issuable if the end of the reporting period were the end of the contingency period. Accordingly, in addition to the employee stock options and awards noted above, 16 thousand and 20 thousand shares underlying performance shares and performance-vesting RSUs were excluded from the dilutive shares outstanding for the years ended December 31, 2017 and 2016, respectively. No shares underlying performance shares or performance-vesting RSUs were excluded from the dilutive shares outstanding for the year ended December 31, 2018.

NOTE 5—Financial Instruments and Fair Value Measurement

As of December 31, 2018 and 2017, the Company's cash, cash equivalents, and investments were primarily comprised of cash, money market funds, and investment-grade, fixed maturity interest-bearing debt securities, such as certificates of deposit, commercial paper, corporate bonds, municipal and government agency obligations, and guaranteed obligations of the United States government.

The following table summarizes cash and investments in financial instruments that are measured at fair value on a recurring basis and are categorized using the fair value hierarchy by investment type:

	December 31, 2018				December 31, 2017			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Carrying or Fair Value	Amortized Cost	Unrealized Gains	Unrealized Losses	Carrying or Fair Value
	(in thousands)				(in thousands)			
Cash	$131,075	$ —	$ —	$131,075	$119,035	$ —	$ —	$119,035
Level 1:								
Money market funds	10,503	—	—	10,503	3,623	—	—	3,623
U.S. government and government agency obligations	68,090	96	(327)	67,859	52,255	—	(266)	51,989
Level 2:								
Corporate notes and obligations	67,652	10	(372)	67,290	81,062	—	(304)	80,758
Certificates of deposit	3,146	—	—	3,146	6,527	2	—	6,529
Municipal obligations	4,668	—	(11)	4,657	10,274	—	(46)	10,228
U.S. government and government agency obligations	80,167	5	(148)	80,024	76,510	—	(266)	76,244
Total cash and financial instruments	$365,301	$ 111	$ (858)	$364,554	$349,286	$ 2	$ (882)	$348,406
Included in cash and cash equivalents	$181,697	$ —	$ —	$181,697	$137,698	$ —	$ —	$137,698
Included in investments	$183,604	$ 111	$ (858)	$182,857	$211,588	$ 2	$ (882)	$210,708

As of December 31, 2018 and 2017, the Company did not have any assets or liabilities that were valued using Level 3 inputs. For the years ended December 31, 2018, 2017, and 2016, there were no transfers of financial instruments between the levels.

For the years ended December 31, 2018, 2017, and 2016, the Company recognized interest income from financial instruments of $4.1 million, $3.3 million and $1.1 million, respectively. Gross realized gains and gross realized losses from the sale of investments were not significant during the years ended December 31, 2018, 2017, and 2016.

The following table shows the gross unrealized losses and the related fair values of the Company's investments in a continuous unrealized loss position. The Company did not identify any investments as other-than-temporarily impaired at December 31, 2018 or December 31, 2017 based on its evaluation of available evidence, such as whether it is the Company's intent to hold an investment to its contractual maturity date and whether it is more likely than not that the Company will be required to sell the investment before recovery of the investment's amortized basis. The Company expects to receive the full principal and interest on these investments.

	December 31, 2018					
	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
	(in thousands)					
Corporate notes and obligations	$8,683	$ (9)	$41,134	$ (363)	$49,817	$ (372)
Certificates of deposit	—	—	250	—	250	—
U.S. government, government agency, and municipal obligations	41,243	(57)	56,623	(429)	97,866	(486)
	$49,926	$ (66)	$98,007	$ (792)	$147,933	$ (858)

	December 31, 2017					
	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
	(in thousands)					
Corporate notes and obligations	$62,099	$ (253)	$7,574	$ (51)	$69,673	$ (304)
Certificates of deposit	482	—	1,348	—	1,830	—
U.S. government, government agency, and municipal obligations	119,456	(492)	13,070	(86)	132,526	(578)
	$182,037	$ (745)	$21,992	$ (137)	$204,029	$ (882)

The following table summarizes the contractual maturities of the Company's investments at December 31, 2018:

	Amortized Cost	Carrying or Fair Value
	(in thousands)	
Due within one year	$121,301	$ 120,898
Due after one year through three years [1]	62,303	61,959
Total	$183,604	$ 182,857

[1] Maximum maturity of individual investments is three years.

Actual maturities may differ from the contractual maturities because borrowers may have the right to call or prepay certain obligations.

NOTE 6—Acquisitions

Velocify, Inc.

On October 2, 2017, the Company acquired the outstanding stock of Velocify, Inc. ("Velocify"), a leading cloud-based sales engagement platform that provides customers the capabilities to generate and manage leads and customer relationships. The Company acquired the Velocify business in order to add functionality to its product offerings, including lead management, engagement and distribution capabilities. The transaction was accounted for as a business combination and, accordingly, the total purchase price was allocated to the assets acquired and liabilities assumed based on their respective fair values.

The total purchase consideration was approximately $130.0 million in cash. The Company allocated the purchase consideration to the identifiable tangible and intangible assets acquired and liabilities assumed under the purchase method of accounting based on their estimated fair values as of the acquisition date. The final determination of the fair values was completed within the measurement period of up to one year from the acquisition date, and adjustments to provisional amounts that were identified during the measurement period were recorded in the reporting period in which the adjustment was determined. Post close adjustments made during the measurement period are reflected in the following table. Refer to Note 8 Goodwill and Intangible Assets, Net for additional detail related to these adjustments.

The following table summarizes the allocation of the purchase price as of the acquisition date (in thousands):

Cash and cash equivalents	10,858
Other assets	3,510
Property and equipment	843
Identifiable intangible assets	73,100
Current liabilities	(5,280)
Deferred tax liability	(17,924)
Contract liabilities	(1,600)
Goodwill	66,450
Total purchase consideration	$129,957

The excess of purchase consideration over the fair value of net tangible and identifiable intangible assets acquired was recorded as goodwill. The fair values assigned to tangible assets acquired, liabilities assumed and identifiable intangible assets are based on management's estimates and assumptions. The deferred tax liability was primarily a result of the difference in the book basis and tax basis related to the identifiable intangible assets.

