ZIX CORP
Form 10-K
March 08, 2019

United States

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission File Number: 0-17995

Zix Corporation

(Exact Name of Registrant as Specified in its Charter)

Texas	75-2216818
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification Number)

2711 N. Haskell Avenue, Suite 2200, LB 36, Dallas, Texas 75204-2960

(Address of Principal Executive Offices)

(214) 370-2000

(Registrant’s Telephone Number, Including Area Code)

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

Title of each class of stock	Name of each exchange on which registered
Common Stock $0.01 Par Value	NASDAQ

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

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

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

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

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such reports) Yes No

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

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

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

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

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

As of March 6, 2019, there were 54,089,273 shares of Zix Corporation $0.01 par value common stock outstanding. As of June 30, 2018, the aggregate market value of the shares of Zix Corporation common stock held by non-affiliates was $289,258,242.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's 2019 Proxy Statement are incorporated by reference into Part III of this Form 10-K.

TABLE OF CONTENTS

	PART I	
Item 1.	Business	3
Item 1A.	Risk Factors	9
Item 1B.	Unresolved Staff Comments	22
Item 2.	Properties	22
Item 3.	Legal Proceedings	22
Item 4.	Mine Safety Disclosures	22
	PART II	
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	23
Item 6.	Selected Financial Data	25
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	26
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	37
Item 8.	Financial Statements and Supplementary Data	37
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	37
Item 9A.	Controls and Procedures	38
Item 9B.	Other Information	41
	PART III	
Item 10.	Directors, Executive Officers and Corporate Governance	42
Item 11.	Executive Compensation	42
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	42
Item 13.	Certain Relationships and Related Transactions, and Director Independence	42
Item 14.	Principal Accountant Fees and Services	42
	PART IV	
Item 15.	Exhibits and Financial Statement Schedules	43
Item 16.	Form 10-K Summary	46

PART I

Item 1. Business

Zix Corporation (“Zix®,” the “Company,” “we,” “our,” or “us”) is a leader in email security. Trusted by the nation’s most influential institutions in healthcare, finance, and government, Zix delivers a superior experience and easy-to-use solutions for email encryption, data loss prevention (“DLP”), advanced threat protection, archiving, and bring your own device (“BYOD”) mobile security. Focusing on the protection of business communication, Zix enables its customers to better secure data and meet compliance needs. We primarily serve organizations in the healthcare, financial services, insurance and government sectors, including U.S. federal financial regulators, such as members of the Federal Financial Institutions Examination Council (“FFIEC”), divisions of the U.S. Treasury, the U.S. Securities and Exchange Commission (“SEC”), more than 30% of U.S. banks, more than 30% of Blue Cross Blue Shield plans and more than 1,200 U.S. hospitals.

ZixEncrypt℠ (formerly ZixGateway® and ZixQuarantine®) bundles email encryption and DLP capabilities to enable the secure exchange of email that includes sensitive information. Through a comprehensive secure messaging service, ZixEncrypt allows an enterprise to use policy-driven rules to determine which email messages should be sent securely or quarantined for review to comply with regulations or company-defined policies.

The main differentiation for Zix Encrypt in the marketplace is our exceptional ease of use. The best example of this is our ability to provide transparent delivery of encrypted email. Most email encryption solutions are focused on the sender. They typically introduce an added burden on recipients, often requiring additional user authentication with creation of new user identity and password. We designed our solution to alleviate the recipient’s burden by enabling the delivery of encrypted email automatically and transparently. Zix enables transparent delivery by (1) ZixDirectory®, the world’s largest email encryption community, which is designed to share identities of our tens of millions of members (growing by approximately 160,000 members per week), (2) Zix’s patented Best Method of Delivery®, which is designed to deliver email in the most secure, most convenient method possible for the recipient, and (3) ZixEncrypt, which automatically encrypts and decrypts messages with sensitive content. The result is secure, transparent encrypted email, such that secure email can be exchanged without any impact to administrators or extra steps for both senders and recipients. Zix delivers more than 1.5 million encrypted messages on a typical business day. Of those, approximately 70% are exchanged transparently between senders and recipients.

ZixEncrypt also addresses a business’s greatest source of data loss – corporate email – with an easy straightforward DLP approach. By focusing strictly on the risks of email, ZixEncrypt simplifies DLP in comparison to other DLP solutions by decreasing complexity and costs, reducing deployment time from months to hours and minimizing impact on customer resources and workflow. In addition, Zix offers a convenient experience for both employees interacting with our solution and administrators managing the system.

ZixEncrypt enables DLP capabilities for email by combining proven policy and content scanning capabilities with quarantine functionality. The quarantine system and its intuitive interface allows administrators to (1) easily define policies and create custom lexicons for quarantining email messages, (2) conveniently manage quarantined messages using flexible searching and filtering options, (3) release or delete individual or multiple quarantined messages with one click, (4) review reports that monitor quarantine activities and trends and (5) automate custom notifications informing employees of quarantined messages.

ZixEncrypt also provides greater visibility into an organization’s data risks in email by capturing data in outbound emails and highlighting violations that trigger policy filters to encrypt or quarantine. Through our interactive, real-time interface, companies can monitor their greatest vulnerabilities, generate reports for business executives and train employees about the sensitivity of their company’s data.

ZixEncrypt is available as a hosted solution, as a multi-tenant cloud solution, or as a physical or virtual on-premises appliance.

In March 2017, Zix acquired Greenview Data Inc. (“Greenview”), an email security company. Zix’s acquisition of Greenview addresses increasing buyer demand for email security bundles by adding advanced threat protection, antivirus, anti-spam and archiving capabilities to its industry-leading email encryption. Greenview is a good fit for Zix’s business based on its employees’ expertise in email security and its emphasis on customer success, which align with Zix’s reputation for delivering industry-leading solutions and a superior experience.

Through the acquisition of Greenview, Zix launched two new solutions in April 2017 – ZixProtect and ZixArchive. ZixProtect defends organizations from zero-day malware, ransomware, phishing, CEO fraud, W-2 phishing attacks, spam and viruses in email with multi-layer filtering techniques. Accuracy in protecting organizations from email threats is increased further with automated traffic analysis, machine learning and real-time threat analysis.

ZixProtect is available as a cloud-based service in three bundles. ZixProtect Essentials includes email threat protection, impersonation defense, 0-hour malware filtering, and business email continuity to enable access to emails during service disruption; ZixProtect Plus adds policy based Content Disarm and Reconstruction with on-demand sandboxing, as well as time-of-click link defense, to provide enhanced protection against sophisticated, targeted threats; and ZixProtect Premium delivers a comprehensive email security solution by including our leading email encryption and data loss prevention with our threat protection capabilities.

ZixArchive is a low-cost, cloud-based email retention solution that easily enables user retrieval, compliance and eDiscovery. Available as a standalone or add-on solution for ZixEncrypt or ZixProtect bundles, ZixArchive includes policy-based retention, automatic indexing and flexible search capabilities for audit and legal requirements. With on-demand access through the cloud, organizations can conveniently share messages with employees, auditors and outside consultants or legal counsel, as well as revoke access when needed.

In April 2018, Zix acquired CM2.COM, Inc., d/b/a Erado ("Erado"), a unified archiving company. Erado strengthens Zix's comprehensive archiving solutions with unified archiving, supervision, security, and messaging solutions for customers that demand bundled services. Erado's long standing focus on helping its customers comply with FINRA and SEC regulations helps further strengthen Zix's offerings for customers with compliance requirements. This acquisition also expands Zix's cloud-based email archiving capabilities into more than 50 content channels, including social medial, instant message, mobile, web, audio, and video.

ZixOne® is a unique mobile email app that solves the key IT challenge created by the BYOD trend in the workplace. BYOD describes employee's use of personal devices to conduct work. ZixOne provides mobile access to corporate email while never allowing that data to be persistently stored on an employee's device where it is vulnerable to loss or theft. If the device is lost or stolen, an administrator can simply disable access to corporate email from that device through ZixOne.

ZixOne is available as a standalone solution and easily integrates with ZixEncrypt as an add-on solution. One feature of ZixOne is the ability to encrypt an email from your mobile device with the simple slide of an "Encrypt" button, ensuring that sensitive information is secured either by the user or through automatic policies of ZixEncrypt.

Unlike other BYOD solutions, ZixOne meets employee desire for convenience, control and privacy while giving companies the ability to secure corporate data and meet compliance needs. With seamless access to work email in a secure, simple-to-use environment, employees can stay productive while preserving device independence. A BYOD solution that is acceptable to employees and yet provides strong data protection for corporate data solves one of today's greatest IT management challenges.

Our business operations and service offerings are supported by the ZixData Center™, which is PCI DSS 3.2 certified for applicable services, SOC2 accredited, and SOC3 certified. The operations of the ZixData Center are independently audited annually to maintain AICPA SOC3 certification in the areas of security, confidentiality, integrity and availability. Auditors also produce a SOC2 report on the effectiveness of operational controls used over the audit period. The ZixData Center is staffed 24 hours a day and has a track record that exceeds 99.99% availability.

On February 20, 2019, Zix completed its acquisition of AppRiver, LLC ("AppRiver"), a channel-first provider of cloud-based cyber security and productivity services, offering web protection, email encryption, secure archiving, and email continuity solutions. AppRiver is a channel-first provider of cloud-based cyber security and productivity services, offering web protection, email encryption, secure archiving, and email continuity solutions. AppRiver also provides Microsoft Office 365 and Secure Hosted Exchange services, which serve as an effective lead generation tool for the company's solutions. The acquisition of AppRiver can accelerate our offerings into the cloud at the point of initial cloud application purchase. Because AppRiver currently services over 60,000 worldwide customers using a network of 4,500 Managed Service Providers, this acquisition also helps us expand our customer base.

Our company was incorporated in Texas in 1988. Originally named Amtech Corporation, we changed our name to ZixIt® Corporation in 1999 when we entered the encrypted email market. In 2002, we became Zix Corporation, and in 2017, the Company rebranded to Zix. Our executive offices are located at 2711 North Haskell Avenue, Suite 2200, LB 36, Dallas, Texas 75204-2960, (214) 370-2000.

Overview

Email is a mission-critical means of communication for enterprises. However, if email leaves a secure network environment in clear text, it can be intercepted along the path between a sender and a recipient, which permits theft, redirection, manipulation or exposure to unauthorized parties. Failure to control and manage such risks can result in enforcement penalties for noncompliance under numerous regulations, in addition to damaged reputation, competitive disadvantage, a loss of intellectual property or other corporate assets, exposure to negligence or liability claims, and diversion of resources to repair such damage. For example, healthcare organizations, business associates and sub-contractors are subject to the Privacy, Security, and Enforcement Rules of the Health

Information Portability and Accountability Act ("HIPAA") as amended by the Health Information Technology for Economic and Clinical Health Act ("HITECH Act"). Financial institutions are subject to data privacy laws including the Gramm-Leach-Bliley Act ("GLBA"). These federal laws help drive the use of encrypted email. In addition, individual states such as Massachusetts and Nevada have enacted privacy laws requiring the safeguard of personal data, and almost all states encourage email encryption by allowing exemptions from data breach notification laws.

Corporations require easy to use, cost-effective email protection that can be used on an enterprise-wide basis. They need it to be quickly deployed and regularly updated to evolve with innovative technology practices and meet changing regulatory standards. To satisfy these needs, our Email Encryption Service provides a comprehensive solution that analyzes and encrypts email communications.

Our Email Encryption Service allows a user to send encrypted email to any email user anywhere and on any Internet-enabled device. Encrypted email is delivered through the patented Best Method of Delivery protocol which automatically determines the most direct and appropriate means of delivery, based on the sender's and recipient's communications environment and preferences. The protocol supports a number of encrypted email delivery mechanisms, including S/MIME, Transport Layer Security ("TLS"), Open Pretty Good Privacy ("PGP"), "push" delivery and secure portal "pull" delivery. These last two mechanisms enable users to send messages securely to anyone with an email address, including those who do not have an encryption tool. Our Best Method of Delivery makes the technology simple for end users and provides flexibility and ease of implementation for information technology professionals. We believe the ability to send messages through different modes of delivery is one of many differentiators that makes our Email Encryption Service superior to competitive offerings.

The deployment of our Email Encryption Service at the periphery of the customer's network means our Email Encryption Service encrypts outbound email for an enterprise without the need to create, deploy or manage end user encryption keys or deploy desktop software. Our technology solutions are easy to use, easy to deploy, and can be made operational quickly.

Our service has an integrated policy management capability. This policy engine can inspect the contents of emails and apply policies matching specific industry criteria such as HIPAA, the HITECH Act and GLBA. Customers can also build their own custom policies. This policy driven email encryption for regulatory compliance means customers can reduce the training required of their staff and significantly reduce the risk of inadvertently sending sensitive content by controlling the method of delivery through preset policies.

Email is the number one communication tool for businesses and it is also one of the top vectors for cyberattacks. Attacks can jeopardize a company through malware, phishing, ransomware, business email compromise, viruses and other threats. Our advanced threat protection solution uses a multi-layer approach to accurately identify email threats and defend against email-borne attacks. Our threat filters first analyze IP addresses and URLs then examine content for targeted phrases, campaign patterns and both known and zero-hour malware attacks. Accuracy is increased further with real-time threat analysts, automated traffic analysis and machine learning.

To safeguard against increasingly targeted and sophisticated attacks, our advanced threat protection can also leverage attachment assurance and time-of-click link defense to provide enhanced protection. Attachment assurance offers quarantine and sandbox inspection of emails to perform forensic analysis of attachments in our secure, cloud-based sandbox environment. Testing efficiently handles evasive attacker techniques while fully examining files for suspicious and malicious activity. Time-of-click link defense reduces the risk of users clicking links in emails and inadvertently visiting malicious or compromised websites. This feature re-writes all full, shortened, or obfuscated links to safe versions and performs time-of-click analysis on the destination address, including IP address and domain blacklists, domain age and reputation, and other checks.

By combining our email encryption and advanced threat protection solutions, Zix meets customers' increasing desire for a bundled solution that protects inbound and outbound email with leading email security.

Competition

The most significant differentiators for Zix as compared with our competition is ease of use and exceptional support. The best example of our unequalled ease of use is transparent delivery of encrypted email messages. We are able to deliver transparent email encryption as a result of our ZixDirectory, Best Method of Delivery and ZixEncrypt. The most critical and highly differentiated component of our solution is the ZixDirectory which provides the ability to share user identities for encryption, and in turn provides frictionless interoperability between users in a community of interest such as healthcare, finance or government.

Our capability to offer interoperability is particularly important when it is necessary to communicate with external networks, as is the case with the healthcare and financial services markets. Our customers become part of the ZixDirectory, a global "white pages" enabling transparent secure communications with other ZixEncrypt customers using our centralized key management system and overall unique approach to implementing encrypted email. We enable secure communications with other users via TLS, Open PGP, "push" delivery and secure portal "pull" delivery mechanisms. However, we believe our unique transparent delivery is the more preferred delivery model.

Our exceptional support allows customers to reach Zix via phone or email 24/7/365 to address any questions or concerns. With the increasing cost and sophistication of email attacks, convenient access to our threat analysts at any time of the day provides our customers with unmatched peace of mind.

We view our primary competitors in the email security space to be Proofpoint Inc., Mimecast, and Barracuda Networks. Technically, while these companies offer advanced threat protection against email attacks and "send-to-anyone" encrypted email, we believe that Zix offers superior customer service and unparalleled benefits that come from access to the ZixDirectory, use of our Best Method of Delivery protocol, and the industry's only transparent email encryption. Nevertheless, some of these competitors are large enterprises with substantial financial and technical resources that exceed those we possess.

Regulatory Drivers

We have been successful in securing market penetration in our target vertical markets of healthcare, finance services and government primarily due to regulations that address the need for data privacy and security.

In addition to the need to protect personal data and sensitive business communication, demand for email security in the healthcare sector, including business associates of healthcare providers, is augmented by regulatory requirements under HIPAA and HITECH Act. The Privacy and Security rules under those acts provide severe penalties for violations, include strict breach notification requirements, and allow states to pursue HIPAA violations. In the financial services industry, financial institutions and their service providers are subject to the GLBA, which is enforced by the U.S. Federal Trade Commission ("FTC"). The FTC has issued guidance saying that businesses that transmit sensitive data by email should be sure to encrypt the data.

In choosing an email security provider, companies are influenced by the solutions chosen by their regulators. Our customers include all of the federal regulators that comprise the FFIEC as well as the state banking regulators in more than twenty states. Our service is also a recommended solution of the Conference of State Bank Supervisors, whose members regulate the more than 4,600 state-chartered banks in the U.S.

Additionally, state data breach laws and privacy regulations, along with highly publicized breaches, have enhanced security awareness in vertical markets outside of healthcare and financial services and have prompted affected organizations to consider adopting systems that ensure data security and privacy. Even where there are no specific regulations, businesses may require email protection to adhere to evolving industry best practices for protecting sensitive information.

Sales and Marketing

We sell our Zix Email Encryption, ZixProtect, ZixArchive, Zix DLP, and ZixOne Services through a direct sales force that focuses on larger businesses and a telesales force that focuses on small to medium-sized accounts. We also use a network of resellers and other distribution partners, including other service providers seeking an email encryption offering in an original equipment manufacturing ("OEM")-like relationship. New first year orders ("NFYOs"), defined as the twelve-month value of orders received from both new customers and from our existing customers ordering additional products or features, derived from our value-added resellers, OEM and third party distribution channels for 2018 were 43% of the total new first year orders compared to 56% in 2017. The reduction in orders received from our

OEM channels was due in part to a migration of customers from our Google relationship into a direct relationship with Zix. In both years, the balance of our NFYOs were originated by our telesales and direct sales forces. As of December 31, 2018, we had 157 value-added resellers and 97 managed security service providers across the U.S.

Employees

We had 265 employees as of December 31, 2018. The majority of our employees are located in Dallas, Texas. We also have a sales office in Burlington, Massachusetts; an office in Ann Arbor, Michigan supporting ZixProtect and ZixArchive services; and smaller offices located in Renton, Washington, and in Ottawa, Ontario, Canada.

Research and Development

We incurred research and development ("R&D") expenses of $11.3 million, $11.0 million, and $9.6 million for the twelve-month periods ended December 31, 2018, 2017, and 2016, respectively.

Over the course of 2018 we continued to make investments toward strengthening and expanding our service portfolio while aligning with customer trends toward simplification of infrastructure management through the use of cloud technologies. A new cloud platform was delivered which allows Managed Service Providers to provision and handle traffic on infrastructure run and managed by Zix. The new services and infrastructure were also extended to become the foundation for new security and compliance bundles for direct and alternative channels which include enhanced variants of core Threat Protection, Encryption, Continuity and Archiving Technologies.

In delivering new security and compliance bundles, the R&D organization materially enhanced and integrated the subsystem platforms obtained by way of acquisitions in 2017 and 2018. Web technology implementations associated with Threat Protection/Continuity and Multimedia Archive/Compliance platforms, obtained by way of acquisitions of Greenview Data and Erado respectively, were restructured to align to a new unified user experience model as were legacy Encryption subsystems and associated reporting and management capabilities. Most related services were enhanced with technologies to enable automation of customer-driven provisioning. We also completed branding and mobile-first modernization of the web interface for the encryption appliance software we acquired from Entrust Datacard and are now in the process of binding it into our Encryption Best-Method-of-Delivery framework, thus enabling on-premises message delivery portal options for our customers.

Intellectual Property

We depend upon our ability to develop, maintain and protect our proprietary technology and our related intellectual property rights. We rely on a combination of patent, trademark, trade secret and copyright law and contractual restrictions to protect the proprietary aspects of our technology and related property rights and to defend against infringement and/or misappropriation claims from others. We own 25 U.S. patents with expiration dates ranging from 2019 through 2036, and 10 pending U.S. Applications. We have a program to file applications for and obtain patents and trademarks in the United States and in specific foreign countries where we believe filing for such protection is appropriate. While intellectual property rights are generally important to our business, we do not believe that our business is dependent on any single item of intellectual property, or that any single item of intellectual property is material to the operation of our business. Rather, we believe that our intellectual property rights provide us with a competitive advantage, and from time to time we have taken steps to enforce our intellectual property rights as a means of protecting that competitive advantage.