The following table sets forth the components of identifiable intangible assets acquired and their estimated useful lives as of the date of acquisition:

	Fair Value (in thousands)	Useful Life (in years)
Developed technology	$ 42,000	8.0
Customer relationships	15,500	10.0
Order backlog	14,000	1.0
Trade name	1,600	3.0
Identifiable intangible assets	$ 73,100	

Developed technology consists of the technology underlying Velocify's existing products, and the Company expects to incorporate it into the Encompass product in the future. Customer relationships represents the fair values of the underlying relationships with Velocify's customers. Order backlog represents estimated net discounted future cash flows associated with service contracts that were outstanding as of the acquisition date and expected to be completed within one year. Trade name represents the right to use the Velocify trade name over a useful life of three years. The goodwill balance is not deductible for tax purposes.

NOTE 7—Other Balance Sheet Components

Property and Equipment, Net

Property and equipment, net, consisted of the following:

	December 31,	
	2018	2017
	(in thousands)	
Computer equipment and software	$95,532	$67,068
Internal-use software	175,228	108,710
Furniture and fixtures	9,857	8,311
Leasehold improvements	34,458	27,356
Internal-use software and other assets not placed in service	44,901	52,659
Property and equipment, gross	359,976	264,104
Accumulated depreciation and amortization	(126,386)	(77,113)
Property and equipment, net	$233,590	$186,991

At December 31, 2018 and 2017, the Company had unamortized internal-use software costs of $171.8 million and $124.4 million, respectively. Amortization of internal-use software for the years ended December 31, 2018, 2017, and 2016 was $25.8 million, $17.7 million, and $8.3 million, respectively.

Depreciation expense for the years ended December 31, 2018, 2017, and 2016 was $50.3 million, $36.5 million, and $20.5 million, respectively. These amounts include amortization of assets under capital leases of $1.2 million, $2.8 million, and $3.2 million for the years ended December 31, 2018, 2017, and 2016, respectively.

Accrued and Other Current Liabilities

Accrued and other current liabilities consisted of the following:

	December 31,	
	2018	2017
	(in thousands)	
Accrued bonus	$16,091	$11,140
Accrued payroll and related expenses	10,163	6,878
Accrued royalties	3,774	1,630
Sales and other taxes	2,710	1,737
Accrued commissions	1,895	1,480
Other accrued expenses	4,614	3,323
	$39,247	$26,188

Other Long-Term Liabilities

Other long-term liabilities consisted of the following:

	December 31,	
	2018	2017
	(in thousands)	
Deferred rent	$14,088	$13,443
Deferred tax liability	3,207	4,963
Other long-term liabilities	8,103	474
	$25,398	$18,880

NOTE 8—Goodwill and Intangible Assets, Net

Goodwill

The Company completed its annual goodwill impairment analysis during the fourth quarter of 2018, 2017, and 2016 and determined that goodwill was not impaired.

The change in the carrying value of goodwill was as follows (in thousands):

Balance at December 31, 2016	$74,547
Velocify acquisition	69,904
Balance at December 31, 2017	144,451
Goodwill adjustments, net [1]	(3,283)
Balance at December 31, 2018	$141,168

[1] Related to an adjustment to Goodwill related to certain acquired deferred tax assets of Velocify. The adjustment was the result of a change in the provisional amounts to the purchase accounting and was made within the measurement period.

Intangible Assets

Intangible assets, net, consisted of the following:

	December 31, 2018			
	Gross Carrying Amount	Accumulated Amortization	Net Intangibles	Weighted Average Remaining Useful Life
	(in thousands)			(in years)
Assets subject to amortization:				
Developed technology	$53,535	$ (17,184)	$ 36,351	6.6
Trade names	1,931	(997)	934	1.8
Customer relationships	34,900	(16,813)	18,087	7.1
Order backlog	14,370	(14,295)	75	0.8
Total assets subject to amortization	104,736	(49,289)	55,447	6.7
Assets not subject to amortization:				
Trade name	4,039	—	4,039	
	$108,775	$ (49,289)	$ 59,486	

	December 31, 2017			
	Gross Carrying Amount	Accumulated Amortization	Net Intangibles	Weighted Average Remaining Useful Life
	(in thousands)			(in years)
Assets subject to amortization:				
Developed technology	$53,535	$ (10,810)	$ 42,725	7.5
Trade names	1,931	(464)	1,467	2.8
Customer relationships	34,900	(13,050)	21,850	7.7
Order backlog	14,370	(3,577)	10,793	0.8
Total assets subject to amortization	104,736	(27,901)	76,835	6.5
Assets not subject to amortization:				
Trade name	4,039	—	4,039	
	$108,775	$ (27,901)	$ 80,874	

Amortization expense associated with intangible assets was $21.4 million, $9.5 million and $5.5 million for the years ended December 31, 2018, 2017, and 2016, respectively.

Future amortization expense for intangible assets at December 31, 2018 was as follows (in thousands):

2019	$10,499
2020	8,978
2021	7,114
2022	7,055
2023	6,800
Thereafter	15,001
	$55,447

NOTE 9—Income Taxes

The components of the provision for income taxes were as follows:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Current			
Federal	$—	$156	$9,428
State	343	305	1,664
	343	461	11,092
Deferred			
Federal	(5,845)	(11,793)	7,124
State	(2,273)	3,876	614
	(8,118)	(7,917)	7,738
Income tax provision (benefit)	$(7,775)	$(7,456)	$18,830

The provision for income taxes differed from the amount of income taxes determined by applying the U.S. statutory federal income tax rate as follows:

	Year Ended December 31,		
	2018	2017	2016
Tax at federal statutory rate	21 %	35 %	35 %
State taxes, net of federal benefit	(8)	7	4
Excess tax benefits related to stock-based compensation	(49)	(35)	1
Research and development tax credits	(38)	(12)	(6)
Remeasurement of net deferred tax liabilities arising from the Tax Act	8	(19)	—
Non-deductible items	15	4	—
Other	(2)	4	(1)
Income tax provision (benefit)	(53)%	(16)%	33 %

The components of net deferred tax assets (liabilities) were as follows:

	December 31,	
	2018	2017
	(in thousands)	
Deferred tax assets		
Research and development credits	$39,877	$29,461
Stock-based compensation	7,170	8,765
Reserves and accruals	(798)	5,894
Net operating loss carryforwards	27,257	16,422
Total deferred tax assets	73,506	60,542
Valuation allowance	(16,335)	(11,908)
Total deferred tax assets, net of valuation allowance	57,171	48,634
Deferred tax liabilities		
Depreciation and amortization	(51,318)	(50,360)
Book/tax basis in acquired assets	(1,685)	(1,360)
Total deferred tax liabilities	(53,003)	(51,720)
Net deferred tax assets (liabilities)	$4,168	$(3,086)

The Company continues to maintain a valuation allowance against the deferred tax assets related to certain state research and development tax credits, the realization of which is uncertain as the Company expects to generate additional credits at a faster rate than the ability to utilize them. The valuation allowance increased by $4.4 million, $6.8 million, and $1.2 million in 2018, 2017, and 2016, respectively.

As of December 31, 2018, the Company had a gross federal net operating loss ("NOL") carryforwards of $110.7 million, available to reduce future taxable income, and $69.2 million of state NOL carryforwards. These federal and state NOL carryforwards will begin to expire commencing 2029 and 2020, respectively.

As of December 31, 2018, the Company also had federal and state research and development tax credit carryforwards of $29.6 million and $27.4 million, respectively. The federal tax credit carryforwards begin to expire commencing in 2020. The state tax credit carryforwards may be carried forward indefinitely.

The SEC staff issued SAB 118, which provides guidance on accounting for the tax effects of the Tax Act. SAB 118 provides a measurement period, that should not extend beyond one year from the Tax Act enactment date, for companies to complete the accounting for the Tax Act under ASC 740, Income Taxes. In December 2018, the Company finalized its accounting for the Tax Act. Adjustments included an additional $1.2 million tax expenses recorded in September, 2018 for the remeasurement of our deferred tax assets related to Velocify acquisition.

Unrecognized Tax Benefits

At December 31, 2018, the Company had $12.7 million of cumulative unrecognized tax benefits. If the benefits were to be recognized, $6.8 million would affect the effective tax rate and $5.9 million would reverse the valuation allowance against the deferred tax assets. The Company does not expect a significant change to its unrecognized tax benefits over the next twelve months.

A reconciliation of the beginning and ending balance of gross unrecognized tax benefits is as follows for the periods indicated:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Beginning balance	$10,028	$4,634	$3,440
Additions based on tax positions related to the current year	2,440	5,420	1,334
Additions (reductions) based on tax positions related to prior years including acquisitions	236	(26)	(140)
Ending balance	$12,704	$10,028	$4,634

The Company files income tax returns in the U.S. federal jurisdiction and various state jurisdictions. The Company's tax years for 2000 and forward are subject to examination by the U.S. tax authorities and for 2000 and forward are subject to examination by the California tax authorities due to the carryforward of unutilized net operating losses and research and development credits.

The Company believes that it has provided adequate reserves for its income tax uncertainties in all open tax years, and that it does not have any tax positions that it is reasonably possible would materially increase or decrease the gross unrecognized tax benefits within the next twelve months.

The Company has a policy to classify accrued interest and penalties associated with uncertain tax positions together with the related liability. The expenses incurred related to such accruals are included in the provision for income taxes. The Company did not incur any interest expense or penalties associated with unrecognized tax benefits during the years ended December 31, 2018, 2017, and 2016.

NOTE 10—Commitments and Contingencies

Leases

The Company leases facilities space, which includes offices and data centers, under non-cancelable operating lease agreements with expiration dates ranging from 2019 to 2025. The agreements contain escalation clauses calling for increased rents, which could increase future minimum lease payments if exercised. The Company recognizes rent expense on a straight-line basis over the lease period and has recorded deferred rent for the difference between rent payments and rent expense recognized. Rent expense was $14.7 million, $10.6 million, and $7.8 million for the years ended December 31, 2018, 2017, and 2016, respectively.

Future minimum lease payments under non-cancelable operating and capital leases at December 31, 2018 consisted of the following:

	Capital Leases	Operating Leases
	(in thousands)	
2019	$141	$ 14,553
2020	97	14,066
2021	57	11,306
2022	13	11,484
2023	—	11,123
Thereafter	—	23,240
Total minimum lease payments	308	85,772
Less amount representing interest	(20)	
Present value of minimum lease payments	288	
Less current portion	(129)	
Long-term portion of lease obligations	$159	

Purchase Commitments

Commitments for the purchase of services, licenses of third-party software, and construction commitments totaled $57.9 million at December 31, 2018 and are to be paid as follows: $32.3 million in 2019, $25.5 million in 2020, and less than $0.1 million in 2021.

Legal Proceedings

From time to time, the Company is involved in litigations that it believes are of the type common to companies engaged in its line of business, including commercial and employment disputes. As of the date of this Annual Report on Form 10-K, the Company is not involved in any pending legal proceedings whose outcome the Company expects to have a material adverse effect on its financial position, results of operations, or cash flows.

NOTE 11—Equity and Stock Incentive Plans

Stockholders' Equity

Common Stock

The amended and restated certificate of incorporation of the Company authorizes 140,000 thousand shares of common stock, $0.0001 par value per share and 10,000 thousand shares of undesignated preferred stock, $0.0001 par value per share.