Our Company and certain of our subsidiaries are the owners of trademarks and service marks registered with the United States Patent & Trademark Office. These marks are renewable indefinitely, contingent upon continued use and payment of applicable renewal fees. Additionally, our Company and certain of our subsidiaries own several pending trademark applications with the United States Patent & Trademark Office as well as a number of United States common law trademarks and several service marks and trademarks and service marks registered in foreign countries. We consider our trademark and service marks as valuable assets of the Company due to their recognition by our customers. We are not aware of any valid claims of infringement or challenges to our right to use any of our trademarks or service marks in the United States.

Please see generally the risks that are more fully disclosed in "Item 1A. Risk Factors" for risks related to our intellectual property.

Compliance with Environmental Regulations

We have not incurred, and do not expect to incur, any material expenditures or obligations related to environmental compliance issues.

Governmental Contracts

We have contracts with many local, state and federal agencies and regulators, which in the aggregate contributed approximately 7% of our annual revenue in 2018.

Significant Customers

In each of 2018, 2017, and 2016, no single customer accounted for 10% or more of our total revenues.

Backlog

Our backlog is comprised of contractual commitments that we expect to recognize as revenue in the future. Our backlog was $73.0 million at December 31, 2018, compared to $72.6 million at December 31, 2017.

As of December 31, 2018, our backlog is comprised of the following elements: $32.1 million of deferred revenue that has been billed and paid, $10.7 million billed but unpaid, and approximately $30.2 million of unbilled contracts.

The backlog is recognized into revenue ratably as the services are performed. Approximately 65% of our total backlog at December 31, 2018, is expected to be recognized as revenue during the next twelve months.

Seasonality

The Company typically experiences lower NFYO's in the first quarter of the calendar year. Our budget anticipates fewer NFYO's in the first quarter, but historically this has not resulted in a material impact to our revenue or earnings on a seasonal basis.

Geographic Information

Our operations are primarily based in the U.S., with approximately 4% of our employees located in Canada. Except for a United Kingdom based data center, we did not operate in, or have dependencies on, any other foreign countries as of December 31, 2018. Our revenues and orders to-date are almost entirely sourced in the U.S. and all significant corporate assets at December 31, 2018, were located in the U.S.

Financial Information About Industry Segments

We have one reportable segment consisting of email encryption and security solutions. We internally evaluate all of our product offerings and other sources of revenue as one industry segment, and, accordingly, do not report segment information.

Available Information

Our Internet address is www.zixcorp.com. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are available on our website, without charge, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The information found on our website shall not be considered to be part of this or any other report filed with or furnished to the SEC.

In addition to our website, you may read and copy any materials we electronically file with the SEC through the SEC's website at www.sec.gov. The SEC's website contains reports, proxy and other information statements, and other information regarding issuers, including us, that file electronically with the SEC.

NOTE ON FORWARD-LOOKING STATEMENTS AND RISK FACTORS

This document contains "forward-looking statements" (including the discussion appearing under the caption "Liquidity Summary" in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations,") within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Act") and Section 21E of the Exchange Act. All statements other than statements of historical fact are "forward-looking statements" for purposes of federal and state securities laws, including, but not limited to: any projections of future business, market share, earnings, revenues, recognition of revenues from backlog, cash receipts, or other financial items; any statements of the plans, strategies,

and objectives of management for future operations, future acquisitions or the integration thereof; any statements concerning proposed new products, services, or developments; any statements regarding future economic conditions or performance; any statements of belief; and any statements of assumptions underlying any of the foregoing. Forward-looking statements may, but need not, include words such as “may,” “will,” “predict,” “project,” “forecast,” “plan,” “should,” “could,” “goal,” “estimate,” “intend,” “continue,” “believe,” “expect,” “outlook,” “anticipate,” “hope,” and other sim expressions. Any forward-looking statements involve risks and uncertainties that could cause actual events or results to differ materially from the events or results described in the forward-looking statements, including, but not limited to, the risks and uncertainties described in the “Item 1A. Risk Factors” section.

Although we believe that expectations reflected in and the assumptions underlying our forward-looking statements are reasonable, actual results or assumptions made could differ materially from those projected or assumed in any of our forward-looking statements. Our future financial condition and results of operations, as well as any forward-looking statements, are subject to change and to inherent risks and uncertainties, including, but not limited to, those disclosed in this document. Forward-looking statements speak only as of the date on which they are made, and we do not intend, and undertake no obligation, to update any forward-looking statement.

Item 1A. Risk Factors

The following is a cautionary discussion of risks, uncertainties and assumptions that we believe are significant to our business, financial condition and financial results. In addition to the factors discussed elsewhere in this Annual Report on Form 10-K, the following are some of the important factors that, individually or in the aggregate, we believe could make our results differ materially from those described in any forward-looking statements. It is impossible to predict or identify all such factors and, as a result, you should not consider the following factors to be a complete discussion of risks, uncertainties and assumptions.

Risks Related to our Business

Our business depends upon customers using email and certain social media platforms to exchange confidential information, and a significant shift of those messages to other communication channels could impair our growth prospects and negatively affect our business, financial condition and financial results.

Our customers deploy and use our products and services to easily, securely and confidentially send and receive electronic messages, by way of internet communications channels including email and certain social media platforms. Our business and revenue substantially depend on our current and potential customers using email and social media to exchange sensitive information electronically. New technologies, products, or business models that could support migration to alternative means of secure communications could be disruptive to our business. If prospective or current customers were to send and receive sensitive information using technology or communication channels other than email or the social media platforms that we support, our growth prospects and our business, financial condition and financial results could be materially adversely affected.

Our business depends on market acceptance of our products and services, and our failure to achieve and maintain influential customers could negatively affect our business, financial condition and financial results.

In order to continue to operate profitably and grow, we must achieve and maintain broad market acceptance of our products and services at a price that provides us with an acceptable rate of return relative to our costs. We have been successful in selling our Email Encryption products and services to high-profile customers in the healthcare, financial services and government segments of the market. The acceptance and use of our products and services by those significant customers facilitates our sales to other potential customers, and an expanding base of users in the Zix Directory aids in our market penetration and expansion. The loss of an influential customer of our existing products and services, or the failure to achieve sufficient market adoption of new products including ZixProtect and ZixArchive, could impair our ability to expand the market penetration of our products and services, or cause us to reduce or increase prices, which could reduce our revenues and net income and materially adversely affect our business, financial condition and financial results.

Our business relies on securing new customer subscriptions and subscription renewals from existing customers.

The vast majority of our revenue is derived from customer subscriptions, and existing customers have no contractual obligations to purchase beyond the initial subscription or contract period. Our ability to grow our business is dependent in part on customers renewing their existing subscriptions and purchasing additional solutions or services after the initial term of their agreement. Though we maintain and analyze historical data with respect to rates of customer renewals, upgrades and expansions, those rates may not accurately predict future trends in renewal of certain products and services offered by us. If our customers cancel or amend their agreements with us during their term, do not renew their agreements, renew on less favorable terms or do not purchase additional solutions or products during renewal periods, our revenue may grow more slowly than expected or decline and our profitability may be harmed.

Additionally, we have experienced, and expect to continue to experience, some level of attrition with existing customers and we may not maintain historical subscription rates, and we may be unable to accurately predict our

customer renewal rates. Although we have historically retained approximately 90% of our recurring revenue on an annual basis, there has been some recent decline in such retention and our customers' renewal rates may further decline or fluctuate as a result of a number of factors, including the level of their satisfaction with our products and technical support services, customer merger or acquisition activity, customer budgets, the pricing of our products compared with those offered by our competitors, technology trends, the prevailing regulatory regime and general market conditions. If new subscriptions or subscription renewals decline from their current levels, our revenue or revenue growth may decline, and our business may suffer which could have a materially adverse effect on our financial performance.

The security of our networks and data centers is critical to our business and an actual or perceived breach of security through a cyber-attack or otherwise could cause us to lose customers and could negatively affect our reputation, business, financial condition and financial results.

We are dependent on our networks and data centers to provide our products and services. Due to the nature of the products and services we provide and the sensitive nature of the information we collect, process, store, use and transmit, we may face cyber-attacks, data protection breaches, computer viruses and other similar disruptions from unauthorized tampering or human error that attempt to penetrate and could harm our networks and data centers. Our business depends on customers having and maintaining confidence that we provide effective network and security protection. To reduce the risk of a successful cyber-attack or similar event, we have implemented significant physical and logical security measures to detect, identify and mitigate threats as well as to monitor for and respond to potential breaches and incidents. Despite these security measures, our networks and data centers may remain vulnerable. We may not be able to correct a security flaw or particular vulnerability promptly, or at all. Further efforts to limit the ability of malicious third parties to disrupt or undermine our security efforts may be costly to implement and may not be successful. If a cyber-attack or other breach of security occurs, or is perceived to have occurred, in our internal systems or at our data centers and networks, it could cause negative publicity, interruption of our services, damage to our reputation, unauthorized disclosure of our customers' confidential or proprietary information (including personally identifiable information), disclosure of our intellectual property, disclosure, modification or removal of our confidential or sensitive information, theft or unauthorized use or publication of our trade secrets, loss of customers, lost revenue and increased expense (including potentially indemnification or warranty costs), any of which could have a material adverse effect on our business, financial condition and financial results.

Public key cryptography technology used in our businesses is subject to technology integrity risks that could reduce demand for our products and services and could negatively affect our business, financial condition and financial results.

Our business employs public key cryptography technology and other encryption technologies to encrypt and decrypt sensitive data. The security afforded by encryption depends on the integrity of the private key, which is predicated on the assumption that it is very difficult to mathematically derive the private key from the related public key. Successful decryption of intercepted encrypted email, or public reports of successful decryption, whether or not true, could reduce demand for our products and services. If new methods or technologies, such as quantum computing, make it easier to derive the private key from the related public key, the security of encryption services using public key cryptography technology could be impaired and our products and services could become less marketable. That could require us to make significant changes to our products and services, which could increase our costs, damage our reputation, or otherwise harm our business. Any of these events could reduce our revenues, increase our expenses and materially adversely affect our business, financial condition and financial results.

Our business depends substantially on our data center facilities and other systems and infrastructure provided by third parties, and their unreliability or unavailability for a significant period could cause us to lose customers and could negatively affect our business, financial condition and financial results.

Our business relies on third-party suppliers of computer, cloud and telecommunications infrastructure to provide our products and services through the global Internet and to provide network access between our data centers, our customers and end-users of our products and services. Much of the computer and communications hardware upon which our businesses depend is located in our data center facilities in North America and in the United Kingdom. Our data centers might be damaged or interrupted as a result of numerous factors, many of which are beyond our control, including fire, flood, power loss, mechanical failure, telecommunications failure, break-ins, cyber-attacks, sabotage, vandalism, earthquakes, terrorist attacks, hostilities or war or other events. Computer viruses, equipment failure, denial of service attacks, and similar disruptions affecting the internet, infrastructure supplied by third parties or our systems might cause service interruptions, delays and loss of critical data, and could prevent us from providing our services. Problems affecting our data center operations or the networks on which we rely, whether or not in our

control, could result in loss of revenues, increased expenses, failure to achieve market acceptance, diversion of resources, injury to our reputation, liability and increased costs, and may cause our customers to terminate or elect not to renew their agreements. We do not carry sufficient insurance to compensate us for all losses that may occur as a result of any of these events. Though our products generally tolerate isolated supplier failures, the occurrence of any of these events, including multiple supplier outages or problems, could materially adversely affect our business, financial condition and financial results.

Outages or problems with internet communication systems and infrastructure supplied by third parties could negatively affect our business, financial condition and financial results.

Our business relies on third-party suppliers of the telecommunications and internet infrastructure. We use various communications service suppliers and the global internet to provide network access between our data centers, our customers and end-users of our products and services. If those suppliers do not enable us to provide our customers with reliable, real-time access to our systems, we may be unable to gain or retain customers. These suppliers periodically experience outages or other operational problems as a result of internal system failures or external third-party actions. Though our products generally tolerate isolated supplier failures, multiple supplier outages or problems could materially adversely affect our business, financial condition and financial results.

The infrastructure supporting our business may suffer capacity constraints and business interruptions that could cause us to lose customers, increase our operating costs and could negatively affect our business, financial condition and financial results.

Our business depends on our providing our customers reliable, real-time access to our data centers and networks. Customers will not tolerate a service hampered by slow delivery times, unreliable service levels, service outages, or insufficient capacity. System capacity limits or constraints arising from unexpected increases in our volume of business or network traffic could cause interruptions, outages or delays in our services, or deterioration in their performance, or could impair our ability to process transactions. We may not be able to accurately project the rate of increase in usage of our systems or to timely increase capacity to accommodate increased traffic on our systems. System delays or interruptions may prevent us from efficiently providing services to our customers or other third parties, which could result in our losing customers and revenues, or incurring liabilities that could have a material adverse effect on our business, financial condition and financial results.

The growth of our business may require significant investment in systems and infrastructure and these investments may achieve delayed, or lower than expected benefits, which could impair our profitability and negatively affect our business, financial condition and financial results.

As our operations grow in size and scope, we continually need to improve and upgrade our technology offerings, systems and infrastructure to offer an increasing number of customers enhanced products, services, features and functionality, while maintaining the reliability and integrity of our systems and infrastructure and pursuing reduced costs per transaction. Expanding our technology offerings, systems and infrastructure may require us to commit substantial financial, operational and technical resources, with no assurance that the volume of our business will increase, which could reduce our net income, deplete our cash, and materially adversely affect our business, financial condition and financial results. Developing and launching new product offerings adjacent to or outside of our core service offerings can be particularly costly in terms of capital investments for both product development and marketing. At the same time, these new offerings involve greater uncertainty concerning both market acceptance and our ability to successfully execute a sales and marketing strategy that justifies our investments. Our failure to properly manage and execute new product initiatives could materially adversely affect our business, financial condition and financial results.

Because we recognize subscription revenue over the term of the applicable customer agreement, a decline in subscription renewals or new service agreements may not be reflected immediately in our operating results.

We generally recognize revenue from customers ratably over the terms of their customer agreements, which are typically one year or two years. As a result, much of the revenue we report in each quarter is deferred revenue from customer agreements entered into during previous quarters. Consequently, a decline in new or renewed client agreements in any one quarter will not be fully reflected in our revenue or our results of operations until future periods. Accordingly, this revenue recognition model also makes it difficult for us to rapidly increase our revenue through additional sales in any period, as revenue from new clients must be recognized over the applicable subscription term.

Our failure to keep pace with rapid technology changes could have a negative impact on our business, financial condition and financial results.

The markets for our products and services are characterized by rapid technological developments and frequent changes in customer requirements. We must continually improve the performance, features and reliability of our products and services, particularly in response to competitive offerings, to keep pace with these developments. We must ensure that our products and services address evolving operating environments, devices, industry trends, certifications and standards. For example, we have been required to expand our offerings for virtual computer environments and mobile environments to support a broader range of mobile devices. We also may need to develop

products that are compatible with new operating systems while remaining compatible with existing, popular operating systems. Our business could be harmed by our competitors announcing or introducing new products and services that could be perceived by customers as superior to ours. We spend considerable resources on technology research and development, but our research and development resources are more limited than many of our competitors.

In addition, we are also focused on addressing new and accelerating market trends, such as the continued decline of on premise email security and advance threat protection solution(s) and the continued transition towards cloud-based solutions, which requires us to continue to improve our product and service offerings. We may experience delays in the anticipated timing of activities related to our efforts to address these challenges and higher than expected or unanticipated execution costs. Our failure to introduce new or enhanced products on a timely basis, to keep pace with rapid industry, technological or market changes or to gain customer acceptance for our new and existing products and services, such as mobile device data protection, could have a material adverse effect on our business, financial condition and financial results.

We face strong competition, which could negatively affect our business, financial condition and financial results.

The markets in which we compete are characterized by rapid change and converging technologies and are very competitive. With rising demand for private and secure email communications, there is strong competition for email encryption products and services. Our Email Encryption Threat Protection, Archive, and Data Loss Prevention business competes with products and services offered by companies such as Barracuda Networks, Inc., Proofpoint, MIMECast, and Virtru. Our ZixOne business competes with products and services offered by companies such as AirWatch/VMWare, Citrix (with XenMobile), Blackberry, IBM/Fiberlink (with MaaS360), and MobileIron. Strong competition requires us to develop new technology solutions and service offerings to expand the functionality and value that we offer to our customers. Our competitors may develop products and services that are perceived by customers as equivalent to, or having advantages over, our products and services. Competitors could capture a significant share in our markets, causing our sales and revenue to decline or grow more slowly. Barriers to entry are relatively low, and new ventures are often formed that create products competitive with our products. Competitive pressures could lead to price discounting or to increases in expenses such as advertising and marketing costs. Increased competition could also decrease demand for our products and services. Competition could reduce our revenues and net income and materially adversely affect our business, financial condition and financial results.

Industry consolidation may lead to increased competition and may negatively affect our operating results.

There has been a trend toward industry consolidation in our industry for several years. We expect this trend to continue as companies attempt to strengthen or hold their market positions in an evolving industry and as companies are acquired or are unable to continue operations. For example, some of our current and potential competitors have made acquisitions, or announced new strategic alliances. Companies that are strategic alliance partners in some areas of our business may acquire or form alliances with our competitors, thereby reducing their business with us. We believe that industry consolidation may result in stronger competitors that are better able to compete as sole-source vendors for customers. This could have a material adverse effect on our business, financial condition and financial results.

Some competitors have advantages that may allow them to compete more effectively than us, which could negatively affect our business, financial condition and financial results.

Some of our competitors have longer operating histories, more extensive operations, greater name recognition, larger technical staffs, bigger product development and acquisition budgets, established relationships with more distributors and hardware vendors, and greater financial and marketing resources than we do. These advantages might enable them (independently or through alliances) to develop and expand functionality of products and services faster than we can, to spend more money to market and distribute products and services than we can, or to offer their products and services at prices lower than ours. These advantages could reduce our revenues and net income and materially adversely affect our business, financial condition and financial results.

If we do not effectively expand and train our sales force, we may be unable to add new customers or increase sales to our existing customers and our business may be negatively affected.

We continue to be substantially dependent on our sales force to obtain new customers and to sell additional solutions to our existing customers. We believe that there is significant competition for sales personnel with the skills and technical knowledge that we require. Our ability to achieve significant revenue growth will depend, in large part, on our success in recruiting, training and retaining sufficient numbers of sales personnel to support our growth. New hires require significant training and, in most cases, take significant time before they achieve full productivity. Our recent hires and planned hires may not become as productive as we expect, and we may be unable to hire or retain sufficient numbers of qualified individuals in the markets where we do business or plan to do business. If we are unable to hire and train sufficient numbers of effective sales personnel, or the sales personnel are not successful in obtaining new clients or increasing sales to our existing client base, our business will be harmed.

If we do not successfully manage our strategic alliances, we may not realize the expected benefits from such alliances and we may experience increased competition or delays in product development.

We have entered into several strategic alliances with other companies to offer complementary products and services. These arrangements are generally limited to specific projects or series of projects, and their main goal is generally to facilitate product compatibility and adoption of industry standards. There can be no assurance that we will realize the expected benefits from these strategic alliances. If successful, these relationships may be mutually beneficial and result in industry growth. However, alliances carry an element of risk because, in most cases, we must compete in some business areas with a company with which we have a strategic alliance and, at the same time, cooperate with that company in other business areas. Also, if these partner companies fail to perform or if these relationships fail to materialize as expected, we could suffer delays in product development or other operational difficulties.

We enlist third-party distributors to market our products and services, and our failure to succeed in those relationships could negatively affect our business, financial condition and financial results.

We distribute a significant percentage of our products and services by entering into alliances with third parties who can offer our products and services along with their own or our competitors' products and services. Increased reliance on third parties to market and distribute our products and services exposes us to a variety of risks. For example, we have limited control over and visibility into the sales cycles of third-party distributors, which could increase the length of our sales cycle, cause our revenue to fluctuate unpredictably and make it difficult to accurately forecast our revenue. In addition, we may not succeed in developing or maintaining marketing alliances. Companies with which we have marketing alliances may in the future discontinue their relationships with us, form marketing alliances with our competitors, or develop and market their own products and services that compete with ours. If a significant distributor were to discontinue its relationship with us, we could experience an interruption in the distribution of our products and services and our revenues could decline. Our failure to develop, maintain and expand strategic distribution relationships could reduce our revenues and net income and materially adversely affect our business, financial condition and financial results.