The following number of shares of common stock were reserved and available for future issuance at December 31, 2018:

	Reserved Shares (in thousands)
Options and awards granted and outstanding under stock incentive plans	2,591
Shares available for future grant under the stock incentive plans	6,445
Shares available under the employee stock purchase plan	1,797
Total	10,833

Stock Offering

In August 2016, the Company completed a public offering of common stock and sold a total of 3,163 thousand shares of its common stock for total cash proceeds of approximately $271.4 million, net of underwriting discounts, and offering costs and expenses of approximately $13.2 million.

Stock Repurchase Program

In May 2014, the Company's board of directors approved a repurchase program under which the Company is authorized to repurchase up to $75.0 million of its common stock over a 36-month period. All shares are retired upon repurchase. This program ended in May 2017.

In August 2017, the Company's audit committee, under the authority delegated to it by the Company's board of directors, approved a new stock repurchase program under which the Company is authorized to repurchase up to $250.0 million of its common stock. This authorization expires in August 2020. All shares are retired upon repurchase.

The Company repurchased the following shares of common stock under its repurchase programs:

	Shares Repurchased	Weighted Average Purchase Price per Share	Total Amount
	(in thousands)		(in thousands)
Year Ended 2018	159	$ 92.62	$ 14,740
Year Ended 2017	401	$ 87.85	$ 35,244
Year Ended 2016	8	$ 79.62	$ 663

Share-based Compensation

The Company recognized stock-based compensation expense related to awards granted under the 2009 Plan, the 2011 Plan, and ESPP.

2009 Stock Option and Incentive Plan and 2011 Equity Incentive Award Plan

Stock Options

In March 2011, the Company adopted the 2011 Plan, which was approved by the Company's stockholders on March 24, 2011. Under the 2011 Plan, 2,667 thousand shares of the Company's common stock were initially reserved. Any shares of common stock that were available for issuance under prior plans, including the 2009 Plan, were transferred to the 2011 Plan. As of December 31, 2018, the Company had 988 thousand shares of its common stock previously available for issuance under the 2009 Plan available for issuance under the 2011 Plan. The majority of stock options issued under the plan have a maximum contractual term of ten years, the options generally vest over a

four-year period.

The number of common shares reserved for issuance under the 2011 Plan increase automatically in January of each year by the least of (a) 1,667 thousand shares, (b) five percent (5%) of the shares of common stock outstanding on the last day of the immediately preceding fiscal year and (c) such smaller number of shares of common stock as determined by the Company's board of directors; provided, however that no more than 23,333 thousand shares of common stock may be issued upon the exercise of incentive stock options.

The following table summarizes the Company's stock option activity under the 2009 Plan and 2011 Plan:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
	(in thousands)		(in years)	(in thousands)
Outstanding at December 31, 2015	2,515	$ 24.40		
Granted	15	$ 59.78		
Exercised	(585)	$ 18.08		
Forfeited or expired	(60)	$ 37.94		
Outstanding at December 31, 2016	1,885	$ 26.21		
Granted	7	$ 94.66		
Exercised	(432)	$ 23.61		
Forfeited or expired	(24)	$ 40.94		
Outstanding at December 31, 2017	1,436	$ 27.06		
Granted	5	$ 92.28		
Exercised	(348)	$ 21.86		
Forfeited or expired	(7)	$ 48.44		
Outstanding at December 31, 2018	1,086	$ 28.87	4.53	$ 37,515
Ending vested and expected to vest at December 31, 2018	1,086	$ 28.86	4.53	$ 37,515
Exercisable at December 31, 2018	1,054	$ 27.68	4.47	$ 37,407

The aggregate intrinsic value of the stock options outstanding at December 31, 2018 based on the Company's closing stock price of $62.83 is presented above. Intrinsic value of an option is the difference between the fair value of the Company's common stock at the time of exercise and the exercise price to be paid. Options outstanding that are expected to vest are net of estimated future forfeitures. For the majority of stock options outstanding, the options vest over a four-year period and have a maximum contractual term of ten years.

Following is additional information pertaining to the Company's stock option activity:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands, except for per option data)		
Weighted average fair value per option granted	$43.08	$45.44	$27.57
Grant-date fair value of options vested	$3,261	$4,994	$8,577
Intrinsic value of options exercised	$25,837	$31,621	$39,040
Proceeds received from options exercised	$7,600	$10,208	$10,573

As of December 31, 2018, total unrecognized stock-based compensation expense related to unvested stock options, adjusted for estimated forfeitures, was $0.9 million and is expected to be recognized over a weighted average period of 1.04 years.

Restricted Stock Units, Performance Shares, and Performance-Vesting Restricted Stock Units

RSUs generally vest over four years. Upon vesting, RSUs convert into an equivalent number of shares of common stock.

Performance shares and performance-vesting RSUs are granted to certain executives under the 2011 Plan, which represent common stock potentially issuable in the future. Performance shares and units generally have a one year performance period, and vest over four years if the targets are achieved. Vested shares may range from 0 percent

to 200 percent of the target award amount. During the fiscal years ended December 31, 2018, 2017, and 2016, the Company recognized $5.5 million, $5.8 million, and $8.3 million of compensation expense, respectively, related to these performance shares and units.

The following table summarizes the Company's RSU, performance share, and performance-vesting RSU activity:

	RSUs		Performance shares and performance-vesting RSUs	
	Number of Shares	Weighted Average Grant Date Fair Value Per Share	Number of Shares	Weighted Average Grant Date Fair Value Per Share
	(in thousands)		(in thousands)	
Outstanding at December 31, 2015	749	$ 45.52	508	$ 34.68
Granted	598	$ 78.39	152	$ 61.69
Released	(240)	$ 42.48	(239)	$ 29.34
Forfeited or expired	(82)	$ 57.50	(13)	$ 68.19
Outstanding at December 31, 2016	1,025	$ 64.47	408	$ 46.77
Granted	652	$ 97.73	43	$ 94.66
Released	(355)	$ 57.37	(151)	$ 40.73
Forfeited or expired	(143)	$ 82.25	(6)	$ 84.86
Outstanding at December 31, 2017	1,179	$ 82.84	294	$ 56.17
Granted	768	$ 94.15	94	$ 92.28
Released	(405)	$ 74.14	(161)	$ 46.26
Forfeited or expired	(211)	$ 89.67	(53)	$ 77.52
Outstanding at December 31, 2018	1,331	$ 90.93	174	$ 78.32
Ending vested and expected to vest at December 31, 2018	1,178		174	