Our future growth and success may be affected by acquisitions. If we are not able to successfully identify, negotiate, complete and integrate acquisitions, our operating results and prospects could be negatively affected.

We have acquired and expect to continue to acquire new products and technology, as well as customers, through acquisitions. The success of our future acquisition strategy will depend on our ability to identify, negotiate, complete and integrate acquisitions. Acquisitions are inherently risky, and any acquisition we complete may not be successful. Acquisitions we pursue, including our recent AppRiver acquisition, involve numerous risks, including the following:

- difficulties in integrating and managing the operations and technologies of the companies and assets we acquire;
- diversion of our management's attention from normal daily operations of our business;
- our inability to maintain the customers, the key employees, the key business relationships and the reputations of the businesses and products we acquire;
- our inability to generate sufficient revenue from acquisitions to offset increased expenses generally associated with acquisitions;
- difficulties in predicting or achieving synergies and cost savings between our existing businesses and acquired businesses;
- our responsibility for the liabilities of the businesses we acquire, including liabilities arising out of their failure to operate correctly, maintain effective data security, data integrity, disaster recovery and privacy controls prior to acquisition, or their infringement or alleged infringement of third-party intellectual property, contract or data access rights prior to acquisition;
- difficulties in complying with new markets or regulatory standards to which we were not previously subject;
- difficulties or unanticipated expenses associated with development work that is necessary to achieve interoperability between our products and solutions and the products and solutions we acquire;
- difficulties or unanticipated expenses associated with migrating customers from products and solutions developed by our acquisition targets to our own products and solutions;
- delays in our ability to implement internal standards, controls, procedures and policies in the businesses we acquire; and
- adverse effects of acquisition activity on the key performance indicators we use to monitor our performance as a busines

Unanticipated events and circumstances occurring in future periods may affect the realizability of intangible assets that we are required to record on our balance sheet as a result of acquisitions. These events and circumstances could include significant under-performance relative to projected future operating results and significant changes in our overall business or product strategies. Such events and circumstances may cause us to revise our estimates and assumptions used in analyzing the value of our intangible assets, and any such revision could result in a non-cash

impairment charge that could have a material impact on our financial results.

Unfavorable economic environments, particularly in the U.S., could negatively affect our business, financial condition and financial results.

Challenging economic conditions worldwide have from time to time contributed, and may contribute to future slowdowns in the technology and networking industries at large, as well as in the email/data security market and in specific geographic markets in which we operate. If economic growth in those markets, particularly in the U.S., which accounts for a substantial majority of our revenue, slows, or credit is unavailable at a reasonable cost, current and potential customers may delay or reduce technology purchases, including the deployment or expansion of our products and services. Additionally, as we continue along our path of

exploring additional international markets, we may become more susceptible to unfavorable economic environments outside the U.S. and that could compound the negative effects of unfavorable economic environments in markets in which we currently operate. This could result in reduced sales of our products and services, longer sales cycles, slower adoption of new technologies and increased price competition. In addition, adverse economic conditions could negatively affect the cash flow of our customers and distributors, which might result in failures or delays in payments to us. This could increase our credit risk exposure and delay our recognition of revenue. Specific economic trends, such as declines in the demand for cloud computing services and computing devices, or softness in corporate information technology spending, could have a more direct impact on our business. If these conditions persist, spread or deteriorate further, our business, financial condition and financial results could be materially adversely affected.

If our products do not work properly or have security vulnerabilities, our reputation, business, financial condition and financial results could be negatively affected and we could experience negative publicity, declining sales and legal liability.

The threats facing our customers are constantly evolving and the techniques used by experienced hackers to access or sabotage data change frequently, often are not recognized until launched against a target, and may originate from less regulated or remote areas around the world. As a result, we must constantly update our product solutions to respond to these threats. We produce complex solutions that incorporate leading-edge technology, including both hardware and software that must operate in a wide variety of technology environments. Software may contain defects or "bugs" that can interfere with expected operations or introduce security vulnerabilities that can lead to unauthorized use or data loss. There can be no assurance that our testing programs will be adequate to detect all defects prior to the product being introduced, which might decrease customer satisfaction with our products and services. The product reengineering cost to remedy a product defect or mitigate vulnerabilities could be material to our operating results. Our inability to cure a product defect could result in the temporary or permanent withdrawal of a product or service from the market, a security breach, negative publicity, damage to our reputation, failure to achieve market acceptance, lost revenue and increased expense, any of which could have a material adverse effect on our reputation, business, financial condition and financial results.

Our transmission and storage of personally identifiable information, including the personal data of European data subjects and other confidential information, and the potential for inadvertent exposure of PII or CI, could cause us to violate data privacy laws or lose customers and could negatively affect our business, financial condition and financial results.

We transmit and store large amounts of personally identifiable information ("PII") about individuals, which may include healthcare or financial information, and other confidential information ("CI"). Although we have established, and continue to develop and enhance, security measures and controls to help protect against unauthorized disclosure of such PII and other CI, an inadvertent disclosure of, or unauthorized third-party access to, PII or CI, could disrupt our operations, damage our reputation and subject us to claims or other liabilities.

In addition, our processing and storage of certain types of data is subject to confidentiality agreements with our clients and handling PII is increasingly subject to a variety of changing privacy and data security regulations around the world. For example, the collection and use of personal data in the European Union, previously governed by the provisions of the Data Protection Directive, were replaced with the General Data Protection Regulation, or GDPR, in May 2018. GDPR imposes several requirements relating to the collection, use, processing and transfer of personal data, such as requirements for using consent or other legal grounds to process personal data, providing information to individuals about how their personal data is used, maintaining adequate security and data protection measures, giving data breach notifications, complying with individuals' requests to access, correct or delete their personal data and using third-party processors of personal data. GDPR also maintains the European Union's strict rules limiting the transfer of personal data out of the European Economic Area. Failure to comply with the requirements of GDPR and the applicable national data protection laws of the European Union Member States may result in fines and other administrative penalties. GDPR will introduce substantial potential fines for violations and increase our responsibility

and liability in relation to personal data that we process. To comply with the GDPR, we may be required to put in place additional technical and administrative measures and controls mechanisms. This may be onerous and adversely affect our business, financial condition, results of operations and prospects. Such laws and regulations are subject to new and differing interpretations and may be inconsistent among jurisdictions. For example, in October 2015, the European Court of Justice invalidated the U.S.-EU Safe Harbor framework that had been in place since 2000, which allowed companies including us to meet certain European legal requirements for the transfer of personal data from the European Economic Area to the United States. In the wake of that decision, we decided to participate in the new EU-U.S. Privacy Shield framework established by the U.S. Department of Commerce and the European Commission and opened for participation on August 1, 2016. We applied for and were approved for certification and are now an Active Participant in the Privacy Shield program. Our Privacy Shield self-certification was finalized by the Department of Commerce and became effective as of November 9, 2016 and was renewed in November 2017. This allows us to transfer personal data of European data subjects that we receive from customers to the United States, in compliance with the Privacy Shield principles. While our Privacy Shield certification and other mechanisms (such as Model Clauses) to lawfully transfer such data remain in place, those mechanisms are also subject to pending legal challenges and these legal challenges may result in different European data protection regulators applying differing standards for the transfer of personal data. Future changes in requirements under these regulations may be inconsistent with our existing data management practices. If so, we could be required to fundamentally change our business activities and practices or modify our software, which could have an adverse effect on our business, including increased cost of compliance and limitations on data transfer for us and our customers.

Any inability to adequately address privacy concerns, even if unfounded, or to comply with applicable privacy or data protection laws, regulations and policies, could result in additional costs and liability to us, damage our reputation, inhibit sales, and harm our business. Furthermore, any inadvertent disclosure of, or unauthorized access (including due to a cyber-attack) to, PII or other CI or other failure by us to comply with data privacy requirements could subject us to significant penalties, damages, remediation and other expenses, and damage our reputation, any of which could have a material adverse effect on our business, financial condition and financial results.

Problems with protecting and enforcing our intellectual property rights could negatively affect our business, financial condition and financial results.

We rely on a combination of contractual rights, trademarks, trade secrets, patents and copyrights to establish and protect intellectual property rights and other proprietary rights in our products and services. These intellectual property rights or other proprietary rights might be challenged, invalidated or circumvented. The steps we have taken to protect our proprietary information may not prevent its misuse, theft or misappropriation. Competitors may independently develop technologies or products that are substantially equivalent or superior to our products or that inappropriately incorporate our intellectual property rights or other proprietary technology into their products. Competitors may hire our former employees who may misappropriate our intellectual property rights or other proprietary technology. Some jurisdictions may not provide adequate legal protection of our intellectual property rights or other proprietary technology.

We may have to defend or assert our rights in intellectual property that we use in our products and services, and we could be found to infringe the intellectual property rights of others, which could be disruptive and expensive to our business.

We may have to defend against claims that we or our customers are infringing the rights of third parties in patents, copyrights, trademarks and other intellectual property. If we acquire technology to include in our products and services from third parties, our exposure to infringement actions may increase because we must rely upon these third parties to verify the origin and ownership of such technology. Also, we may be required to spend significant resources to monitor and protect our intellectual property rights, including initiating claims or litigation against third parties for infringement or misappropriation. Intellectual property litigation and controversies are disruptive and expensive, whether or not resolved in our favor. Even unmeritorious claims brought against us or our customers may harm our reputation and customer relationships, may cause us to incur significant legal and other fees to defend, and may have to be settled for significant amounts. Infringement claims against us could require us to develop non-infringing products and services or enter into expensive royalty or licensing arrangements. Our business, financial condition and financial results could be materially adversely affected if we are not able to develop non-infringing technology or license technology on commercially reasonable terms.

We may face risks from using “open source” software that could negatively affect our business, financial condition and financial results.

Like many other software companies, we use “open source” software in order to take advantage of common industry building blocks and to add functionality to our products quickly and inexpensively. Open source software license terms could adversely affect our intellectual property rights in our products that include open source software. Depending upon how the open source software is deployed, we could be required to offer products that use the open source software for no cost, or make available the source code for modifications or derivative works. Any of these obligations could have an adverse impact on our intellectual property rights and revenue from products incorporating the open source software. Using open source code could also cause us to inadvertently infringe third-party intellectual property rights or require us to publicly disclose proprietary information. We have processes and controls in place that are designed to address these risks and concerns, but we cannot be sure that our process or controls will be sufficient to mitigate all risk in this regard. Open source software might also introduce security vulnerabilities or defective functionality. The open source community may not always respond with adequate urgency to mitigate the impacts of

such defects.

We rely on the availability of third-party intellectual property, which may not be accessible to us on reasonable terms or at all.

Some of our products include third-party intellectual property, which may require licenses for our use. For example, a significant portion of the revenue generated by our Erado business is dependent on the licensing of certain electronic message API's, such as those made available by LinkedIn Corporation, SMS providers, Facebook, and other social media channels, and a significant portion of the revenue generated by our AppRiver business is dependent on the licensing of Microsoft products such as Office 365. Based on past experience and industry practice, we believe that such licenses can be obtained on reasonable terms; however, there can be no assurance that we will be able to obtain or maintain the necessary licenses for new or current products on acceptable terms or at all. Changes in the terms of such licenses may decrease our product margins and our failure to obtain or maintain such licenses may limit our ability to sell our products, either of which could have a material adverse effect on our business, financial condition and financial results.

We may fail to recruit and retain key personnel, which could impair our ability to meet key objectives.

Our success depends on our ability to attract and retain highly-skilled technical, managerial, sales, and marketing personnel. Changes in key personnel may be disruptive to our business. It could be difficult, time consuming and expensive to replace key personnel. Integrating new key personnel may be difficult and costly. Volatility, lack of positive performance in our stock price or changes to our overall compensation program including our stock incentive program may adversely affect our ability to retain key employees, many of whom are compensated, in part, based on the performance of our stock price. The loss of services of any of our key personnel, the inability to retain and attract qualified personnel in the future or delays in hiring required personnel could make it difficult to meet key objectives. Any of these impairments related to our key personnel could negatively affect our business, financial condition and financial results.

Governmental restrictions on the sale of our products and services in non-U.S. markets could negatively affect our business, financial condition and financial results.

Exports of software solutions and services using encryption technology such as ours are generally restricted by the U.S. government. Although we have obtained U.S. government approval to export our service to almost all countries, the list of countries to which we (and our distributors) cannot export our products and services could be expanded in the future. In addition, some countries impose restrictions on the importation and use of encryption solutions and services such as ours. The cost of compliance with U.S. and other export laws, or our failure to obtain governmental approvals to offer our products and services in non-U.S. markets, could affect our ability to sell our products and services and could impair our international expansion. We face a variety of other legal and compliance risks. If we or our distributors fail to comply with applicable law and regulations, we may become subject to penalties, fines or restrictions that could materially adversely affect our business, financial condition and financial results.

Our sales to government entities are subject to a number of challenges and risks.

Sales to U.S. federal, state and local governmental agency customers have accounted for a significant portion of our revenue in past periods, and we may in the future increase sales to government agencies. Sales to government entities are subject to a number of challenges and risks. Selling to government entities can be highly competitive, expensive and time consuming, often requiring significant upfront time and expense without any assurance that these efforts will generate a sale. Government contractual requirements often carry a high compliance risk. Government certification requirements for solutions like ours may change and in doing so restrict our ability to sell into the federal government sector until we have attained the revised certification. Government demand and payment for our solutions may be impacted by public sector budgetary cycles and funding authorizations, with funding reductions or delays adversely affecting public sector demand for our solutions. Government entities also may have statutory, contractual or other legal rights to terminate contracts for convenience or due to a default, and any such termination may adversely impact our future operating results.

Risks Related to our Indebtedness, Capital Structure and Ownership of our Common Stock

Our indebtedness could adversely affect our business and limit our ability to expand our business or respond to changes, and we may be unable to generate sufficient cash flow to satisfy our debt service obligations.

In February 2019, we entered into a credit agreement with the lenders party thereto under which we established (i) a senior secured term loan facility in an aggregate principal amount of $175 million, (ii) a senior secured delayed draw term loan facility in an aggregate principal amount of $10 million and (iii) a senior secured revolving credit facility in an aggregate principal amount of $25 million (collectively, the “Credit Facilities”). The Credit Facilities are guaranteed by certain wholly-owned subsidiaries of Zix. The Credit Facilities are secured by substantially all assets of Zix and the guarantors, subject to certain customary exceptions. The Credit Facilities will mature in February of 2024. The incurrence of this indebtedness could have adverse consequences, including the following:

- reducing the availability of our cash flow for our operations, capital expenditures, future business opportunities, stock buybacks and other purposes;
- limiting our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate;
- making it more difficult to pay or refinance our debts as they become due during periods of adverse economic, financial market or industry conditions;
- limiting our ability to obtain additional financing for working capital, acquisitions or other purposes, particularly since substantially all of our assets are subject to security interests relating to existing indebtedness;
- requiring our debt to become due and payable upon a change in control;
- increasing our vulnerability to general adverse economic and industry conditions; and
- lengthening or otherwise adversely affecting our sales process as customers evaluate our financial viability.

Optional prepayments of borrowings under the Credit Facilities will be permitted at any time, without premium (other than customary LIBOR breakage costs). We must prepay the term loan facility in equal quarterly installments of $437,500 on the last day of each March, June, September and December (commencing on June 30, 2019) until maturity in February of 2024. In addition to other customary mandatory prepayment requirements, the term loan facility requires annual prepayments based on a percentage of Zix's excess cash flow, which percentage will reduce as Zix's total net leverage ratio decreases. We depend on cash on hand and cash flows from operations to make scheduled debt payments. To a significant extent, our ability to do so is subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control. If our business does not generate sufficient cash flow from operating activities or if future borrowings are not available to us in amounts sufficient to enable us to fund our liquidity needs, our operating results, financial condition and ability to expand our business may be adversely affected.

The interest rate borne by our Credit Facilities will float over time and is initially LIBOR plus 3.50%, with future step downs in the interest rate margin as our total net leverage reduces. The floating rate nature of this interest rate exposes us to interest rate risk. Changes in economic conditions outside of our control could result in higher interest rates, thereby increasing our interest expense even though the amount borrowed remains the same.

Restrictive covenants in our credit agreement may adversely affect our financial and operational flexibility.

The credit agreement governing our Credit Facilities contains certain financial, operational and legal covenants. The financial covenant requires Zix to maintain a maximum total net leverage ratio (as defined in the credit agreement) and is tested on a quarterly basis (commencing March 31, 2019), based on the rolling four-quarter period that ends on the last day of each fiscal quarter. The non-financial covenants restrict our ability and the ability of our restricted subsidiaries to, among other things, incur indebtedness, incur liens, merge with or acquire other entities, make investments, dispose of assets, enter into sale and leaseback transactions, make dividends, distributions or stock repurchases, prepay junior indebtedness, enter into transactions with affiliates, enter into restrictive agreements, and amend our organizational documents or the terms of junior indebtedness.

These restrictions may make it more difficult or discourage a takeover of Zix, whether favored or opposed by our management and/or our Board of Directors.

Our ability to comply with some of these restrictive covenants can be affected by events beyond our control, and we may be unable to do so. Failure to comply could require us to seek waivers or amendments of covenants or alternative sources of financing, or to reduce expenditures. We cannot guarantee that such waivers, amendments or alternative financing could be obtained or, if obtained, would be on terms acceptable to us.

Upon the occurrence of a default, or if we are unable to make the representations and warranties in the credit agreement governing our Credit Facilities, we will not be able to borrow funds or issue letters of credit under our Credit Facilities. Upon the occurrence of an event of default, our lenders could elect to declare all amounts outstanding under our Credit Facilities to be immediately due and payable. If we are unable to repay that amount, our lenders could seize our assets securing the loans and our business and financial condition could be materially and adversely affected.

Our Series A Convertible Preferred Stock (the "Series A Preferred Stock"), Series B Convertible Preferred Stock (the "Series B Preferred Stock") and investment agreement restrict our ability to incur certain indebtedness which limits our flexibility in operating our business.

In February 2019, we issued Series A Preferred Stock established by a Certificate of Designations (the "Series A Certificate of Designations") and Series B Preferred Stock established by a Certificate of Designations (the "Series B Certificate of Designations"), which contain covenants that, among other things, require the consent of the holders of a majority of each of the then-outstanding shares of Series A Preferred Stock and Series B Preferred Stock before we

can incur indebtedness in excess of a specified leverage ratio.

In January 2019, we entered into an investment agreement with an investment fund managed by True Wind Capital (the "Investor"), which contains customary covenants, including among others, that for so long as any shares of preferred stock issued pursuant to the investment agreement are outstanding, the consent of the Investor will be necessary for us to issue, subject to certain exceptions, any debt securities convertible into any of our capital stock.

We may need additional capital, and we cannot be certain that additional financing will be available.

We may require additional financing in the future to operate or expand our business, acquire assets or repay or refinance our existing debt. Our ability to obtain financing will depend, among other things, on our business development efforts, business plans, operating performance and the condition of the capital markets at the time we seek financing, as well as other factors beyond our control. We cannot provide any assurance that additional financing will be available to us on favorable terms when required, or at all. Additionally, under the terms of our credit agreement, preferred stock and investment agreement, respectively, we are restricted from incurring additional debt, subject to certain exceptions. If we raise additional funds through the issuance of equity, equity-linked or debt securities, those securities may have rights, preferences or privileges senior to the rights of our common stock or preferred stock, and our stockholders may experience dilution.

If we need additional capital and cannot raise it on acceptable terms, we may not be able to, among other things:

- develop or enhance our solutions;
- continue to expand our sales and marketing and research and development organizations;
- repay or refinance our existing debt;
- acquire complementary technologies, solutions or businesses;
- expand operations, in the United States or internationally;
- hire, train and retain employees; or
- respond to competitive pressure or unanticipated working capital requirements.

Our failure to do any of these things could seriously impact our business, negatively affecting financial condition and operating results.

We may be able to incur more debt and take other actions that could diminish our ability to make payments on our indebtedness when due, which could further exacerbate the risks associated with our current level of indebtedness.