RSUs, performance shares, and performance-vesting RSUs that are expected to vest are presented net of estimated future forfeitures. RSUs released during the years ended December 31, 2018, 2017, and 2016 had an aggregate intrinsic value of $38.5 million, $36.0 million, and $20.1 million, respectively, and an aggregate grant-date fair value of $30.1 million, $20.4 million, and $10.2 million, respectively. Performance shares and performance-vesting RSUs released during the years ended December 31, 2018, 2017, and 2016 had an aggregate intrinsic value of $13.8 million, $14.2 million, and $21.8 million, respectively, and an aggregate grant-date fair value of $7.5 million, $6.1 million, and $7.0 million respectively. The number of RSUs released includes shares that the Company withheld on behalf of employees to satisfy the minimum statutory tax withholding requirements.

As of December 31, 2018, total unrecognized compensation expense related to unvested RSUs, performance shares, and performance-vesting RSUs, adjusted for estimated forfeitures, was $89.4 million and is expected to be recognized over a weighted average period of 2.58 years.

Executive Incentive Plan

On March 14, 2016, the Compensation Committee adopted the Ellie Mae, Inc. Executive Incentive Plan (the "Executive Incentive Plan"). The Executive Incentive Plan was approved by the Company's stockholders on May 25, 2016. The Executive Incentive Plan has a term of five years from the date of approval by the stockholders, expiring May 25, 2021, and may be terminated, amended or suspended by the Compensation Committee at any prior time, and may also be reinstated. The Company issued cash bonus and performance-based equity awards under the Executive Incentive Plan to the Company's executive officers in 2017. Shares underlying equity awards from the Executive Incentive Plan are issued from the Company's 2011 Plan. The equity awards have the following limitations:

Stock Option Limitations. The maximum number of shares that may be granted as an incentive stock option under the Executive Incentive Plan is 70 million. No participant will be eligible to receive a stock option covering more than 1 million shares in any calendar year.

Performance Units/Performance Share Limitations. No participant will be eligible to receive performance units or performance shares having a grant date value (assuming maximum payout) greater than $10.0 million or covering

more than 1 million shares, whichever is greater, in any calendar year; provided, however, that in connection with a participant's initial service as an employee, during the calendar year in which such participant commences employment with the Company, the preceding limitations shall be doubled.

Due to changes in the deductibility of executive compensation under the Tax Act, the Company ceased granting cash bonus and performance-based equity awards under the Executive Incentive Plan beginning in 2018.

Employee Stock Purchase Plan

Under the ESPP, qualified employees are permitted to purchase the Company's common stock at 85% of the fair market value of the common stock as of the commencement date of the offering period or as of the specified purchase date, whichever is lower. The ESPP is deemed compensatory and stock-based compensation is recognized in accordance with ASC 718, Stock Compensation. The ESPP is designed to allow eligible employees to purchase shares of common stock, at semi-annual intervals, with their accumulated payroll deductions.

The weighted-average grant-date fair value of awards issued pursuant to the ESPP during the years ended December 31, 2018, 2017, and 2016 was $21.96, $23.01, and $24.11 per share, respectively.

For the years ended December 31, 2018, 2017, and 2016, employees purchased 160 thousand, 121 thousand, and 102 thousand shares under the ESPP for a total of $11.8 million, $9.1 million, and $6.7 million, respectively. As of December 31, 2018, unrecognized compensation cost related to the current semi-annual ESPP period which ends on February 28, 2019 was approximately $0.7 million and is expected to be recognized over the first two months of 2019.

Valuation Information

The fair value of stock options and stock purchase rights granted under the 2009 Plan, the 2011 Plan and the ESPP was estimated at the date of grant using the Black-Scholes option valuation model with the following weighted average assumptions:

	Year Ended December 31,		
	2018	2017	2016
Stock option plans:			
Risk-free interest rate	2.63%	2.04%	1.38%
Expected life of options (in years)	6.08	6.08	6.08
Expected dividend yield	—%	—%	—%
Volatility	45%	48%	47%
Employee Stock Purchase Plan:			
Risk-free interest rate	1.86-2.27%	0.46-0.69%	0.46-0.48%
Expected life of options (in years)	0.5	0.5	0.5
Expected dividend yield	—%	—%	—%
Volatility	27-28%	33-37%	33-49%

The Company uses the simplified method to estimate the expected term of options granted by taking the average of the vesting term and the contractual term of the option. The Company estimated its future stock price volatility considering its historical volatility calculations. The risk-free interest rate used was the Federal Reserve Bank's constant maturities interest rate commensurate with the expected life of the options. The expected dividend yield was zero, as the Company does not anticipate paying a dividend within the relevant time frame.

Stock-Based Compensation Expense

Total stock-based compensation expense recognized by the Company consisted of the following:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Stock-based compensation by category of expense:			
Cost of revenues	$8,758	$6,786	$4,835
Sales and marketing	7,396	5,223	4,429
Research and development	8,879	8,281	7,296
General and administrative	14,942	14,177	14,911
	$39,975	$34,467	$31,471

The Company capitalized $7.5 million, $5.3 million, and $2.8 million of stock compensation costs as internal-use software and website development costs for the years ended December 31, 2018, 2017, and 2016, respectively.

NOTE 12—Employee Benefit Plan

The Company offers a qualified 401(k) defined contribution plan to substantially all of the Company's employees. Eligible employees may contribute up to the annual amount allowed pursuant to the Internal Revenue Code. In the years ended December 31, 2018, 2017, and 2016, the Company matched 50% of each dollar of employee contribution, up to a maximum match of three percent of the employee's compensation. The Company's contributions to the 401(k) plan for the years ended December 31, 2018, 2017, and 2016 were $5.2 million, $3.9 million, and $2.8 million, respectively, which were recognized as expense in the statements of comprehensive income.