Despite our current indebtedness level, we may be able to incur more indebtedness in the future. We are not completely prohibited under the terms of the credit agreement, preferred stock, investment agreement or other agreements governing our current indebtedness from incurring additional debt, securing existing or future debt, recapitalizing our debt or taking a number of other actions, any of which could diminish our ability to make payments on our indebtedness when due and further exacerbate the risks associated with our current level of indebtedness. If new debt is added to our or any of our existing and future subsidiaries' current debt, the related risks that we now face could intensify.

Our preferred stockholders can exercise significant control over the Company, which could limit the ability of our common stockholders to influence the outcome of key transactions, including a change of control.

The Investor holds approximately 16.6% of our outstanding voting capital stock based on the number of shares of common stock and convertible Series A Preferred Stock outstanding as of March 6, 2019, on an as-converted basis. If Stockholder Approval (as defined in the investment agreement) is obtained, the Investor will have an aggregate voting power of at least 24.2% of our outstanding capital stock on the date of such Stockholder Approval, which amount may increase based on the accrued value of the Series B Preferred Stock at conversion. In addition, the Investor’s aggregate voting power will increase further in connection with future accretion of the Series A Preferred Stock for as long as the Series A Preferred Stock remains outstanding. The holders of our Series A Preferred Stock are entitled to vote their shares, on an as-converted basis, together with holders of our common stock on all matters submitted to a vote of the holders of our common stock. As a result, the holders of shares of the Series A Preferred Stock have the ability to significantly influence the outcome of any matter submitted for the vote of the holders of our common stock. The Investor is entitled to act separately in its own respective interests with respect to its ownership interests in the Company and has the ability to substantially influence the election of the members of our Board of Directors, thereby potentially controlling our management and affairs. In addition, the Investor has significant influence over all matters

that require approval by our stockholders, including the approval of significant corporate transactions.

Additionally, holders of a majority of the then-outstanding shares of Series A Preferred Stock are required to approve certain matters as a class, voting separately from the common stock, such as (1) any amendment, alteration or repeal to our Restated Articles of Incorporation (the “Articles of Incorporation”) or the Series A Certificate of Designations in a manner that would adversely affect the rights, preferences, privileges or power of the Series A Preferred Stock; (2) any amendment or alteration to our Articles of Incorporation or any other action to authorize or create, or increase the number of authorized or issued shares of, or any securities convertible into shares of, or reclassify any security into, or issue any parity stock or senior stock as to dividend or liquidation rights; (3) the issuance of shares of Series A Preferred Stock other than in connection with the conversion of Series B Preferred Stock that

was issued on the Issue Date; (4) any action that would cause us to cease to be treated as a domestic corporation for U.S. federal income tax purposes; or (5) the incurrence of indebtedness that would cause us to exceed a specified leverage ratio.

Further, holders of a majority of the then-outstanding shares of Series B Preferred Stock, are required to approve certain matters as a class, voting separately from the common stock and the Series A Preferred Stock, such as (1) any amendment, alteration or repeal to our Articles of Incorporation or the Series B Certificate of Designations in a manner that would adversely affect the rights, preferences, privileges or power of the Series B Preferred Stock; (2) any amendment or alteration to our Articles of Incorporation or any other action to authorize or create, or increase the number of authorized or issued shares of, or any securities convertible into shares of, or reclassify any security into, or issue any parity stock or senior stock as to dividend or liquidation rights; (3) the issuance of any additional shares of Series B Preferred Stock; (4) any action that would cause us to cease to be treated as a domestic corporation for U.S. federal income tax purposes; or (5) the incurrence of indebtedness that would cause us to exceed a specified leverage ratio.

Any issuance of common stock upon conversion of the Series A Preferred Stock and the issuance of Series A Preferred Stock upon automatic conversion of the Series B Preferred Stock in connection with the Stockholder Approval will cause dilution to existing stockholders and may depress the market price of our common stock.

The Series A Preferred Stock has an initial stated value of $1,000 per share, which stated value will accrete at an annual rate of 8% per annum, compounded quarterly. Each share of Series A Preferred Stock is convertible, at the option of the holders, into (i) the number of shares of common stock equal to the product of (A) the stated value per share as it has accreted as of such date multiplied by (B) the Conversion Rate as of the applicable conversion date divided by (C) 1,000 plus (ii) cash in lieu of fractional shares. The initial Conversion Rate is equal to 166.11 shares of our common stock and is subject to adjustment from time to time upon the occurrence of certain customary events in accordance with the terms of the Series A Certificate of Designations. Each share of Series A Preferred Stock is entitled to participate in dividends paid in respect of the common stock on an as-converted basis.

The issuance of common stock upon conversion of the Series A Preferred Stock (including any shares of Series A Preferred Stock issued upon automatic conversion of the Series B Preferred Stock in connection with the Stockholder Approval) will result in immediate and substantial dilution to the interests of our common stock holders, and such dilution will increase over time in connection with the future accretion of the Series A Preferred Stock and the conversion of Series B Preferred Stock into Series A Preferred Stock (assuming Stockholder Approval is obtained).

Texas law and our Articles of Incorporation and bylaws contain certain provisions, including anti-takeover provisions, that limit the ability of stockholders to take certain actions and could delay or discourage takeover attempts that stockholders may consider favorable.

The Texas Business Organizations Code, as amended (“TBOC”), and our Articles of Incorporation and second amended and restated bylaws contain provisions that could have the effect of rendering more difficult, delaying, or preventing an acquisition deemed undesirable by our Board of Directors and therefore depress the trading price of our common stock. These provisions could also make it difficult for stockholders to take certain actions, including electing directors who are not nominated by the current members of our Board of Directors or taking other corporate actions,

including effecting changes in our management. Among other things, our certificate of incorporation and bylaws include provisions regarding:

- the ability of our Board of Directors to issue shares of preferred stock, including “blank check” 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, and pursuant to which we have issued the Series A Preferred Stock and Series B Preferred Stock, each of which are entitled to receive a liquidation preference and certain amounts in connection with a change of control of the company and other similar extraordinary transactions;

- the limitation of the liability of, and the indemnification of, our directors and officers;

- the requirement that directors may only be removed from our Board of Directors by the affirmative vote of a majority of the issued and outstanding shares entitled to vote in the election of directors at a special meeting of the shareholders called for that purpose at which quorum is present;

- a prohibition on common stockholder action by written consent, which forces common stockholder action to be taken at an annual or special meeting of stockholders and could delay the ability of stockholders to force consideration of a stockholder proposal or to take other action, including the removal of directors;

- the requirement that a special meeting of stockholders may be called only by the chairperson of our Board of Directors, our Board of Directors or a holder of at least 10% of all of the shares of the Company entitled to vote at the proposed special meeting, and must be called by our president or secretary at the request in writing of a majority of the members of

our Board of Directors, which could delay the ability of stockholders to force consideration of a proposal or to take action, including the removal of directors;

- provisions enabling us to control the procedures for the conduct and scheduling of Board of Directors and stockholder meetings;

- the requirement for the affirmative vote of holders of at least a majority of all issued and outstanding shares entitled to vote in the election of directors at a properly called and convened annual or special meeting of shareholders, to amend, alter, change or repeal any provision of our Articles of Incorporation or our bylaws, which could preclude stockholders from bringing matters before annual or special meetings of stockholders and delay changes in our Board of Directors and also may inhibit the ability of an acquirer to effect such amendments to facilitate an unsolicited takeover attempt;

- the ability of our Board of Directors to amend our bylaws, which may allow our Board of Directors to take additional actions to prevent an unsolicited takeover and inhibit the ability of an acquirer to amend our bylaws to facilitate an unsolicited takeover attempt; and

- advance notice procedures with which stockholders must comply to nominate candidates to our Board of Directors or to propose matters to be acted upon at a stockholders' meeting, which could preclude stockholders from bringing matters before annual or special meetings of stockholders and delay changes in our Board of Directors and also 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 our Company.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our Board of Directors or management.

In addition, as a Texas corporation, we are subject to provisions of Texas law, including Section 21.606 of the TBOC, which may prohibit certain stockholders holding 20% or more of our outstanding capital stock from engaging in certain business combinations with us for a specified period of time.

Any provision of Texas law or our Articles of Incorporation or bylaws that has the effect of delaying or preventing a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our capital stock and could also affect the price that some investors are willing to pay for our common stock.

Other Risks Related to our Series A Preferred Stock and Series B Preferred Stock

Future resales of our common stock held by our significant stockholders or of the shares of common stock issuable upon conversation of the Series A Preferred Stock may cause the market price of our common stock to drop significantly.

We are obligated to register the resale of the common stock issuable upon conversion of, or issued as dividends upon, the Series A Preferred Stock, and to take certain actions to facilitate the transfer and sale of such shares. Upon such registration, shares of common stock into which the Series A Preferred Stock are converted would be freely tradable. The common stock issuable upon conversion may represent overhang that may also adversely affect the market price of our common stock. Overhang occurs when there is a greater supply of a company's stock in the market than there is demand for that stock. When this happens, the price of the company's stock will decrease, and any additional shares which stockholders attempt to sell in the market, or the perception that such sales might occur, will only further decrease the share price. If the share volume of our common stock cannot absorb converted shares sold by the holders of the Series A Preferred Stock, then the value of our common stock will likely decrease.

Any sale of large amounts of our common stock on the open market or in privately negotiated transactions could have the effect of increasing the volatility in the price of our common stock or putting significant downward pressure on the price of our common stock.

Our Series A Preferred Stock and Series B Preferred Stock have rights, preferences and privileges that are not held by, and are preferential to, the rights of our common stockholders, which could adversely affect our liquidity and financial condition, and may result in the interests of the holders of our Series A Preferred Stock and Series B Preferred Stock differing from those of our common stockholders.

In the event of our liquidation, dissolution or the winding up of our affairs, the holders of our Series A Preferred Stock have the right to receive a liquidation preference entitling them to be paid out of our assets generally available for distribution to our equity holders, together with holders of our Series B Preferred Stock and before any payment may be made to holders of any other class or series of capital stock (including our common stock), in an amount equal to the greater of (i) $1,000 plus all accreted but unpaid

dividends and (ii) the amount such holder would have been entitled to receive if the Series A Preferred Stock had converted into common stock immediately prior to such liquidation.

In the event of our liquidation, dissolution or the winding up of our affairs, the holders of our Series B Preferred Stock have the right to receive a liquidation preference entitling them to be paid out of our assets generally available for distribution to our equity holders, together with holders of our Series A Preferred Stock and before any payment may be made to holders of any other class or series of capital stock (including our common stock), in an amount equal to $1,000 plus all accrued but unpaid dividends.

In addition, the $1,000 stated value per share of our Series A Preferred Stock will accrete at a fixed rate of 8.0% per annum, compounded quarterly. The holders Series A Preferred Stock are also entitled to receive any dividends paid in respect of our common stock on an as-converted basis. The holders of our Series B Preferred Stock are entitled to receive dividends accruing daily on a cumulative basis payable quarterly in arrears in cash at a fixed rate of 10.0% per annum on the $1,000 stated value per share (the “Dividend Rate”), which rate will automatically increase by 1.0% every six months that the Series B Preferred Stock remains outstanding and unconverted (subject to a cap of 12.0%). If cash dividends are not paid in respect of any dividend payment period, the liquidation preference of each outstanding share of Series B Preferred Stock will automatically increase at the Dividend Rate.

Further, the Series A Preferred Stock is mandatorily redeemable upon a change of control (as defined in the Series A Certificate of Designations), at a price per share of Series A Preferred Stock in cash equal to the greater of (i) the Series A Change of Control Redemption Price (as defined below) and (ii) (A) the amount of cash such holder of Series A Preferred Stock would have received plus (B) the fair market value of any other assets such holder would have received, in each case had such holder of the Series A Preferred Stock, immediately prior to such change of control, converted such shares of Series A Preferred Stock into shares of common stock. The “Series A Change of Control Redemption Price” per share of Series A Preferred Stock is the product of the accreted value of such share as of the date of determination multiplied by (1) 1.30 (if the change of control occurs before the first anniversary of the date of issuance); (2) 1.35 (if the change of control occurs on or after the first anniversary of the date of issuance but before the second anniversary of the date of issuance); (3) 1.40 (if the change of control occurs on or after the second anniversary of the date of issuance but before the third anniversary of the date of issuance); (4) 1.45 (if the change of control occurs on or after the third anniversary of the date of issuance but before the fourth anniversary of the date of issuance); and (5) 1.50 (if the change of control occurs on or after the fourth anniversary of the date of issuance).

Further, the holders of our Series B Preferred Stock also have redemption rights upon the occurrence of certain events. Specifically, the Series B Preferred Stock is mandatorily redeemable, upon the holder’s election and after 90 days prior notice, any time after the seventh anniversary of the date of issuance at an amount per share of Series B Preferred Stock equal to the liquidation preference per share of the Series B Preferred Stock to be redeemed as of the applicable redemption date multiplied by 1.50. The Series B Preferred Stock is also mandatorily redeemable upon a change of control (as defined in the Series B Certificate of Designations), at a price per share of Series B Preferred Stock in cash equal to the greater of (i) the Series B Change of Control Redemption Price (as defined below) and (ii) (A) the amount of cash such holder of Series B Preferred Stock would have received plus (B) the fair market value of any other assets in each case had such holder of Series B Preferred Stock, immediately prior to such change of control, converted such shares of Series B Preferred Stock into shares of Series A Preferred Stock. The “Series B Change of Control Redemption Price” per share of Series B Preferred Stock is the product of the liquidation preference of such share as of the date of determination multiplied by (1) 1.30 (if the change of control occurs before the first anniversary of the date of issuance); (2) 1.35 (if the change of control occurs on or after the first anniversary of the date of issuance but before the second anniversary of the date of issuance); (3) 1.40 (if the change of control occurs on or after the second anniversary of the date of issuance but before the third anniversary of the date of issuance); (4) 1.45 (if the change of control occurs on or after the third anniversary of the date of issuance but before the fourth anniversary of the date of issuance); and (5) 1.50 (if the change of control occurs on or after the fourth anniversary of the date of issuance).

Finally, any time after the fourth anniversary of the date of issuance of the Series A Preferred Stock, we have the right to redeem the Series A Preferred Stock for cash at a redemption price equal to the accreted value per share of Series A Preferred Stock to be redeemed multiplied by 1.50. Likewise, at any time after the fourth anniversary of the date of issuance of the Series B Preferred Stock, we have the right to redeem the shares of the Series B Preferred Stock for cash at a redemption price equal to the liquidation preference per share of the Series B Preferred Stock to be redeemed multiplied by 1.50.

These dividend and redemption payment obligations could significantly impact our liquidity and reduce the amount of our cash flows that are available for working capital, capital expenditures, growth opportunities, acquisitions, and other general corporate purposes. Our obligations to the holders of Series A Preferred Stock and Series B Preferred Stock could also limit our ability to obtain additional financing or increase our borrowing costs, which could have an adverse effect on our financial condition. The preferential rights described above could also result in divergent interests between the holders of shares of Series A Preferred Stock and/or Series B Preferred Stock and the holders of our common stock.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We leased properties during 2018 that are considered significant to the operations of the business in the following locations: Burlington, Massachusetts; Ann Arbor, Michigan; Renton, Washington; Ottawa, Ontario, Canada; the United Kingdom; and Dallas and Austin, Texas. Our Burlington employees perform sales and marketing activities. Our Ann Arbor employees perform the support and development of our ZixProtect product line, which we acquired with our purchase of Greenview. Our Renton employees perform support and development for our ZixArchive product line, which we acquired with our purchase of Erado. Our Ottawa employees perform both client services and sales support activities. The United Kingdom facility provides data center support for our European customers. The Dallas office is our headquarters, which includes research and development, marketing, sales and all general administrative services, and the ZixData Center. Our Austin location is used primarily for fail-over and business continuity services and is used to some extent to support normal ongoing operations. Our facilities are suitable for our current needs and are considered adequate to support expected near-term growth.

Item 3. Legal Proceedings

We are subject to legal proceedings, claims, and litigation involving our business. While the outcome of these matters is currently not determinable, and the costs and expenses of resolving these matters may be significant, we currently do not expect that the ultimate costs to resolve these matters will have a material adverse effect on our consolidated financial condition or operating results.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Our common stock trades on The Nasdaq Stock Market under the symbol ZIXI. The table below shows the high and low sales prices by quarter for fiscal 2018 and 2017.

	2018		2017	
Quarter Ended	High	Low	High	Low
March 31	$4.75	$3.82	$5.41	$4.60
June 30	$5.62	$4.25	$6.67	$4.75
September 30	$5.93	$4.91	$6.04	$4.55
December 31	$7.09	$4.66	$5.40	$4.16

At March 6, 2019, there were 54,089,273 shares of common stock outstanding held by 397 shareholders of record. On that date, the last reported sales price of the common stock was $7.17.

We have not paid any cash dividends on our common stock and do not anticipate doing so in the foreseeable future.

For information regarding options and stock-based compensation awards outstanding and available for future grants, see "Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters."

Performance Graph

The following graph compares the cumulative total return of an investment in our common stock over the five-year period ended December 31, 2018, as compared with the cumulative total return of an investment in (i) the Center for Research in Securities Prices ("CRSP") Total Return Index for Nasdaq Stock Market (U.S. companies) and (ii) the CRSP Total Return Index for Nasdaq Computer and Data Processing Stocks. The comparison assumes $100 was invested on December 31, 2013, in our common stock and in each of the two indices and assumes reinvestment of all dividends, if any. The stock price performance on the following graph is not necessarily indicative of future stock price performance. A listing of the companies comprising each of the CRSP- NASDAQ indices used in the following graph is available, without charge, upon written request.

Sale of Unregistered Securities

None.

Purchases of Equity Securities by the Issuer

Period	Total Number of Shares Purchased[1]	Average Price Paid per Share		Total Number of Shares Purchased as part of Publicly Announced Plans or Programs	Maximum Number (or Appropriate Dollar Value) of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs	
October 1, 2018 to October 31, 2018	—	$	—	—	$	—
November 1, 2018 to November 30, 2018	914	$	6.67	—	$	—
December 1, 2018 to December 31, 2018	—	$	—	—	$	—
Total	914	$	6.67	—	$	—

[1] Of the total number of shares repurchased for the one month period ended November 30, 2018, 914 shares of Restricted Stock were withheld by us upon the vesting of outstanding Restricted Stock. These shares were withheld by us to satisfy the minimum statutory tax withholding for the employees for whom Restricted Stock vested during the applicable period, which is required once the Restricted Stock is vested.

Item 6. Selected Financial Data

The following selected financial data should be read in conjunction with "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations," and the consolidated financial statements and notes thereto. No cash dividends were declared in any of the five years shown below:

	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(In thousands, except per share data)				
Statement of Operations Data:					
Revenues	$70,478	$65,663	$60,144	$54,713	$50,347
Cost of revenue	15,186	12,602	10,533	9,593	8,324
Gross margin	55,292	53,061	49,611	45,120	42,023
Research and development expenses	11,323	10,980	9,553	8,317	9,051
Selling, general and administrative expenses	33,999	31,871	30,742	28,887	26,222
Income tax expense (benefit)(1)	(4,720)	18,606	3,692	3,144	2,830
Net income (loss)	15,444	(8,057)	5,837	5,016	4,103
Basic income (loss) per common share	$0.29	$(0.15)	$0.11	$0.09	$0.07
Diluted income (loss) per common share	$0.29	$(0.15)	$0.11	$0.09	$0.07
Shares used in computing basic income per common share	52,592	53,430	53,820	56,422	57,949
Shares used in computing diluted income per common share	53,481	53,430	54,395	57,476	58,967
Statements of Cash Flows Data:					
Net cash flows provided by (used for):					
Operating activities	$16,671	$18,204	$15,251	$15,617	$13,317
Investing activities	(15,952)	(11,285)	(2,136)	(1,951)	(3,402)
Financing activities	(6,593)	(367)	(15,322)	(6,687)	(15,748)
Balance Sheet Data:					
Cash, Cash Equivalents and Marketable Securities	$27,109	$33,009	$26,457	$28,664	$21,685
Working capital(2)	(7,665)	2,104	2	3,821	2,249
Total assets	104,640	81,308	82,358	87,286	83,724
Stockholders' equity	60,947	43,520	49,070	56,772	56,270

(1) The $4.7 million income tax benefit in 2018 resulted from the release of a portion of our deferred tax asset valuation allowance. Based on analysis of both projected and current earnings, we have estimated our deferred tax asset as likely to be utilized prior to expiration, thus triggering this release. On December 22, 2017, the U.S. enacted the Tax Cuts and Jobs Act of 2017 (the "Tax Act") which significantly changed U.S. tax law. The Tax Act lowered the Company's statutory federal income tax rate from 34% to 21% effective January 1, 2018. At December 31, 2017, the Company adjusted its deferred tax balances to reflect the new tax rate that resulted in income tax expense of $12.5 million in that year. See "Income Taxes" in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations."

(2) Working capital includes deferred revenue totaling $30.6 million, $28.4 million, $25.8 million, $23.2 million and $21.6 million, as of December 31, 2018, 2017, 2016, 2015, and 2014, respectively.

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

The following discussion and analysis contains forward-looking statements about trends, uncertainties and our plans and expectations of what may happen in the future. Forward-looking statements involve risks and uncertainties that could cause actual events or results to differ materially from the events or results described in the forward-looking statements, including risks and uncertainties described above in “Item 1A. Risk Factors.” Readers are cautioned not to place undue reliance on forward-looking statements. The forward-looking statements in this report are based upon information available to us on the date of this report. We undertake no obligation to publicly update or revise any forward-looking statements. See “NOTE ON FORWARD-LOOKING STATEMENTS AND RISK FACTORS” in “Item 1. Business.”

The following discussion should be read in conjunction with the consolidated financial statements and related notes beginning on page F-1.

Overview

We are a leader in providing email security. We provide email encryption, DLP, advanced threat protection, archiving, and BYOD solutions to meet the data protection and compliance needs of organizations primarily in the healthcare, finance, and government sectors. A core competency is our ability to deliver this complex service offering with a high level of availability, reliability, integrity and security.

Our 2018 results included record revenues. We attribute our success to on-going efforts to build a solid and predictable business based on our successful recurring revenue subscription business model. For 2018, we continued to benefit from growing concerns about data security and integrity issues, which continue to make headline news, as well as the growing acceptance of cloud-based offerings along with the growing regulatory compliance burdens on many businesses.

For 2018, we reported revenue of $70.5 million, an increase of $4.8 million over the prior year, driven by both continued growth in our subscriber base and new sales attributable to our Erado and Greenview acquisitions.

For the year ended December 31, 2018, our gross profit of $55.3 million increased 4% compared to 2017. This increase was primarily driven by increased revenue. Our 2018 operating income of $10.0 million decreased $240 thousand over the prior year, as the gross profit increase was offset primarily by increased general and administrative expense, related to additional headcount and acquisition related costs.

Our $15.4 of million net income in 2018 is an increase of $23.5 million compared to our $8.1 million net loss in 2017. Our 2018 net income includes a $7.8 million tax benefit resulting from a decrease to our deferred tax asset valuation allowance based on expected future profitability and ability to use net operating losses. This compares to a $12.5 million tax expense incurred in 2017 due to enactment of the Tax Act, which required us to reduce the valuation of our deferred tax asset.

Other Financial Highlights

- Backlog was $73.0 million at the end of 2018, compared with $72.6 million at the end of 2017.
- Total orders for 2018 were $73.3 million, an increase of 24% from 2017 total orders of $58.9 million.
- Our deferred revenue at the end of 2018 was $32.1 million, compared with $29.4 million at the end of 2017.
- We generated cash flows from operations of $16.7 million during fiscal 2018. Our cash and cash equivalents were $27.1 million at the end of 2018, compared with $33.0 million at the end of 2017.
- Our shared, cloud-based ZixDirectory now has approximately 60 million members including from some of the most respected institutions in the country.

Our services are sold on a subscription basis with contract terms generally ranging from one to five years. At the end of the contract term we attempt to renew the subscription for the originally contracted period. Our customers pay us annually at the start of the subscription term and each succeeding year on the anniversary of the commencement of the service. We recognize revenue ratably on a monthly basis over the term of the subscription once service commences.

We attempt to grow the business by signing new customers to subscription services and/or selling new or higher volume services to existing customers (i.e., “upsell”) while retaining existing customers through renewal of their subscriptions for successive periods.

Our total orders consist of orders from new customers, sale of additional products or features to existing customers, plus renewal orders. Total orders may vary from quarter to quarter due to the timing of renewal orders, which will fluctuate in amount due to timing and length of expiring subscription terms. Similarly, total new orders and upsell orders will fluctuate in amount due to term length.

To better understand new orders, management tracks the first year value of new orders as well as the total order value for the subscription term because total order value will exceed the first year value on multi-year orders. By segregating the first year value of new orders, we eliminate the fluctuation in total order amount caused by the dollar impact of multi-year contracts. We refer to this metric as New First Year Orders ("NFYOs").

Our backlog consists of the total order value of contracted business that has not yet been recognized into revenue. Backlog is calculated by adding to the existing contracted order value the total value of all orders booked in the period (e.g., quarterly) less the value of revenue recognized for that period. Although orders are non-cancellable, occasionally we adjust backlog for customer bankruptcy or change of term, but these instances are rare and do not materially impact the backlog amount. The backlog will grow if the value of total orders added in a period exceeds the value of revenue recognized in that period. Conversely, the backlog amount will decline if revenue recognized exceeds the total order value added for the period. A decline in backlog may result from fluctuations in total orders caused by timing of renewal orders described above as well as the shortening of the average term of our contracts.

As of December 31, 2018, we retained approximately 87% of our recurring revenue on an annual basis. We calculate this percentage by identifying the current period revenue less revenue associated with orders for new services received in the prior twelve month period and comparing this amount to the total revenue in the corresponding prior year period. Our recurring revenue retention has been impacted by the 2017 merger and acquisition activity of three health care customers, as well as by loss due to customer migration to Office 365 from their on-premise-based hardware encryption solution. The Company has focused efforts to either shift those remaining customers still using their hardware-based platform to the Zix cloud platform, or to secure long term commitments from those customers who instead wish to retain their existing hardware-based solutions. Based on these continued efforts, we expect our recurring revenue retention to return to the 90% range going forward. Deferred revenue is the value of contracted business that has been paid but has not been recognized as revenue. See description of the components of the backlog following in "Backlog and Orders In this "Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations."

Our revenue growth is dependent on our ability to sell subscription services to new customers, sell additional products or features or increase volume with existing customers and retain existing customers by renewing their subscription services. Generally, if annual NFYOs exceed the annual value of discontinued or non-renewed subscriptions, revenue should grow. However, revenue growth may fluctuate due to timing of deployment of new services and subscription cancellations. For example, a new order reported in NFYOs in one quarter may not be deployed to the customer until the following quarter and therefore delay commencement of revenue recognition. Similarly, a cancellation of a contract with an expiration in the first month of a quarter will have a higher negative impact on revenue in the quarter than a contract of the same amount with an expiration in the last month of a quarter. The impact of these quarter to quarter fluctuations tends to diminish over annual periods making year over year quarterly revenue comparisons more indicative of revenue growth than sequential quarterly revenue comparisons.

Our operations and future prospects are further discussed throughout this "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations."

There are no assurances we will be successful in our efforts to achieve continued growth. Our continued growth depends on the timely development and market acceptance of our products and services. See "Item 1A. Risk Factors" for more information on the risks relative to our operations and future prospects.

Revenue

Revenue increased by 7% in 2018 compared with 2017. Our revenue growth was driven by new sales attributable to our Erado and Greenview acquisitions, a successful subscription model that continues to yield steady additions to the subscriber base, and a high rate of renewing existing customers supported by our migration of customers to our cloud platform.

Critical Accounting Policies and Estimates

In preparing our consolidated financial statements, we make estimates, assumptions and judgments that can have a significant impact on revenue, income from operations and net income, as well as the value of certain assets and liabilities on our consolidated balance sheet. The application of our critical accounting policies requires an evaluation of a number of complex criteria and significant accounting judgements by us. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgements about the carrying values of assets and liabilities. We evaluate our estimates on a regular basis and make changes accordingly. Senior management has discussed the development, selection and disclosure of these estimates with the Audit Committee of our Board of Directors. Actual results may materially differ from these estimates under different assumptions or conditions. If actual results were to materially differ from these estimates, the resulting changes could have a material adverse effect on our consolidated financial statements.

We consider accounting policies to be critical when they require us to make assumptions about matters that are highly uncertain at the time the accounting estimate is made and when different estimates that our management reasonably has used have a material effect on the presentation of our financial condition, changes in financial condition or results of operations. Management believes the following critical accounting policies reflect our more significant estimates and assumptions used in the preparation of our consolidated financial statements.

Our critical accounting policies included the following:

- Revenue recognition
- Commission amortization
- Income taxes
- Valuation of goodwill and other intangible assets
- Stock-based compensation costs

For additional discussion of the Company's significant accounting policies, refer to Note 2 to our consolidated financial statements.

Revenue Recognition

In May 2014, The Financial Accounting Standards Board ("FASB") issued ASC 606 which requires revenue recognition when promised goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled to those goods and services. The standard became effective for us in 2018, but did not have a material impact to our revenue recognition process. For additional information regarding our adoption of ASC 606 please see "New Accounting Standards."

We earn our revenue from subscription fees for rights related to the use of our software. Our revenue contracts include multiple performance obligations that are highly interdependent and consist of software at the customer's site, ongoing customer support, and cloud-based access to the hosted Zix encryption network. As our Company has expanded its portfolio of message security offerings in recent years, we have increased our revenue obtained from hosted service solutions. Approximately 38% of our revenue in 2018 was derived from hosted email protection solutions.

Our subscription terms typically range from one to five years.

Revenue is recognized by applying the following steps:

- Step 1: Identify the contract(s) with a customer,
- Step 2: Identify the performance obligations in the contract,
- Step 3: Determine the transaction price
- Step 4: Allocate the transaction price to the performance obligations in the contract, and
- Step 5: Recognize revenue when (or as) the performance obligation is satisfied.

- Step 1: Identify the contract(s) with a customer:

We consider the terms and conditions of the contract and our customary business practice in identifying our contracts. We determine we have a contract with a customer when (i) the contract is approved, (ii) we can identify each party's rights regarding the services and products transferred, (iii) we can identify the payment terms for the services and products, (iv) the contract has commercial substance, and (v) it is probable we will be paid.

- Step 2: Identifying the performance obligations:

ASC 606 requires identification and disclosure of performance obligations within a revenue contract. A good or service is considered distinct if the customer can both benefit from the good or service on its own or with other resources that are readily available to the customer, and the promise to transfer the good or service is separately identifiable from other promises in the contract.

As of December 31, 2018, revenue from our email protection services represented 100% of our revenue, of which approximately 88% was specific to email encryption. To provide this service, our software at the customer site includes functionality to create a private encryption key that works in conjunction with the public encryption key provided via cloud-based access to our hosted Zix encryption network. Both keys are required to enable our asymmetrical encryption service. In our assessment of the factors listed in ASC 606-10-25-21, we have determined that because our software at the customer's site and the access to our hosted Zix encryption network are highly interrelated, these items are not regarded as distinct components. Based on this assessment, these elements are combined as a single performance obligation.

- Step 3: Determine the transaction price:

The transaction price is determined based on the consideration we expect to be entitled to receive in exchange for transferring goods and services to the customer. We include variable consideration in the transaction price if we view it probable that a significant future reduction of cumulative revenue under the contract will not occur.

- Step 4: Allocate the transaction price to the performance obligations in the contract:

We allocate transaction prices to each performance obligation based on the stand-alone selling price of our component services.

- Step 5: Recognize revenue when (or as) the performance obligation is satisfied:

We recognize revenue when the customer obtains control of the product or services, at the amount allocated to the satisfied performance obligation. Our performance obligations are generally satisfied over time.

While some contracts include one or more performance obligations (including the combined elements noted above along with additional ongoing customer support and other hosted services), the revenue recognition pattern generally is not impacted by the separate allocations of these obligations because the services are generally satisfied over the same period of time and revenue is recognized over the contract period. Discounts provided to customers are recorded as reductions in revenue.

Commission Amortization

We amortize our commission costs to expense on a systemic basis over the period of expected benefit to the customer. Determination of the amortization period requires significant judgement. We apply the practical expedient noted in ASC 606-10-104 to account for our commission costs and related amortizations at the portfolio level. Additionally,

the Company has evaluated commissions earned upon contract renewal as compared to initial commissions paid and determined that because commissions paid were not reasonably proportional to their respective contract values, our renewal commissions could not be considered commensurate with the initial commissions paid.

We considered our average contract term length and historical customer retention rates to determine an average length of our customer relationships. We also concluded our add-on sales generally occur halfway into our customer relationships, and evaluated our average customer renewal terms. Based on these factors we have determined that 8 years, 4 years and 18 months are the appropriate amortization periods to our new, add-on, and renewal sales commission expenses, respectively. We also perform subsequent assessments for impairment of the related deferred cost asset when indicators present.

Income Taxes

Deferred tax assets are recognized if it is “more likely than not” that our benefit of the deferred tax assets will be realized on future federal or state income tax returns. At December 31, 2018, we provided a valuation allowance against a significant portion, $22.7 million, of our accumulated U.S. deferred tax assets. This significant valuation allowance reflects our historical losses and the uncertainty of future taxable income sufficient to utilize net operating loss carryforwards prior to their expiration. Our total deferred tax assets not subject to a valuation allowance are valued at $28.8 million, and consist of $27.0 million for federal net operating loss carryforwards, $2.1 million relating to U.S. state income tax credits, and $678 thousand related to Alternative Minimum Tax credits, and $114 thousand related to foreign tax credits. These credits are offset by ($1.2) million relating to temporary timing differences between U.S. Generally Accepted Accounting Principles (“GAAP”) and tax-related expense. If our U.S. taxable income increases from its current level in a future period or if the facts and circumstances on which our estimates and assumptions are based were to change, thereby impacting the likelihood of realizing our deferred tax assets, judgment would have to be applied in determining the amount of valuation allowance no longer required. Reversal of all or a part of this valuation allowance could have a significant positive impact on operating results in the period that it becomes more likely than not that certain of the Company’s deferred tax assets will be realized. Alternatively, should our future income decrease from current levels, a resulting increase to all or a part of this valuation allowance could have a significant negative impact on our operating results.

Valuation of Goodwill and Other Intangible Assets

We account for the valuation of goodwill and other intangible assets after classifying intangible assets into three categories: (1) intangible assets with finite lives subject to amortization; (2) intangible assets with indefinite lives not subject to amortization; and (3) goodwill. For intangible assets with finite lives, tests for impairment must be performed if conditions exist that indicate that the carrying value may not be recoverable. For intangible assets with indefinite lives and goodwill, tests for impairment must be performed at least annually or more frequently if events or circumstances indicate that assets might be impaired.

Goodwill was $13.8 million, or 13%, and $8.5 million, or 10% of total assets, in each of the years ended December 31, 2018 and 2017, respectively.

We evaluate goodwill for impairment annually in the fourth quarter, or when there is reason to believe that the value has been diminished or impaired. Evaluations for possible impairment are based upon a comparison of the estimated fair value of the reporting unit to which the goodwill has been assigned, versus the sum of the carrying value of the assets and liabilities of that unit including the assigned goodwill value. We include our entire Company as the reporting unit. The fair values used in this evaluation are estimated based on the Company’s market capitalization, which is based on the Company’s outstanding common stock and market price of the stock. Impairment is deemed to exist if the net book value of the unit exceeds its estimated fair value. We evaluated our goodwill in the fourth quarter of 2018 and determined no impairment adjustment is required.

Our intangible assets with finite lives are amortized using a straight-line basis over their economic useful lives.

Stock-based Compensation

Our share-based awards include stock options, restricted stock awards and restricted stock units. We have non-qualified stock options outstanding to employees and directors under various stock option plans. The plans require the exercise price of options granted under these plans to equal or exceed the fair market value of the Company’s common stock on the date of grant. The options, subject to termination of employment, generally expire ten years from the date of grant. Employee stock options typically vest pro-rata and quarterly over three or four years. Restricted stock is issued to the employee at grant but is subject to vesting and transfer restrictions. Stock is issued in exchange for restricted stock units when vesting conditions are met. The transfer restrictions and vesting conditions may be time- or performance-based. Restricted stock and restricted stock units typically vest pro-rata annually over three or four years. We use the straight-line amortization method for recognizing stock-based compensation costs. The weighted average grant-date fair value of awards of restricted stock, and restricted stock units is based on the quoted market price of the Company’s common stock on the date of grant. Option, restricted stock and restricted stock unit grants to employees, officers and directors frequently contain accelerated vesting provisions upon the occurrence of a change of control, as defined in the applicable grant agreements.

Full Year 2018 Summary of Operations

Financial

- Revenue for 2018 was $70.5 million compared with $65.7 million in 2017 and $60.1 million in 2016.
- Gross margin for 2018 was $55.3 million or 78% of revenues compared with $53.1 million or 81% of revenues in 2017 and with $49.6 million or 82% of revenues in 2016. Our 2018 decrease in gross margin is related to our Erado acquisition. We expect the Erado gross margins to improve as we complete recognition of our acquired deferred revenue and recognize the value of revenue earned on post-acquisition sales.
- Net income (loss) for 2018 was $15.4 million compared with $(8.1) million in 2017 and $5.8 million in 2016. Our 2018 net income includes a $7.8 million tax benefit resulting from a decrease to our deferred tax asset valuation allowance based on our expected future profitability and ability to use net operating losses. This compares to a $12.5

million tax expense incurred in 2017 due to enactment of the Tax Act, which required us to reduce the valuation of our deferred tax asset

- Net income (loss) per diluted share was $0.29 for 2018 compared with $(0.15) for 2017 and $0.11 for 2016.
- Unrestricted cash was $27.1 million on December 31, 2018.

Results of Operations

Revenue

The following table sets forth a year-over-year comparison of our total revenues:

	Year Ended December 31,			Variance 2018 vs. 2017		Variance 2017 vs. 2016	
(In thousands)	2018	2017	2016	$	%	$	%
Revenues	$70,478	$65,663	$60,144	$4,815	7%	$5,519	9%

Our growth model seeks to continually add new users to the subscriber base, while at the same time retaining a high percentage of existing subscribers whose subscriptions are up for renewal. In the year ended December 31, 2018, we categorized our revenue in the following core verticals: 49% healthcare, 29% financial services, 7% government sector, and 15% as other. In the year ended December 31, 2017, we categorized our revenue in the following core verticals: 49% healthcare, 28% financial services, 7% government sector, and 16% as other. The disaggregation of revenue by industry verticals does not include our revenue from Greenview and Erado.

Additionally, sales continued from a wide base of distributors –NFYO's derived from our value-added resellers, OEM and other third party distribution channels for 2018 were 43% of total NFYOs compared to 56% in 2017 and 57% in 2016. The 2018 reduction in orders received from our OEM channels was due in part to a migration of customers from our Google relationship into a direct relationship with Zix. We measure additions to the subscriber base by NFYOs, which is defined as the portion of new orders that are expected to be recognized into revenue in the first twelve months of the contract. NFYOs are summarized in the table below:

	Year Ended December 31,		
(In thousands)	2018	2017	2016
New first year order value	$11,282	$9,340	$9,524

While we introduced bundled email security pricing during 2017 and have continued to add new bundled price offerings to our product portfolio, our list pricing has remained generally consistent during the periods shown above. However, there are no assurances that potential increased competition in this market or other factors, including inflation, will not result in future price erosion. Price erosion, should it occur, could have a dampening effect on order growth and the revenue derived from our new orders.

Revenue Outlook:

We expect continued growth in our core Email Encryption offering and in our new products, along with increased sales from our managed security service providers and value-added reseller channels to increase our NFYOs in 2019 and increase our year-over-year revenue.

Backlog and Orders

Backlog — Our backlog was $73.0 million at December 31, 2018 compared with $72.6 million at December 31, 2017. The backlog is comprised of contractual commitments that we expect to amortize into revenue. As of December 31, 2018, the backlog was comprised of the following elements: $32.1 million of deferred revenue that has been billed and paid, $10.7 million billed but unpaid, and approximately $30.2 million of unbilled contracts.

The backlog is recognized into revenue ratably as the services are performed. Approximately 65% of the total backlog is expected to be recognized as revenue during the next twelve months.