NOTE 13—Quarterly Results of Operations Data (Unaudited)

	Three Months Ended							
	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018	December 31, 2017	September 30, 2017	June 30, 2017	March 31, 2017
	(in thousands, except per share amounts)							
Revenues	$116,046	$ 122,965	$125,473	$115,782	$ 112,886	$ 107,029	$104,125	$ 93,002
Gross profit	$66,849	$ 71,693	$74,664	$67,135	$ 64,614	$ 67,426	$65,858	$ 58,234
Income before income taxes	$414	$ 12,297	$6,753	$(4,664)	$ 3,417	$ 18,984	$17,987	$ 5,006
Net income	$84	$ 12,416	$9,814	$261	$ 9,909	$ 14,519	$18,823	$ 9,599
Net income per share, basic	$—	$ 0.36	$0.29	$0.01	$ 0.29	$ 0.42	$0.55	$ 0.28
Net income per share, diluted	$—	$ 0.35	$0.27	$0.01	$ 0.28	$ 0.41	$0.52	$ 0.27

NOTE 14—Subsequent Event

On February 11, 2019, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") with EM Eagle Purchaser, LLC, a Delaware limited liability corporation ("Parent") and EM Eagle Merger Sub, a Delaware corporation and a wholly owned subsidiary of Parent ("Merger Sub"), which provides for the acquisition of the Company by private equity investment firm Thoma Bravo, LLC (the "Transaction"). Upon the closing of the Transaction, the Company will operate as a privately-held company. Parent and Merger Sub were formed by an affiliate of Thoma Bravo. Capitalized terms used in this Note not otherwise defined have the meanings set forth in the Merger Agreement.

Under the terms of the agreement, the Company's stockholders will receive $99.00 per share in cash in a transaction that valued the Company at approximately $3.7 billion. The Transaction is currently expected to close in the second or third quarter of 2019, subject to approval by the Company's stockholders and regulatory authorities and the satisfaction of customary closing conditions. The Transaction is not subject to a financial condition.

The Merger Agreement provides for a "go-shop" period that begins on the date of the Merger Agreement and continues until 12:00 p.m., Pacific time on March 18, 2019. During this period, the Company may solicit alternative acquisition proposals from third parties and provide information to, and participate in discussions and engage in negotiations with, third parties regarding any alternative acquisition proposals. There can be no assurance that this "go-shop" period will result in a superior proposal. The Company does not intend to disclose developments about the "go-shop" process unless and until its Board has made a decision with respect to any potential superior proposal.

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNT

FOR THE YEARS ENDED DECEMBER 31, 2018, 2017, and 2016

(in thousands)

	Balance at Beginning of Period	Charged (Credited) to Income	Deductions and Other[(a)]	Balance at End of Period
Allowance for Doubtful Accounts:				

Year ended December 31, 2018	$ 340	$ 957	$ (859)	$ 438
Year ended December 31, 2017	$ 45	$ 374	$ (79)	$ 340
Year ended December 31, 2016	$ 124	$ 121	$ (200)	$ 45

[(a)] Accounts written off, net of recoveries.

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

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2018. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Based on the evaluation of our disclosure controls and procedures as of December 31, 2018, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were not effective because of the material weakness in internal control over financial reporting described below, which we view as an integral part of our disclosure controls and procedures.

Management Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act.

Management assessed our internal control over financial reporting as of December 31, 2018. Management based its assessment on criteria established in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Management's assessment included evaluation of elements such as the design and operating effectiveness of key financial reporting controls, process documentation, accounting policies, and our overall control environment.

Based on management's assessment, they have concluded that our internal control over financial reporting was not effective as of the end of the fiscal year to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with U.S. GAAP because of the material weakness described below:

During the third quarter of fiscal year 2018, we identified a material weakness in our controls related to the adoption of ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606). The following deficiencies primarily contributed to management's assessment:

- We determined that we did not design controls that adequately constrained the variable consideration that is estimated and included in the transaction price for certain customer subscriptions to our Encompass software, such that, at the time we adopted Topic 606, it was probable that a significant revenue reversal would not occur,
- The processes and controls relating to the costs to obtain contracts were not sufficient to identify certain third-party costs to obtain contracts which should have been recorded to our opening balances upon adoption of Topic 606.

The material weakness described above resulted in the restatement of our condensed consolidated financial statements for the quarters ended March 31, 2018 and June 30, 2018.

Our independent registered public accounting firm, Grant Thornton LLP, independently assessed the effectiveness of the company's internal control over financial reporting, as stated in their attestation report, which is included in Part II, Item 8 of this Form 10-K.

Management's Plan for Remediation of Material Weakness

Management has implemented or is in the process of implementing the following planned actions to address the material weakness described above:

a) supplementing the accounting and finance function with additional subject matter expertise on complex accounting matters related to Topic 606,

b) supplemental procedures to review and ensure the adequacy of the constraint on the variable consideration included in the transaction price for certain customer subscriptions to our Encompass software, such that, it is probable that a significant reversal will not occur,

c) supplemental procedures to ensure the completeness of our evaluation of third-party agreements that may be within the scope of costs to obtain or fulfill a contract.

Changes in Internal Control Over Financial Reporting

As described above, we have begun to implement changes to our controls and procedures to address the material weakness in our internal controls over financial reporting. Other than the changes noted above, there have been no changes in our internal control over financial reporting during the three months ended December 31, 2018, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information under the captions “Election of Directors” and “Section 16(a) Beneficial Ownership Reporting Compliance” in our 2019 Proxy Statement is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information under the captions “Election of Directors,” “Director Compensation,” “Compensation Discussion and Analysis” and “Report of the Compensation Committee of the Board of Directors on Executive Compensation” in our 2019 Proxy Statement is incorporated herein by reference.