Orders — Total orders in 2018 were $73.3 million compared with $58.9 million in 2017. Total orders are comprised of contract renewals, NFYOs, and in the case of new multi-year contracts, the years beyond the first year of service.

Cost of Revenue

The following table sets forth a year-over-year comparison of the cost of revenue.

	Year Ended December 31,			Variance 2018 vs. 2017		Variance 2017 vs. 2016	
(In thousands)	2018	2017	2016	$	%	$	%
Cost of revenue	$15,186	$12,602	$10,533	$2,584	21%	$2,069	20%

Cost of revenue is comprised of expenses related to operating and maintaining the ZixData Center, a field deployment team, customer service and support and the amortization of Company-owned, customer-based computer appliances. The 21% increase in cost of revenue in 2018 compared with 2017 reflected in the table above resulted primarily from increases in average headcount, which include additional ZixArchive support gained in the Erado acquisition in April 2018 and the ZixProtect support team gained in the Greenview acquisition in March 2017. We are also incurring additional costs associated with leased equipment supporting Advanced Threat Protection, and we are amortizing expense resulting from the acquisition of technology. Additional increases relate to standard software maintenance and license support, and depreciation and other expense relating to investments in networking equipment.

The 20% increase in cost of revenue in 2017 compared with 2016 reflected in the table above resulted primarily from increases in average headcount expense, including our ZixProtect support team gained in the Greenview acquisition in March 2017. We also incurred additional costs associated with leased equipment supporting Greenview customers and we began amortizing expense resulting from the acquisition of Greenview’s internally developed software.

Research and Development Expenses

The following table sets forth a year-over-year comparison of our research and development expenses:

				Variance 2018 vs. 2017		Variance 2017 vs. 2016	
	Year Ended December 31,						
(In thousands)	2018	2017	2016	$	%	$	%
Research and development expenses	$11,323	$10,980	$9,553	$343	3%	$1,427	15%

Research and development expenses consist primarily of salary, benefits and stock-based compensation for our development staff, independent contractor expense, and other direct and indirect costs associated with enhancing our existing products and services and developing new products and services.

The 3% increase in research and development expense in 2018 compared with 2017 reflected in the table above resulted primarily from an increase in travel and average headcount, including the ZixProtect and additional ZixArchive R&D employees gained in the Greenview acquisition and Erado acquisition in March 2017 and April 2018, respectively, partially offset by $1.5 million of costs related to development of new features and functionality for our hosting service arrangements which we began capitalizing in 2018.

The 15% increase in research and development expense in 2017 compared with 2016 reflected in the table above resulted primarily from additional headcount expense, including ZixProtect R&D employees gained in the Greenview acquisition in March 2017.

Selling and Marketing Expenses

The following table sets forth a year-over-year comparison of our selling and marketing expenses:

				Variance 2018 vs. 2017		Variance 2017 vs. 2016	
	Year Ended December 31,						
(In thousands)	2018	2017	2016	$	%	$	%
Selling and marketing expenses	$20,380	$20,472	$19,015	$(92)	(0)%	$1,457	8%

Selling and marketing expenses consist primarily of salary, commissions, travel, stock-based compensation and employee benefits for selling and marketing personnel as well as costs associated with promotional activities and advertising.

The $92 thousand decrease in selling and marketing expense in 2018 compared with 2017 resulted from lower commission and bonus expenses driven by our implementation of GAAP accounting rule ASC 606, which became effective for our Company on January 1, 2018, and lower advertising and marketing costs. This decrease was offset by additional headcount expenses, including the employees gained in the April 2018 Erado acquisition and the expansion of our business development lead qualifications team, stock based compensation, travel, and the amortization of acquisition related intangible assets.

The $1.5 million increase in selling and marketing expense in 2017 compared with 2016 resulted from the addition of sales leadership, sales executives, and the buildout of our Customer Success team. Additional amortization expense resulting from Greenview’s customer base and brand were offset by decreased advertising as compared to our 2016 branding initiative.

General and Administrative Expenses

The following table sets forth a year-over-year comparison of our general and administrative expenses:

	Year Ended December 31,			Variance 2018 vs. 2017		Variance 2017 vs. 2016	
(In thousands)	2018	2017	2016	$	%	$	%
General and administrative expenses	$13,619	$11,399	$11,727	$2,220	19%	$(328)	(3%)

General and administrative expenses consist primarily of salary and bonuses, travel, stock-based compensation and benefits for administrative and executive personnel as well as fees for professional services and other general corporate activities. The $2.2 million increase in general and administrative expense from 2018 compared with 2017 resulted from an increase in acquisition-related costs, consulting fees, stock-based compensation expense, the addition of our Erado office, and amortization expense of internal use software, as well as other general and administrative costs due to increase of headcount.

The $0.3 million decrease in general and administrative expense from 2017 compared with 2016 resulted from a $2.6 million reduction in legal fees specific to intellectual property litigation, offset by increased headcount and stock-based compensation expenses, revaluation of earn-out costs associated with our Greenview acquisition, the addition of the Greenview office, and investment in an ERP solution.

Income Taxes

Our Company or one of our subsidiaries files income tax returns in the U.S. federal jurisdiction and various states and in the Canadian federal and provincial jurisdictions. We recognize and measure uncertain tax positions using a two-step approach. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon settlement.

Our Company incurred a tax benefit of $4.7 million, and incurred tax expense of $18.6 million, and $3.7 million for 2018, 2017, and 2016, respectively. Our 2018 tax benefit includes a $7.8 million release to our deferred tax asset valuation allowance based on expected future profitability. On December 22, 2017, the U.S. enacted the Tax Act which significantly changed U.S. tax law. The Tax Act lowered the Company's statutory tax rate from 34% to 21% effective January 1, 2018. At December 31, 2017, the Company adjusted its deferred tax balances to reflect the new tax rate that resulted in tax expense of $12.5 million. For all years presented, tax expense represented deferred tax expense, refundable U.S. Alternative Minimum Tax, U.S. research and development credits, non-U.S. taxes payable related to the operations of the Company's Canadian subsidiary established in late 2002, and state income taxes.

Significant judgement is required in determining any valuation allowance recorded against deferred tax assets. In assessing the need for a valuation allowance, we consider available evidence, including past earnings, estimates of future taxable income, and the feasibility of tax planning strategies. At December 31, 2018, the Company partially reserved its U.S. net deferred tax assets due to the uncertainty of future taxable income sufficient to utilize net loss carryforwards prior to their expiration. The portion of the Company's deferred tax asset not reserved was $28.8 million. The majority of this unreserved portion related to $27.0 million U.S. net operating losses ("NOLs") because we believe the Company will generate sufficient taxable income in future years to utilize these NOLs prior to their

expiration. The remaining balance consists of $2.1 million relating to U.S. state tax income credits, $678 thousand related to Alternative Minimum Tax credits, and $114 thousand related to foreign tax credits. These items are offset by ($1.2) million relating to temporary timing differences between GAAP and tax-related expense.

We have determined that utilization of existing NOLs against future taxable income is not limited by Section 382 of the Internal Revenue Code. Future ownership changes, however, may limit the Company's ability to fully utilize its existing net operating loss carryforwards against any future taxable income.

If we begin to generate additional U.S. taxable income in a future period or if the facts and circumstances on which our current estimates and assumptions are based were to change, thereby impacting the likelihood of realizing a greater or lesser amount of our deferred tax assets, judgement would have to be applied in determining the amount of valuation allowance required. Adjusting our valuation allowance could have a significant impact on operating results in the period that it becomes more likely than not that an additional portion of our deferred tax assets will or will not be realized.

Our provision for income taxes is subject to volatility and could be adversely impacted by earnings being lower or higher than anticipated; by tax effects of nondeductible compensation; or by changes in tax laws, regulations, or accounting principles, including accounting for uncertain tax positions or interpretations. Significant judgment is required to determine the recognition and measurement applicable to all income tax positions. This includes the potential recovery of previously paid taxes, which if settled unfavorably could adversely affect our provision for income taxes or additional paid-in capital. In addition, our income tax returns are subject to examination by the Internal Revenue Service and other tax authorities. We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income.

Net Income (Loss)

Net Income (Loss) – The Company generated net income of $15.4 million compared with a net loss of $8.1 million in 2017 and net income of $5.8 million in 2016. The increase in our net income is primarily due to revenue growth and a 2018 tax benefit resulting from the decrease to our deferred tax asset valuation allowance as compared to the tax expense incurred following 2017 tax-reform legislation, as discussed above.

Liquidity and Capital Resources

Overview

Based on our 2018 financial results and current expectations, we believe our cash and cash equivalents, cash generated from operations, and availability under our $25 million revolving credit facility and $10 million delayed draw term loan facilities, will satisfy our working capital needs, capital expenditures, investment requirements, contractual obligations, commitments, , and other liquidity requirements associated with our operations through at least the next twelve months. We plan for and measure our liquidity and capital resources through an annual budgeting process. During 2018, our cash flow from operations was $16.7 million, a decrease of $1.5 million from the $18.2 million cash flow from operations during 2017. At December 31, 2018, our cash and cash equivalents totaled $27.1 million, a decrease of $5.9 million from the December 31, 2017 balance, and we had no bank debt. The $5.9 million decrease in our cash position indicated our expenditure of $11.8 million, net of cash acquired, related to our Erado purchase in April 2018 and $6.0 million related to our share repurchase activity, as discussed elsewhere herein. As disclosed elsewhere in this Annual Report on Form 10-K, on February 20, 2019, we obtained a $25 million revolving credit facility and a $10 million delayed draw term loan facility from a syndicate of banks, which can be used to manage our future liquidity needs.

For the year ended December 31, 2018, we achieved 7% growth in revenue, 78% gross margin and strong cash collections. While future results cannot be guaranteed, we expect these trends to continue in the foreseeable future, and believe a significant portion of our spending is discretionary and flexible and that we have the ability to adjust overall cash spending and raise additional funds in order to react, as needed, to any shortfalls in projected cash.

Sources and Uses of Cash

	Years Ended December 31,		
(In thousands)	2018	2017	2016
Net cash provided by operations	$16,671	$18,204	$15,251
Net cash used in investing activities	$(15,952)	$(11,285)	$(2,136)
Net cash used in financing activities	$(6,593)	$(367)	$(15,322)

Our primary source of liquidity from operations was the collection of revenue in advance from our customers, accounts receivable from our customers, and the management of the timing of payments to our vendors and service providers.

Investing activities in 2018 consist of $11.8 million, net of cash acquired, used in the acquisition of Erado and $4.2 million for capital expenditures, which include $2.1 million for computer and networking equipment, $1.5 million in internal research and development costs of hosting arrangement for our customers, and $500 thousand for other activities including the acquisition of other internal use software. These investments in new equipment and cloud hosting infrastructure are to modernize our business processes and product offerings. Cash used in our investing activities for 2017 consisted of $8.2 million, net of cash acquired, used in the acquisition of Greenview and Entelligence Messaging Server technology. We additionally purchased $2.2 million of computer and networking equipment, and invested $802 thousand in new systems to modernize our business processes.

Financing activities in 2018 relate primarily to $5.4 million used in a $10 million share repurchase program authorized by our Board of Directors on April 24, 2017, and $656 thousand used in the repurchase of common stock related to the tax impact of vesting restricted stock awards, and a $605 thousand earn-out payment associated with our acquisition of Greenview. Financing activities in 2017 include $3.8 million used in the same share repurchase program and $762 thousand used in the repurchase of common stock related to the tax impact of vesting restricted awards offset by the receipt of $4.2 million from the exercise of stock options.

Options of Zix Common Stock

We have significant options outstanding that are currently vested. There is no assurance that any of these options will be exercised; therefore the extent of future cash inflow and related dilution from additional option activity is not certain. The following table summarizes the options that were outstanding as of December 31, 2018. The vested options are a subset of the outstanding options. The value of the options is the number of options exercisable into shares multiplied by the exercise price for each share.

Summary of Outstanding Options

Exercise Price Range	Outstanding Options	Total Value of Outstanding Options (In thousands)	Vested Options (included in outstanding options)	Total Value of Vested Options (In thousands)
$2.00 - $3.49	431,813	1,112	431,813	1,112
$3.50 - $4.99	492,010	1,871	385,760	1,473
Total	923,823	$ 2,983	817,573	$ 2,585

Liquidity Summary

Based on our current 2019 budget plans, we believe we have adequate resources and liquidity to sustain operations or raise capital as needed for at least the next twelve months.

Off-Balance Sheet Arrangements

None.

Contractual Obligations and Contingent Liabilities and Commitments

We have total contractual obligations of $1.6 million over the next year and $3.9 million over the next three years primarily consisting of various operating office lease agreements. The lease of our headquarters facility in Dallas expires in 2024.

A summary of our fixed contractual obligations and commitments at December 31, 2018, is as follows:

	Payments Due by Period				
(In thousands)	Total	1 Year	2-3 Years	4-5 Years	> 5 Years
Operating leases	$6,983	$1,625	$2,292	$2,205	$ 861

As of December 31, 2018, we had severance agreements with certain employees which would require us to pay up to approximately $5.8 million if all such employees were terminated from employment with our Company following a triggering event (e.g., change of control) as defined in the severance agreements.

New Accounting Standards

Revenue Recognition

In May 2014, the FASB issued ASC 606, which supersedes most prior revenue recognition guidance under U.S. Generally Accepted Accounting Principles (“GAAP”). The core principle of ASC 606 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled for those goods or services. ASC 606 defines a five step process to achieve this core principle and, in doing so, more judgment and estimates may be required within the revenue recognition process than were required under prior U.S. GAAP. The standard became effective for us beginning in 2018. Our Company provides primarily email encryption and advanced threat protection security solutions as subscription services in which we recognize revenue as our services are rendered. We determined our revenue was not materially impacted by the new guidance. However, the guidance did require us to increase the amortization period of our sales commission expense. We applied the guidance to commissions earned on all contracts that were not complete as of January 1, 2018. Prior period amounts have not been adjusted and continue to be reported in accordance with the previous guidance. Our Company elected a portfolio approach, applying 8 years, 4 years and 18 month amortization periods for our to our new, add-on, and renewal sales commission expenses, respectively. Determination of the amortization period and subsequent assessments for impairment of the related deferred cost asset requires significant judgement.

We applied a modified retrospective approach to our implementation of ASC 606 in which we recognized a $4.6 million cumulative effect adjustment to our 2018 retained earnings opening balance related to our increased amortization period. This adjustment includes a $1.6 million impact to our deferred tax asset. The table below presents the cumulative effect of the changes made to our consolidated balance sheet due to the adoption of ASC 606:

(In thousands)	January 1, 2018		
	Beginning Balance	Cumulative Effect Adjustment	Beginning Balance, as Adjusted
Assets:			
Prepaid and other current assets	$3,222	$ (415)	$2,807
Other assets and deferred costs	—	6,595	6,595
Deferred tax assets	25,647	(1,616)	24,031
Stockholders' equity:			
Accumulated deficit	$(236,372)	$ 4,564	$(231,808)

Financial statement results as reported under the new revenue standard as compared to the previous standard for the twelve months ended and as of December 31, 2018, are as follows:

	Twelve Months Ended December 31, 2018		
(In thousands, except per share data)	Under ASC 605	Under ASC 606	Variance
Revenues	$ 70,478	$ 70,478	$ —
Cost of revenues	15,186	15,186	—
Gross margin	55,292	55,292	—
Operating expenses:			
Research and development	11,323	11,323	—
Selling, general and administrative	36,554	33,999	(2,555)
Total operating expenses	47,877	45,322	(2,555)
Operating income	7,415	9,970	2,555
Other income, net	754	754	—
Income before income taxes	8,169	10,724	2,555
Income tax expense	5,257	4,720	(537)
Net income	$ 13,426	$ 15,444	$ 2,018
Basic income per common share	$ 0.26	$ 0.29	0.04
Diluted income per common share	$ 0.25	$ 0.29	0.04

(1) Per share variance may not foot due to rounding

(In thousands)	December 31, 2018		
	Under ASC 605	Under ASC 606	Variance
Assets:			
Prepaid and other current assets	$3,760	$3,176	$(584)
Other assets and deferred costs	—	9,424	9,424
Deferred tax assets	30,401	28,785	(1,616)
Stockholders' equity:			
Accumulated deficit	$(222,946)	$(216,364)	$6,582

Cash Flow Statement

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 230), which amends guidance on the classification of certain cash receipts and payments in the statement of cash flows. This ASU was issued with the intent to reduce diversity in practice with respect to eight types of cash flows. The new guidance addressed debt prepayment or extinguishment of costs, settlement of zero-coupon bonds, contingent consideration made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies and bank-owned life insurance policies, distributions received from equity method investees, beneficial interests in securitization transactions, and separately identifiable cash flows and application of the predominance principle.

The standard became effective for us beginning in 2018. We applied the new guidance within our consolidated statements of cash flows classification to an $800 thousand earn-out payment associated with our Greenview acquisition. Because this consideration payment was not made soon after the consummation date, as required by the guidance, we classified $605 thousand of the payment as a financing activity. This reflects the portion of the payment recognized a contingent liability as of the acquisition date. The $195 thousand balance of the payment was in excess of the original contingent consideration liability and was classified as an operating activity. The standard had no other impact on our consolidated financial statements.

Leases

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842). Topic 842 requires companies to generally recognize on the balance sheet operating and financing lease liabilities and corresponding right-of-use assets. The new lease standard becomes effective for us beginning 2019. We expect to adopt Topic 842 using the effective date as the date of our initial application of the standard. Consequently, financial information for the comparative periods will not be updated. We currently expect that most of our operating lease commitments will be subject to the new standard and recognized as operating lease liabilities and right-of-use assets upon our adoption of Topic 842. We are evaluating the potential impact of this new guidance on our consolidated financial statements, and currently estimate the recognition of our outstanding lease obligations as of December 31, 2018, will result in recording right-to-use-assets and lease liabilities of $4.5 million to $6.5 million.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We do not believe that we face exposure to material market risk with respect to our cash, cash equivalents and restricted cash investments, which totaled $27.1 and $33.0 million at December 31, 2018 and 2017, respectively. We held no marketable securities and no debt as of December 31, 2018 and 2017.

Item 8. Financial Statements and Supplementary Data

The information required by this Item 8 begins on page F-1 of this Annual Report on Form 10-K.

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

None.

Item 9A. Controls and Procedures

Effectiveness of Disclosure Controls and Procedure

In accordance with Rule 13a-15(b) of the Exchange Act, as of the end of the period covered by this Annual Report on Form 10-K, management evaluated, with the participation of our principal executive officer and principal financial officer, the effectiveness of the design and operation of the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act). Based on their evaluation of these disclosure controls and procedures, they have concluded that our disclosure controls and procedures were effective as of the date of such evaluation.

Certifications of our principal executive officer and our principal accounting officer, which are required in accordance with Rule 13a- 14 of the Exchange Act, are attached as exhibits to this Annual Report. This "Effectiveness of Disclosure Controls and Procedures" section includes the information concerning controls evaluation referred to in the certifications, and it should be read in conjunction with the certifications for a more complete understanding of the topics presented.

Management's Annual Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies or procedures may deteriorate.

Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2018. In making this assessment, management used the criteria set forth in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission in "Internal Control—Integrated Framework". Based on this assessment, our management concluded that, as of December 31, 2018, our internal control over financial reporting was effective based on those criteria.

On April 2, 2018, we completed our acquisition of CM2.COM, Inc., d/b/a Erado ("Erado"). We are in the process of evaluating the existing controls and procedures of Erado and integrating Erado into our internal control over financial reporting. In accordance with SEC Staff guidance permitting a company to exclude an acquired business from management's assessment of the effectiveness of internal control over financial reporting for the year in which the acquisition is completed, we have excluded the business that we acquired in the Erado Combination from our assessment of the effectiveness of internal control over financial reporting as of December 31, 2018. The business we acquired in the Erado Combination represented approximately 9% of the Company's total assets at December 31, 2018 and 3% of the Company's revenues for the year ended December 31, 2018. The scope of management's assessment of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of December 31, 2018, includes all of the Company's consolidated operations except for those disclosure controls and procedures of Erado that are subsumed by internal control over financial reporting.

The effectiveness of our internal control over financial reporting as of December 31, 2018, has been audited by Whitley Penn LLP, an independent registered public accounting firm, as stated in their report which is included herein.

Changes in Internal Controls over Financial Reporting

During the three months ended December 31, 2018, there have been no changes in our internal control over financial reporting identified in connection with the evaluation described above that have materially affected or are reasonably likely to materially affect internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders

Zix Corporation

Opinion on Internal Control Over Financial Reporting

We have audited Zix Corporation and subsidiaries' (the "Company") internal control over financial reporting as of December 31, 2018, based on criteria established in 2013 Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in 2013 Internal Control—Integrated Framework issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company, as of December 31, 2018 and 2017, and the related consolidated statements of comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2018, and our report dated March 8, 2019 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

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

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

As indicated in the accompanying Management's Annual Report on Internal Controls over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of the business that the Company acquired in the acquisition of CM2.COM, Inc., d/b/a Erado ("Erado"), which is included in the 2018 consolidated financial statements of the Company and constituted approximately 9% of the total assets as of December 31, 2018, and approximately 3% of revenues for the year then ended. Our audit of the internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of Erado.

Definition and Limitations of Internal Control Over Financial Reporting

An entity'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 accounting principles generally accepted in the United States of America. An entity'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 entity; (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 entity are being made only in accordance with authorizations of management and directors of the entity; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the entity's assets that could have a material effect on the financial statements.

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

/s/ WHITLEY PENN LLP

Plano, Texas

March 8, 2019

Item 9B. Other Information

None.

41

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Certain information required by this Item 10 is incorporated by reference from our Proxy Statement related to our 2019 Annual Meeting of Shareholders under the sections “OTHER INFORMATION YOU NEED TO MAKE AN INFORMED DECISION — Directors, Executive Officers and Significant Employees” and “Section 16(a) Beneficial Ownership Reporting Compliance,” and “CORPORATE GOVERNANCE — Code of Ethics,” and “Nominating and Corporate Governance Committee, Selection of Director Nominees,” and “Audit Committee.”

Our Board of Directors has adopted a Code of Conduct and Code of Ethics that applies to all directors, officers and employees of the Company. A copy of this document is available on our website at www.zixcorp.com under “Corporate Governance.” Any waiver or amendment of the Code of Ethics with respect to our chief executive officer and senior financial officers will be publicly disclosed as required by applicable law and regulation, including by posting the waiver on our website.

Item 11. Executive Compensation

The information required by this Item 11, including certain information pertaining to Company securities authorized for issuance under equity compensation plans, is incorporated by reference from our Proxy Statement related to our 2019 Annual Meeting of Shareholders under the section “COMPENSATION OF DIRECTORS AND EXECUTIVE OFFICERS.”

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

The information required by this Item 12 is incorporated by reference from our Proxy Statement related to our 2019 Annual Meeting of Shareholders under the sections “SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT” and “COMPENSATION OF DIRECTORS AND EXECUTIVE OFFICERS — Equity Compensation Plan Information.”

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

The information required by this Item 13 is incorporated by reference from our Proxy Statement related to our 2019 Annual Meeting of Shareholders under the sections “COMPENSATION OF DIRECTORS AND EXECUTIVE OFFICERS — Certain Relationships and Related Transactions” and “CORPORATE GOVERNANCE — Corporate Governance Requirements and Board Member Independence.”

Item 14. Principal Accountant Fees and Services

The information required by this Item 14 is incorporated by reference from our Proxy Statement related to our 2019 Annual Meeting of Shareholders under the section “INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS.”

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a)(1) Financial Statements

See Index to Consolidated Financial Statements on page F-1 hereof.

(a)(2) Financial Statement Schedules

All schedules for which provision is made in the applicable accounting regulations of the SEC have been omitted because of the absence of the conditions under which they are required or because the information required is included in the consolidated financial statements or notes thereto.

(a)(3) Exhibits

Exhibit Number	Description
2.1	— Stock Purchase Agreement, dated as of April 2, 2018, by and among Craig Brauff, Julie Lomax Brauff, Shari Wood-Richardson, as Trustee of the Alexandra Brauff Gift Trust U/A 12/21/12, Shari Wood-Richardson, as Trustee of the Courtney Brauff Gift Trust U/A 12/21/12, Julie A. Lomax, as Trustee of the Julie Lomax Gift Trust U/A 12/21/12, and Zix Corporation. Filed as Exhibit 2.1 to Zix Corporation's Current Report on Form 8-K, filed on April 2, 2018, and incorporated herein by reference.
2.2*	— Securities Purchase Agreement, dated as of January 14, 2019, by and among Zix Corporation, AR Topco, LLC, AppRiver Marlin Blocker Corp., AppRiver Holdings, LLC, AppRiver Marlin Topco, L.P., AppRiver Management Holding, LLC, Marlin Equity IV, L.P. and Marlin Topco GP, LLC, as the sellers' representative.
3.1	— Restated Articles of Incorporation of Zix Corporation, as filed with the Texas Secretary of State on November 10, 2005. Filed as Exhibit 3.1 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2005, and incorporated herein by reference.
3.2	— Second Amended and Restated Bylaws of Zix Corporation dated November 1, 2016. Filed as Exhibit 3.2 to Zix Corporation's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2016, and incorporated herein by reference.
3.3	— Certificate of Designations of Series A Convertible Preferred Stock, as filed with the Texas Secretary of State on February 15, 2019. Filed as Exhibit 3.1 to Zix Corporation's Current Report on Form 8-K, filed on February 22, 2019, and incorporated herein by reference.
3.4	— Certificate of Designations of Series B Convertible Preferred Stock, as filed with the Texas Secretary of State on February 15, 2019. Filed as Exhibit 3.1 to Zix Corporation's Current Report on Form 8-K, filed on February 22, 2019, and incorporated herein by reference.
10.1†	— Zix Corporation 2004 Stock Option Plan (Amended and Restated as of June 7, 2007). Filed as Exhibit 10.3 to Zix Corporation's Current Report on Form 8-K, filed on June 12, 2007, and incorporated herein by reference.
10.2†	— Zix Corporation 2006 Directors' Stock Option Plan (Amended and Restated as of June 7, 2007). Filed as Exhibit 10.1 to Zix Corporation's Current Report on Form 8-K, filed on June 12, 2007, and incorporated herein by reference.
10.3†	— Form of Stock Option Agreement (with no "change in control" provision) for Zix Corporation Stock Option Plans. Filed as Exhibit 10.2 to Zix Corporation's Registration Statement on Form S-8 (Registration No. 333-126576), dated July 13, 2005, and incorporated herein by reference.
10.4†	— Form of Stock Option Agreement (with "change in control" provision) for Zix Corporation Stock Option Plans. Filed as Exhibit 10.3 to Zix Corporation's Registration Statement on Form S-8 (Registration No.

333-126576), dated July 13, 2005, and incorporated herein by reference.

10.5† — Form of Stock Option Agreement (with "acceleration event" provision) for Zix Corporation Stock Option Plans and applicable to option agreements held by the Company's chief executive officer and direct reports. Filed as Exhibit 10.17 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2007, and incorporated herein by reference.

10.6 — Zix Corporation 401(k) Retirement Plan. Filed as Exhibit 10.10 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, and incorporated herein by reference.

10.7 — Adoption Agreement relating to Zix Corporation 401(k) Retirement Plan. Filed as Exhibit 10.11 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, and incorporated herein by reference.

Exhibit Number	Description
10.8†	— Form of Zix Corporation Outside Director Stock Option Agreement Filed as Exhibit 10.3 to Zix Corporation's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2004, and incorporated herein by reference.
10.9†	— Zix Corporation Outside Director Stock Option Agreement. Filed as Exhibit 10.1 to Zix Corporation's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2010, and incorporated herein by reference.
10.10†	— Form of Zix Corporation Employee Stock Option Agreement. Filed as Exhibit 10.2 to Zix Corporation's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2010, and incorporated herein by reference.
10.11†	— Form of Director Indemnification Agreement. Filed as Exhibit 10.1 to Zix Corporation's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2016, and incorporated herein by reference.
10.12	— Form of Amended and Restated Termination Benefits Agreement. Filed as Exhibit 10.1 to Zix Corporation's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2015, and incorporated herein by reference.
10.13†	— Zix Corporation Amended and Restated 2012 Incentive Plan. Filed as Appendix A of Schedule 14A on May 13, 2015, and incorporated herein by reference.
10.14†	— Amendment No. One to Zix Corporation Amended and Restated 2012 Incentive Plan. Filed as Exhibit 10.27 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2015, and incorporated herein by reference.
10.15†	— Zix Corporation 2018 Omnibus Incentive Plan. Filed as Appendix A of Schedule 14A on April 27, 2018, and incorporated herein by reference.
10.16†	— Form of Executive Restricted Stock Agreement. Filed as Exhibit 10.22 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2017, and incorporated herein by reference.
10.17†	— Form of Executive Restricted Stock Agreement (Qualified Performance Based Award). Filed as Exhibit 10.23 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2017, and incorporated herein by reference.
10.18†	— Form of Executive Restricted Stock Unit Agreement. Filed as Exhibit 10.24 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2017, and incorporated herein by reference.
10.19†	— Form of Executive Restricted Stock Unit Agreement (Qualified Performance Based Award). Filed as Exhibit 10.25 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2017, and incorporated herein by reference.
10.20†	— Form of Non-Employee Director Restricted Stock Agreement. Filed as Exhibit 10.26 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2017, and incorporated herein by reference
10.21†	—

		Form of Non-Employee Director Deferred Stock Unit Agreement. Filed as Exhibit 10.27 to Zix Corporation's Annual Report on Form 10-K for the year ended December 31, 2017, and incorporated herein by reference.
10.22*	—	Debt Commitment Letter, dated as of January 14, 2019, by and among SunTrust Robinson Humphrey, Inc., SunTrust Bank, KeyBanc Capital Markets Inc., KeyBank National Association and Zix Corporation.
10.23*	—	Credit Agreement, dated as of February 20, 2019, by and among Zix Corporation, the lenders party thereto, and SunTrust Bank, as administrative agent.
10.24	—	Investment Agreement, dated as of January 14, 2019, by and between Zix Corporation and the investor named therein. Filed as Exhibit 10.1 to Zix Corporation's Current Report on Form 8-K, filed on January 17, 2019, and incorporated herein by reference.
10.25	—	Registration Rights Agreement, dated as of February 20, 2019, by and among Zix Corporation and True Wind Capital, L.P. Filed as Exhibit 10.1 to Zix Corporation's Current Report on Form 8-K, filed on February 22, 2019, and incorporated herein by reference.
21.1*	—	Subsidiaries of Zix Corporation.

45

Exhibit Number	Description
23.1*	— Consent of Independent Registered Public Accounting Firm (Whitley Penn LLP).
31.1*	— Certification of David J. Wagner, President and Chief Executive Officer of the Company, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	— Certification of David E. Rockvam, Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer) of the Company, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	— Certification of David J. Wagner and David E. Rockvam, pursuant to 18 U.S.C. Section 1350, as adopted, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.1*	— 101. INS (XBRL Instance Document)
	101. SCH (XBRL Taxonomy Extension Schema Document)
	101. CAL (XBRL Calculation Linkbase Document)
	101. LAB (XBRL Taxonomy Label Linkbase Document)
	101. DEF (XBRL Taxonomy Linkbase Document)
	101. PRE (XBRL Taxonomy Presentation Linkbase Document)

* Filed herewith.
** Furnished herewith.
† Management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary

Not Applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Dallas, state of Texas, on March 8, 2019.

ZIX CORPORATION

By: /s/ DAVID E. ROCKVAM
David E. Rockvam
Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated on March 8, 2019.

Signature	Title
/s/ DAVID J. WAGNER (David J. Wagner)	Chief Executive Officer, President and Director (Principal Executive Officer)
/s/ DAVID E. ROCKVAM (David E. Rockvam)	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
/s/ MARK J. BONNEY (Mark J. Bonney)	Director
/s/ TAHER A. ELGAMAL (Taher A. Elgamal)	Director
/s/ JAMES H. GREENE, JR. (James H. Greene, Jr.)	Director
/s/ ROBERT C. HAUSMANN (Robert C. Hausmann)	Chairman, Director
/s/ MARIBESS L. MILLER (Maribess L. Miller)	Director
/s/ RICHARD D. SPURR (Richard D. Spurr)	Director
/s/ BRANDON VAN BUREN (Brandon Van Buren)	Director

47

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm	F-2
Consolidated Balance Sheets at December 31, 2018 and 2017	F-3
Consolidated Statements of Comprehensive Income for the years ended December 31, 2018, 2017, and 2016	F-4
Consolidated Statements of Stockholders' Equity for the years ended December 31, 2018, 2017, and 2016	F-5
Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017, and 2016	F-6
Notes to Consolidated Financial Statements	F-7

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders

Zix Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Zix Corporation and subsidiaries (the "Company"), as of December 31, 2018 and 2017, and the related consolidated statements of comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of their operations and their 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 2013 Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated March 8, 2019, expressed an unqualified opinion.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these 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 regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

We have served as the Company's auditor since 2006.

/s/ WHITLEY PENN LLP

Plano, Texas

March 8, 2019

ZIX CORPORATION

CONSOLIDATED BALANCE SHEETS

(In thousands, except share and par value data)	December 31, 2018	2017
ASSETS		
Current assets:		
Cash and cash equivalents	$27,109	$33,009
Receivables, net	3,188	1,389
Prepaid and other current assets	3,176	3,222
Total current assets	33,473	37,620
Property and equipment, net	3,924	4,048
Other assets and deferred costs	9,424	—
Intangible assets, net	15,251	5,524
Goodwill	13,783	8,469
Deferred tax assets	28,785	25,647
Total assets	$104,640	$81,308
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$769	$1,053
Accrued expenses	9,747	6,101
Deferred revenue	30,622	28,362
Total current liabilities	41,138	35,516
Long-term liabilities:		
Deferred revenue	1,539	1,087
Deferred rent	1,016	1,185
Total long-term liabilities	2,555	2,272
Total liabilities	43,693	37,788
Commitments and contingencies (Note 15)		
Stockholders' equity:		
Preferred stock, $1 par value, 10,000,000 shares authorized; none issued and outstanding	—	—
Common stock, $0.01 par value, 175,000,000 shares authorized; 81,715,330 issued and 54,186,180 outstanding in 2018 and 80,709,970 issued and 54,542,612 outstanding in 2017	779	778
Additional paid-in capital	384,940	381,457
Treasury stock, at cost; 27,529,150 common shares in 2018 and 26,167,358 common shares in 2017	(108,392)	(102,343)
Accumulated deficit	(216,364)	(236,372)
Accumulated other comprehensive (loss) income	(16)	—
Total stockholders' equity	60,947	43,520
Total liabilities and stockholders' equity	$104,640	$81,308

See notes to consolidated financial statements.

ZIX CORPORATION

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In thousands, except share and per share data)	Year Ended December 31, 2018	2017	2016
Revenues	$70,478	$65,663	$60,144
Cost of revenue	15,186	12,602	10,533
Gross margin	55,292	53,061	49,611
Research and development expenses	11,323	10,980	9,553
Selling, general and administrative expenses	33,999	31,871	30,742
Operating income	9,970	10,210	9,316
Other income (expense):			
Investment and other income	754	339	246
Interest expense	—	—	33
Total other income	754	339	213
Income before income taxes	10,724	10,549	9,529
Income tax benefit (expense)	4,720	(18,606)	(3,692)
Net income (loss)	$15,444	$(8,057)	$5,837
Basic income (loss) per common share	$0.29	$(0.15)	$0.11
Diluted income (loss) per common share	$0.29	$(0.15)	$0.11
Weighted average shares outstanding			
Basic common shares outstanding	52,591,714	53,430,492	53,819,772
Diluted common shares outstanding	53,481,295	53,430,492	54,395,145
Other comprehensive income, net of tax:			
Foreign currency translation adjustments	(16)	—	—
Comprehensive income (loss)	$15,428	$(8,057)	$5,837

See notes to consolidated financial statements.

ZIX CORPORATION

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Stockholders' Equity						
						Accumulated	
	Common Stock		Additional			Other Comprehensive	Total
			Paid-In	Treasury	Accumulated	Income	Stockholders'
(In thousands, except share data)	Shares	Amount	Capital	Stock	Deficit	(Loss)	Equity
Balance, December 31, 2015	77,852,453	$ 767	$ 372,400	$ (82,243)	$ (234,152)	$ —	$ 56,772
Issuance of common stock upon exercise of stock options	123,760	2	203	—	—	—	205
Issuance of common stock upon vesting of restricted stock units, net	179,914	—	—	—	—	—	—
Issuance of common stock upon vesting of performance stock units, net	97,428	—	—	—	—	—	—
Issuance of restricted common stock, net	518,211	—	—	—	—	—	—
Issuance of restricted performance common stock, net	141,500	—	—	—	—	—	—
Employee stock-based compensation costs	—	—	1,783	(527)	—	—	1,256
Treasury repurchase program	—	—	—	(15,000)	—	—	(15,000)
Net income (loss)	—	—	—	—	5,837	—	5,837
Balance, December 31, 2016	78,913,266	769	374,386	(97,770)	(228,315)	—	49,070
Issuance of common stock upon exercise of stock options	932,303	9	4,197	—	—	—	4,206
Issuance of common stock upon vesting of restricted stock units, net	126,167	—	—	—	—	—	—

Issuance of common stock upon vesting of performance stock units, net	20,999	—	—	—	—	—	—
Issuance of restricted common stock, net	645,623	—	—	—	—	—	—
Issuance of restricted performance common stock, net	71,612	—	—	—	—	—	—
Employee stock-based compensation costs	—	—	2,874	(762)	—	—	2,112
Treasury repurchase program	—	—	—	(3,811)	—	—	(3,811)
Net income (loss)	—	—	—	—	(8,057)	—	(8,057)
Balance, December 31, 2017, as reported	80,709,970	778	381,457	(102,343)	(236,372)	—	43,520
Cumulative effect adjustment from changes in accounting standards (Note 2)	—	—	—	—	4,564	—	4,564
Balance, January 1, 2018, as adjusted	80,709,970	778	381,457	(102,343)	(231,808)	—	48,084
Issuance of common stock upon exercise of stock options	90,011	1	165	—	—	—	166
Issuance of common stock upon vesting of restricted stock units, net	50,751	—	—	—	—	—	—
Issuance of common stock upon vesting of performance stock units, net	32,665	—	—	—	—	—	—
Issuance of restricted common stock, net	735,987	—	—	—	—	—	—
Issuance of restricted performance common stock, net	95,946	—	—	—	—	—	—

Employee stock-based compensation costs	—	—	3,318	(656)	—	—	2,662
Treasury repurchase program	—	—	—	(5,393)	—	—	(5,393)
Adjustment from foreign currency translation	—	—	—	—	—	(16)	(16)
Net income (loss)	—	—	—	—	15,444	—	15,444
Balance, December 31, 2018	81,715,330	$ 779	$ 384,940	$ (108,392)	$ (216,364)	$ (16)	$ 60,947

See notes to consolidated financial statements.

ZIX CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
(In thousands)	2018	2017	2016
Operating activities:			
Net income (loss)	$15,444	$(8,057)	$5,837
Non-cash items in net income (loss):			
Depreciation and amortization	3,706	2,741	2,303
Employee stock-based compensation expense	3,318	2,874	1,783
Changes in deferred taxes	(4,754)	18,470	3,186
Changes in operating assets and liabilities:			
Receivables	(1,376)	64	(711)
Prepaid and other assets	108	(386)	79
Other assets and deferred costs	(3,139)	—	—
Accounts payable	(325)	645	(15)
Deferred revenue	1,892	1,370	3,200
Earn-out payment	(195)	—	—
Accrued and other liabilities	1,992	483	(411)
Net cash provided by operating activities	16,671	18,204	15,251
Investing activities:			
Purchases of property, equipment and internal-use software	(4,179)	(3,041)	(2,136)
Acquisition of business, net of cash acquired	(11,773)	(8,244)	—
Net cash used in investing activities	(15,952)	(11,285)	(2,136)
Financing activities:			
Proceeds from exercise of stock options	166	4,206	205
Deferred debt financing costs	(60)	—	—
Stock issuance costs	(45)	—	—
Earn-out payment	(605)	—	—
Treasury stock	(6,049)	(4,573)	(15,527)
Net cash used in financing activities	(6,593)	(367)	(15,322)
Effect of exchange rate changes on cash	(26)	—	—
Increase (decrease) in cash and cash equivalents	(5,900)	6,552	(2,207)
Cash and cash equivalents, beginning of year	33,009	26,457	28,664
Cash and cash equivalents, end of year	$27,109	$33,009	$26,457

See notes to consolidated financial statements.