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

The information under the captions “Security Ownership of Certain Beneficial Owners and Management” and “Equity Compensation Plan Information” in our 2019 Proxy Statement is incorporated herein by reference.

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

The information under the captions “Election of Directors” and “Certain Relationships and Related Transactions” in our 2019 Proxy Statement is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information under the caption “Ratification of Selection of Independent Registered Public Accounting Firm” in our 2019 Proxy Statement is incorporated herein by reference.

With the exception of the information specifically incorporated by reference in Part III to this Annual Report on Form 10-K from our 2019 Proxy Statement, our 2019 Proxy Statement shall not be deemed to be filed as part of this report.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) (1) Financial Statements—The financial statements filed as part of this report are listed on the Index to Financial Statements in Item 8.

(2) Financial Statement Schedules—The financial statement schedules filed as part of this report are listed on the Index to Financial Statements in Item 8.

(b) Exhibits. The following exhibits are filed with or incorporated by reference into this Annual Report.

Exhibit Number	Description of Document	Incorporated by Reference Form	Date	Number	Filed Herewith
2.1	Agreement and Plan of Merger, dated August 31, 2017, by and among Ellie Mae, Inc., Victory Merger Sub, Inc., Velocify, Inc. and Fortis Advisors LLC, as the Representative.	8-K	8/31/2017	2.1	
2.2	Agreement and Plan of Merger, dated February 11, 2019, by and among EM Eagle Purchaser LLC, a Delaware limited liability company, EM Eagle Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of EM Eagle Purchaser, LLC, and Ellie Mae, Inc., a Delaware corporation.	8-K	2/12/2019	2.1	
3.1	Amended and Restated Certificate of Incorporation of Ellie Mae, Inc.	10-Q	8/5/2015	3.1	
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation of Ellie Mae, Inc. dated May 18, 2018	8-K	5/22/2018	3.1	
3.3	Amended and Restated Bylaws of Ellie Mae, Inc.	8-K	5/22/2018	3.2	
4.1	Form of Ellie Mae, Inc.'s Common Stock Certificate.	S-1/A	2/17/2011	4.1	
4.2	Form of Indenture.	S-3ASR	8/1/2016	4.2	
10.1	Lease, dated as of July 17, 2014, by and between Ellie Mae, Inc. and SFI PLEASANTON, LLC.	10-Q	11/6/2014	10.2	
10.2±	Form of Indemnification Agreement by and between Ellie Mae, Inc. and each of its directors and executive officers.	S-1/A	8/5/2010	10.3	
10.3±	Form of Change of Control Severance Agreement between Ellie Mae, Inc. and each of its executive officers.	10-K	3/2/2015	10.5	
10.4±	Fourth Amended and Restated Employment Agreement, dated as of January 5, 2015, by and between Ellie Mae, Inc. and Sigmund Anderman.	8-K	1/5/2015	10.1	
10.5±	Employment Agreement, dated as of January 5, 2015, by and between Ellie Mae, Inc. and Jonathan H. Corr.	8-K	1/5/2015	10.2	
10.6±	Board of Directors Offer Letter with Marina Levinson, dated as of August 22, 2014.	10-Q	11/6/2014	10.5	

84

10.7±	Ellie Mae, Inc. 2009 Stock Option and Incentive Plan, including the form of stock option agreement.	S-1	4/30/2010	10.2
10.8±	Amendment to the Ellie Mae, Inc. 2009 Stock Option and Incentive Plan, effective April 15, 2010.	S-1/A	2/17/2011	10.24
10.9±	Amendment to the Ellie Mae, Inc. 2009 Stock Option and Incentive Plan, effective September 16, 2010.	S-1/A	2/17/2011	10.25
10.10±	Ellie Mae, Inc. 2011 Equity Incentive Award Plan.	S-8	5/25/2011	10.5
10.11(a)±	Form of Stock Option Grant Notice and Stock Option Agreement for Awards under the Ellie Mae, Inc. 2011 Equity Incentive Award Plan (used until January 1, 2015).	S-8	5/25/2011	10.6
10.11(b)±	Form of Stock Option Grant Notice and Stock Option Agreement for Awards under the Ellie Mae, Inc. 2011 Equity Incentive Award Plan (used for employees who are not executive officers beginning January 1, 2015).	S-8	2/10/2015	10.2(b)
10.11(c)±	Form of Stock Option Grant Notice and Stock Option Agreement for Awards under the Ellie Mae, Inc. 2011 Equity Incentive Award Plan (used for executive officers and directors beginning January 1, 2015).	S-8	2/10/2015	10.2(c)
10.11(d)±	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement for Awards under the Ellie Mae, Inc. 2011 Equity Incentive Award Plan (used until January 1, 2015).	S-8	5/25/2011	10.7
10.11(e)±	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement for Awards under the Ellie Mae, Inc. 2011 Equity Incentive Plan (used for employees who are not executive officers beginning January 1, 2015).	S-8	2/10/2015	10.3(b)
10.11(f)±	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement for Awards under the Ellie Mae, Inc. 2011 Equity Incentive Plan (used for executive officers and directors beginning January 1, 2015).	S-8	2/10/2015	10.3(c)
10.12±	Ellie Mae, Inc. Employee Stock Purchase Plan.	S-8	5/25/2011	10.8
10.13(a)±	Ellie Mae, Inc. 2013 Senior Executive Performance Share Program.	10-Q	5/7/2013	10.1
10.13(b)±	Form of Notice of Grant of and Grant Agreement for Performance Shares for Senior Executives under the Ellie Mae, Inc. 2013 Senior Executive Performance Share Program and Ellie Mae, Inc. 2011 Equity Incentive Award Plan.	10-Q	5/7/2013	10.2
10.14(a)±	Ellie Mae, Inc. 2014 Senior Executive Performance Share Program.	10-K	3/14/2014	10.20
10.14(b)±	Form of Notice of Grant of and Grant Agreement for Performance Shares for Senior Executives under the Ellie Mae, Inc. 2014 Senior Executive Performance Share Program and Ellie Mae, Inc. 2011 Equity Incentive Award	10-K	3/14/2014	10.21

Plan.

85

10.15±	Non-Employee Director Equity Compensation Policy.	8-K	6/6/2016	10.1
10.16±	Amended and Restated 2015 Senior Executive Performance Share Program, dated as of March 23, 2015.	10-Q	5/7/2015	10.3
10.17±	Promotion Letter with Cathleen Schreiner Gates, dated as of March 23, 2015.	10-Q	5/7/2015	10.4
10.18±	Promotion Letter with Joseph Tyrrell, dated as of March 23, 2015.	10-Q	5/7/2015	10.5
10.19±	Board of Directors Offer Letter with Rajat Taneja, dated May 15, 2015.	10-Q	8/5/2015	10.1
10.20±	Board of Directors Offer Letter with Karen Blasing, dated May 15, 2015.	10-Q	8/5/2015	10.2
10.21±	Offer Letter, dated as of June 2, 2015, by and between Ellie Mae, Inc. and Pete Hirsch.	10-Q	8/5/2015	10.4
10.22	First Amendment to Lease, dated as of July 9, 2015, by and between Ellie Mae, Inc. and SFI Pleasanton, LLC.	10-Q	8/5/2015	10.5
10.23(a)±	2016 Senior Executive Performance Share Program.	10-Q	5/5/2016	10.1
10.23(b)±	Form of Notice of Grant of and Grant Agreement for Performance Shares for Senior Executives under the Ellie Mae, Inc. 2016 Senior Executive Performance Share Program and Ellie Mae, Inc. 2011 Equity Incentive Award Plan.	10-Q	5/5/2016	10.2
10.24±	Executive Incentive Plan	DEF14A	4/7/2016	App. A
10.25	Second Amendment to Lease, dated as of July 21, 2016, by and between Ellie Mae, Inc. and SFI Pleasanton, LLC.	10-Q	11/1/2016	10.2
10.26±	Promotion Letter with Brian Brown, dated as of February 10, 2016.	10-K	2/21/2017	10.30
10.27±	Executive Transition Agreement, by and between Ellie Mae, Inc. and Limin Hu, effective as of December 1, 2016.	10-K	2/21/2017	10.31
10.28±	2017 Senior Executive Performance Share Program.	10-Q	5/1/2017	10.1
10.29±	Form of Notice of Grant of and Grant Agreement for Performance Shares for Senior Executives under the Ellie Mae, Inc. 2017 Senior Executive Performance Share Program and Ellie Mae, Inc. 2011 Equity Incentive Award Plan.	10-Q	5/1/2017	10.2
10.30±	Executive Transition Agreement by and between Ellie Mae, Inc. and Edgar Luce, dated as of March 9, 2017.	10-Q	5/1/2017	10.3
10.31±	Form of Notice of Grant and Grant Agreement of 2018 Performance Shares for Senior Executives under the Ellie Mae, Inc. 2011 Equity Incentive Award	10-Q	5/9/2018	10.1

Plan.

10.32±	Offer letter, dated as of January 10, 2018, by and between Ellie Mae, Inc. and Carina Cortez.	10-Q	5/9/2018	10.2	
10.33±	Separation Agreement, by and between Ellie Mae, Inc. and Matthew LaVay, dated June 19, 2018.	10-Q	8/7/2018	10.1	
10.34±	Separation Agreement, by and between Ellie Mae, Inc. and Peter Hirsch, dated November 16, 2018.				X
10.35±	Offer Letter, dated as of November 19, 2018, by and between Ellie Mae, Inc. and Daniel Madden.				X
21.1	List of subsidiaries.				X
23.1	Consent of Grant Thornton LLP, Independent Registered Public Accounting Firm.				X
24.1	Power of Attorney (included on signature page to this Annual Report on Form 10-K).				X
31.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934 as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934 as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
32.1*	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
32.2*	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
101.INS	XBRL Instance Document				X
101.SCH	XBRL Taxonomy Extension Schema Document				X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document				X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document				X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document				X

87

* Exhibits 32.1 and 32.2 are being furnished and shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liability of that section, nor shall such exhibits be deemed to be incorporated by reference in any registration statement or other document filed under the Securities Act of 1933, as amended, or the Exchange Act, except as otherwise specifically stated in such filing.

± Indicates management contract or compensatory plan, contract or arrangement.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or Section 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.

ELLIE MAE, INC.

Date: March 1, 2019 By: /s/ Daniel Madden
Daniel Madden
Executive Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer and duly authorized signatory)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose individual signature appears below hereby authorizes and appoints Jonathan Corr and Daniel Madden, and each of them, with full power of substitution and resubstitution and full power to act without the other, as his or her true and lawful attorney-in-fact and agent to act in his or her name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated below, and to file 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 attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing, ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his substitute or substitutes 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/ Jonathan Corr Jonathan Corr	Chief Executive Officer and Director (Principal Executive Officer)	March 1, 2019
/s/ Daniel Madden Daniel Madden	Executive Vice President and Chief Financial Officer (principal financial and accounting officer)	March 1, 2019
/s/ Sigmund Anderman Sigmund Anderman	Executive Chairman and Director	March 1, 2019
/s/ Karen Blasing Karen Blasing	Director	March 1, 2019
/s/ Carl Buccellato Carl Buccellato	Director	March 1, 2019
/s/ Craig Davis Craig Davis	Director	March 1, 2019
/s/ A. Barr Dolan A. Barr Dolan	Director	March 1, 2019
/s/ Robert J. Levin Robert J. Levin	Director	March 1, 2019
/s/ Marina Levinson Marina Levinson	Director	March 1, 2019
/s/ Jeb Spencer Jeb Spencer	Director	March 1, 2019
/s/ Rajat Taneja Rajat Taneja	Director	March 1, 2019