ZIX CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Company Overview

Zix Corporation ("Zix," the "Company," "we," "our," "us") provides email encryption, advanced threat protection, email archiving, data loss prevention ("DLP") and Bring-Your-Own-Device ("BYOD") solutions to meet the data protection and compliance needs of organizations primarily in the healthcare, financial services, and government sectors.

2. Summary of Significant Accounting Policies

Basis of Presentation — The accompanying consolidated financial statements include the accounts of all our wholly-owned subsidiaries and are prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). All inter-company accounts and transactions have been eliminated in consolidation.

Use of Estimates — The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reported period. Our significant estimates include primarily those required in the valuation or impairment analysis of goodwill and intangibles, property and equipment, revenue recognition, amortization period of our commission amortization, allowances for doubtful accounts, stock-based compensation, litigation accruals, valuation allowances for deferred tax assets and tax accruals. Although we believe that adequate accruals have been made for unsettled issues, additional gains or losses could occur in future years from resolutions of outstanding matters. Actual results could differ materially from original estimates.

Cash Equivalents — Cash investments with maturities of three months or less when purchased are considered cash equivalents.

Fair Value of Financial Instruments —The Company does not measure the fair value of any financial instrument other than cash equivalents, options, and other equity awards. The carrying values of other financial instruments (receivables and accounts payable) are not recorded at fair value but approximate fair values primarily due to their short-term nature. The carrying values of other current assets and accrued expenses are also not recorded at fair value, but approximate fair values primarily due to their short-term nature.

Valuation of Property and Equipment — The accounting policies and estimates relating to property and equipment are considered significant because of the potential impact that impairment, obsolescence, or change in an asset's useful life could have on the Company's operating results.

We record an impairment charge on the assets to be held and used when we determine based upon certain triggering events that the carrying value of property and equipment may not be recoverable based on expected undiscounted cash flows attributable to such assets. The amount of a potential impairment is determined by comparing the carrying

amount of the asset to either the value determined from a projected discounted cash flow method, using a discount rate that is considered to be commensurate with the risk inherent in the Company's current business model or the estimated fair market value. Assumptions are made with respect to future net cash flows expected to be generated by the related asset. An impairment charge would be recorded for an amount by which the carrying value of the asset exceeded the discounted projected net cash flows or estimated fair market value. Also, even where a current impairment charge is not necessary, the remaining useful lives are evaluated. No impairment was recorded for any of the periods presented.

Property and equipment are recorded at cost and depreciated or amortized using the straight-line method over their estimated useful lives as follows: computer and office equipment and software — three years; leasehold improvements — the shorter of five years or the lease term; and furniture and fixtures — five years. We recorded a depreciation expense of $2.4 million for the year ended December 31, 2018. We allocated $1.7 million of the expense to cost of revenue, $426 thousand to research and development expense, and $314 thousand to selling, marketing, and general and administrative expenses.

Goodwill and Other Intangible Assets — We account for the valuation of goodwill and other intangible assets after classifying intangible assets into three categories: (1) intangible assets with finite lives subject to amortization; (2) intangible assets with indefinite lives not subject to amortization; and (3) goodwill. For intangible assets with finite lives, tests for impairment must be performed if conditions exist that indicate the carrying value may not be recoverable. For intangible assets with indefinite lives and goodwill, tests for impairment must be performed at least annually or more frequently if events or circumstances indicate that assets might be impaired.

Goodwill was $13.8 million, or 13%, and $8.5 million, or 10%, of total assets as of December 31, 2018 and 2017, respectively.

We evaluate the goodwill for impairment annually in the fourth quarter, or when there is reason to believe that the value has been diminished or impaired. Evaluations for possible impairment are based upon a comparison of the estimated fair value of the reporting unit to which the goodwill has been assigned, versus the sum of the carrying value of the assets and liabilities of that unit including the assigned goodwill value. We include our entire Company as the reporting unit. The fair values used in this evaluation are estimated based on the Company's market capitalization, which is based on the outstanding stock and market price of the stock. Impairment is deemed to exist if the net book value of the unit exceeds its estimated fair value. No impairment was recorded for any of the periods presented.

Our intangible assets with finite lives are amortized using a straight line basis over their economic useful lives.

Deferred Tax Assets — Deferred tax assets are recognized if it is "more likely than not" that the benefit of our deferred tax assets will be realized on future federal or state income tax returns. At December 31, 2018, we provided a valuation allowance against a significant portion, $22.7 million, of our accumulated U.S. deferred tax assets, reflecting our historical losses and the uncertainty of future taxable income sufficient to utilize net operating loss carryforwards prior to their expiration. Our total deferred tax assets not subject to a valuation allowance are valued at $28.8 million, and consist of $27.0 million for federal net operating loss carryforwards , $2.1 million relating to U.S. state income tax credits, $678 thousand related to Alternative Minimum Tax credits and $114 thousand related to foreign tax credits. These credits are offset by ($1.2) million relating to temporary timing differences between U.S. GAAP and tax-related expense. If our U.S. taxable income increases from its current level in a future period or if the facts and circumstances on which our estimates and assumptions are based were to change, thereby impacting the likelihood of realizing our deferred tax assets, judgment would have to be applied in determining the amount of valuation allowance no longer required. Reversal of all or a part of this valuation allowance could have a significant positive impact on operating results in the period that it becomes more likely than not that certain of the Company's deferred tax assets will be realized. Alternatively, should our future income decrease from current levels, a resulting increase to all or a part of this valuation allowance could have a significant negative impact on our operating results.

Uncertain Tax Positions — Our Company recognizes and measures uncertain tax positions using a two-step approach. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon settlement.

Leases — A leased asset whose lease terms meet the criteria for capitalization is recorded as an asset and depreciated. If a lease does not meet the criteria for capitalization, it is classified as an operating lease and payments are recorded as rent expense. For 2018 and 2017 we had no leases that qualified as capital leases. Lease renewal options which we are "reasonably assured" of using and the related payments are taken into account when initially classifying and recording the lease as a capital lease obligation or as straight-line rent if an operating lease. Funds provided by the lessor for leasehold improvements are recorded as a deferred lease incentive and amortized as a reduction of rent expense over the lease term.

Revenue Recognition— In May 2014, The Financial Accounting Standards Board ("FASB") issued ASC 606 which requires revenue recognition when promised goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled to those goods and services. The standard became effective for us in 2018, but did not have a material impact to our revenue recognition process. For additional information regarding our adoption of ASC 606 please see "New Accounting Standards."

We earn our revenue from subscription fees for rights related to the use of our software. Our revenue contracts include multiple performance obligations that are highly interdependent and consists of software at the customer's site,

ongoing customer support, and cloud-based access to the hosted Zix encryption network. As our Company has expanded its portfolio of message security offerings in recent years, we have increased our revenue obtained from hosted service solutions. Approximately 38% of our revenue in 2018 was derived from hosted email protection solutions.

Our subscription terms typically range from one to five years.

Revenue is recognized by applying the following steps:

- Step 1: Identify the contract(s) with a customer,
- Step 2: Identify the performance obligations in the contract,

- Step 3: determine the transaction price
- Step 4: allocate the transaction price to the performance obligations in the contract, and
- Step 5: recognize revenue when (or as) the performance obligation is satisfied.

- Step 1: Identify the contract(s) with a customer:

We consider the terms and conditions of the contract and our customary business practice in identifying our contracts. We determine we have a contract with a customer when the contract is approved, we can identify each party's rights regarding the services and products transferred, we can identify the payment terms for the services and products, the contract has commercial substance, and it is probable we will be paid.

- Step 2: Identifying the performance obligations:

ASC 606 requires identification and disclosure of performance obligations within a revenue contract. A good or service is considered distinct if the customer can both benefit from the good or service on its own or with other resources that are readily available to the customer, and the promise to transfer the good or service is separately identifiable from other promises in the contract.

As of December 31, 2018, revenue from our email protection services represent 100% of our revenue, of which approximately 88% is specific to email encryption. To provide this service, our software at the customer site includes functionality to create a private encryption key that works in conjunction with the public encryption key provided via cloud-based access to our hosted Zix encryption network. Both keys are required to enable our asymmetrical encryption service. In our assessment of the factors listed in ASC 606-10-25-21, we have determined that because our software at the customer's site and the access to our hosted Zix encryption network are highly interrelated, these items are not regarded as distinct components. Based on this assessment, these elements are combined as a single performance obligation.

- Step 3: Determine the transaction price:

The transaction price is determined based on the consideration we expect to be entitled to receive in exchange for transferring goods and services to the customer. We include variable consideration in the transaction price if we view it as probable that a significant future reduction of cumulative revenue under the contract will not occur.

- Step 4: Allocate the transaction price to the performance obligations in the contract:

We allocate transaction prices to each performance obligation based on the stand-alone selling price of our component services.

•Step 5: Recognize revenue when (or as) the performance obligation is satisfied:

We recognize revenue when the customer obtains control of the product or services, at the amount allocated to the satisfied performance obligation. Our performance obligations are generally satisfied over time.

While some contracts include one or more performance obligations (including the combined elements noted above along with additional ongoing customer support and other hosted services), the revenue recognition pattern generally is not impacted by the separate allocations of these obligations because the services are generally satisfied over the same period of time and revenue is recognized over the contract period. Discounts provided to customers are recorded as reductions in revenue.

Commission Amortization — We amortize our commission costs to expense on a systemic basis over the period of expected benefit to the customer. Determination of the amortization period requires significant judgement. We apply the practical expedient noted in ASC 606-10-10-4 to account for our commission costs and related amortizations at the portfolio level. Additionally, the Company has evaluated commissions earned upon contract renewal as compared to initial commissions paid and determined that because commissions paid were not reasonably proportional to their respective contract values, our renewal commissions could not be considered commensurate with the initial commissions paid.

We considered our average contract term length and historical customer retention rates to determine an average length of our customer relationships. We also concluded our add-on sales generally occur halfway into our customer relationships, and evaluated our average customer renewal terms. Based on these factors we have determined that 8 years, 4 years and 18 months are the appropriate amortization periods to our new, add-on, and renewal sales commission expenses, respectively. We also perform subsequent assessments for impairment of the related deferred cost asset when indicators present.

Software Development Costs —Costs incurred in the development and testing of subscription software products related to research, project planning, training, maintenance and general and administrative activities, and overhead costs are expensed as incurred. The costs of relatively minor upgrades and enhancements to the software are also expensed as incurred.

Costs for the development of new software solutions and substantial enhancements to existing software solutions are expensed as incurred until technological feasibility has been established, at which time any additional costs would be capitalized. Historically, we have not capitalized standard research and development costs because we believe that technological feasibility is established concurrent with general release to customers.

Research and development costs associated with software developed for internal use on behalf of our customers are capitalized. As we increasingly moved to a multi-tenant environment to keep up with the industry trend requiring transition to a cloud based solution for our existing services, certain research and development expenditures associated with hosting arrangements began to meet the accounting guidance requirement for capitalizing development costs under ASC 350-40, Internal-Use Software, as it applies to hosting arrangements. These capitalized costs are classified as intangible assets in our consolidated balance sheet. In 2018, we capitalized $1.5 million of research and development costs related to hosted software development for our customers. The Company expects our capitalization of these research and development expenditures to increase in the future.

Advertising Expense — Advertising costs are expensed as incurred. Our operations include advertising expense of $1.3 million, $1.5 million, and $1.9 million in 2018, 2017, and 2016, respectively.

Stock-Based Compensation — We currently use the straight-line amortization method for recognizing stock option and restricted stock compensation costs. The measurement and recognition of compensation expense for all share-based payment awards made to our employees and directors are based on the estimated fair value of the awards on the grant dates. The grant date fair value is estimated using either an option-pricing model which is consistent with the terms of the award or a market observed price, if such a price exists. Such cost is recognized over the period during which an employee or director is required to provide service in exchange for the award, i.e., “the requisite service period” (which is usually the vesting period). We also estimate the number of instruments that will ultimately be earned, rather than accounting for forfeitures as they occur.

Earnings Per Share (“EPS”) — Basic EPS is based on the weighted average number of common shares outstanding during each period. Diluted EPS adjusts Basic EPS for the effects of dilutive common stock equivalents outstanding during each period using the treasury stock method.

New Accounting Standards

Revenue Recognition

In May 2014, the FASB issued ASC 606, which supersedes most prior revenue recognition guidance under U.S. Generally Accepted Accounting Principles (“GAAP”). The core principle of ASC 606 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled for those goods or services. ASC 606 defines a five step process to achieve this core principle and, in doing so, more judgment and estimates may be required within the revenue recognition process than were required under prior U.S. GAAP.

The standard became effective for us beginning in 2018. Our Company provides primarily email encryption and advanced threat protection security solutions as subscription services in which we recognize revenue as our services are rendered. We determined our revenue was not materially impacted by the new guidance. However, the guidance

did require us to increase the amortization period of our commission expense. We applied the guidance to commissions earned on all contracts that were not complete as of January 1, 2018. Prior period amounts were not adjusted and continue to be reported in accordance with the previous guidance. Our Company elected to use a portfolio approach, applying 8 year, 4 year, and 18 month amortization periods for our new, add-on, and renewal sales commission expenses, respectively. Determination of the amortization period and the subsequent assessments for impairment of the related deferred cost asset requires significant judgement.

We applied a modified retrospective approach to our implementation of ASC 606 in which we recognized a $4.6 million cumulative effect adjustment to our 2018 retained earnings opening balance related to our increased amortization period. This adjustment includes a $1.6 million impact to our deferred tax asset. The table below presents the cumulative effect of the changes made to our consolidated balance sheet due to the adoption of ASC 606:

(In thousands)	January 1, 2018		
	Beginning Balance	Cumulative Effect Adjustment	Beginning Balance, as Adjusted
Assets:			
Prepaid and other current assets	$3,222	$ (415)	$2,807
Other assets and deferred costs	—	6,595	6,595
Deferred tax assets	25,647	(1,616)	24,031
Stockholders' equity:			
Accumulated deficit	$(236,372)	$ 4,564	$(231,808)

Financial statement results as reported under the new revenue standard as compared to the previous standard for the twelve months ended and as of December 31, 2018, are as follows:

	Twelve Months Ended December 31, 2018		
(In thousands, except per share data)	Under ASC 605	Under ASC 606	Variance
Revenues	$ 70,478	$ 70,478	$ —
Cost of revenues	15,186	15,186	—
Gross margin	55,292	55,292	—
Operating expenses:			
Research and development	11,323	11,323	—
Selling, general and administrative	36,554	33,999	(2,555)
Total operating expenses	47,877	45,322	(2,555)
Operating income	7,415	9,970	2,555
Other income, net	754	754	—
Income before income taxes	8,169	10,724	2,555
Income tax expense	5,257	4,720	(537)
Net income	$ 13,426	$ 15,444	$ 2,018
Basic income per common share	$ 0.26	$ 0.29	0.04
Diluted income per common share	$ 0.25	$ 0.29	0.04

(1) Per share variance may not foot due to rounding

(In thousands)	December 31, 2018		
	Under ASC 605	Under ASC 606	Variance
Assets:			
Prepaid and other current assets	$3,760	$3,176	$(584)
Other assets and deferred costs	—	9,424	9,424
Deferred tax assets	30,401	28,785	(1,616)
Stockholders' equity:			
Accumulated deficit	$(222,946)	$(216,364)	$6,582

Cash Flow Statement

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 230), which amends guidance on the classification of certain cash receipts and payments in the statement of cash flows. This ASU was issued with the intent to reduce diversity in practice with respect to eight types of cash flows. The new guidance addressed debt prepayment or extinguishment of costs, settlement of zero-coupon bonds, contingent consideration made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies and bank-owned life insurance policies, distributions received from equity method investees, beneficial interests in securitization transactions, and separately identifiable cash flows and application of the predominance principle.

The standard became effective for us beginning in 2018. We applied the new guidance within our consolidated statements of cash flows classification to an $800 thousand earn-out payment associated with our Greenview (as defined herein) acquisition. Because this consideration payment was not made soon after the consummation date, as required by the guidance, we classified $605 thousand of the payment as a financing activity. This reflects the portion of the payment recognized a contingent liability as of the acquisition date. The $195 thousand balance of the payment was in excess of the original contingent consideration liability and was classified as an operating activity. The standard had no other impact on our consolidated financial statements.

Leases

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842). Topic 842 requires companies to generally recognize on the balance sheet operating and financing lease liabilities and corresponding right-of-use assets. The new lease standard becomes effective for us beginning 2019. We expect to adopt Topic 842 using the effective date as the date of our initial application of the standard. Consequently, financial information for the comparative periods will not be updated. We currently expect that most of our operating lease commitments will be subject to the new standard and recognized as operating lease liabilities and right-of-use assets upon our adoption of Topic 842. We are evaluating the potential impact of this new guidance on our consolidated financial statements, and currently estimate the recognition of our outstanding lease obligations as of December 31, 2018, will result in the recognition of right-to-use-assets and lease liabilities of $4.5 million to $6.5 million.

3. Stock Options and Stock-Based Employee Compensation

Below is a summary of common stock options outstanding at December 31, 2018:

	Authorized Shares	Options Outstanding	Options Vested	Available for Grant
Employee and Director Stock Option Plans:				
2004 Stock Option Plan	5,000,000	230,000	230,000	—
2006 Director’s Stock Option Plan	1,100,000	55,000	55,000	—
2012 Incentive Plan	6,300,000	638,823	532,573	—
2018 Omnibus Incentive Plan	6,000,000	—	—	5,875,000

Total	18,400,000	923,823	817,573	5,875,000

Under all of our stock option plans, new shares are issued when options are exercised.

Employee and Director Stock- Based Plans

We have non-qualified stock options outstanding to employees and directors under various stock option plans. The plans require the exercise price of options granted under these plans to equal or exceed the fair market value of the Company's common stock on the date of grant. The options, subject to termination of employment, generally expire ten years from the date of grant. Historically, our employee options and equity awards typically vested pro-rata and quarterly over three years. Stock-based grants to employees, officers and directors frequently contain accelerated vesting provisions upon the occurrence of a change of control, as defined in the applicable option agreements.

Under the terms of the 2018 Omnibus Incentive Plan approved by our shareholders during our annual meeting held on June 6, 2018, (the "2018 Plan"), 6,000,000 shares are available for issuance. Awards issued under the 2018 Plan typically vest pro-rata and quarterly over four years.

Under the terms of the 2012 Incentive Plan adopted by our Board of Directors on April 13, 2012 (the "2012 Plan"), 2,700,000 shares are available for issuance, plus a number of additional shares (not to exceed 1,327,000) underlying options outstanding under certain of the Company's prior equity plans that thereafter terminate or expire unexercised, or are cancelled, forfeited, or lapse for any reason. Our shareholders approved an Amended and Restated 2012 Incentive Plan during our annual meeting held June 24, 2015, increasing the number of shares available for grant by 3,600,000. Awards issued under the 2012 Plan typically vest pro-rata and quarterly over four years.

Accounting Treatment

We use the straight-line amortization method for recognizing stock option compensation costs. Our share-based awards include (i) stock options, (ii) restricted stock awards, some of which are subject to time-based vesting ("Restricted Stock") and some of which are subject to performance-based vesting ("Performance Stock"), and (iii) restricted stock units, some of which are subject to time-based vesting ("RSUs") and some of which are subject to performance-based vesting ("Performance RSUs").

For the twelve months ended December 31, 2018, 2017, and 2016, respectively, the total stock-based compensation expense resulting from stock options, Restricted Stock, RSUs, Performance RSUs, and Performance Stock was recorded to the following line items of our consolidated statements of operations:

	Year Ended December 31,		
(In thousands)	2018	2017	2016
Cost of revenue	$327	$304	$186
Research and development expenses	469	374	246
Selling, general and administrative expenses	2,522	2,196	1,351
Stock-based compensation expense	$3,318	$2,874	$1,783

Our stock-based compensation expense has increased yearly due to program expansion associated with our Company growth. Our 2017 stock-based compensation expense includes $292 thousand related to accelerated vesting of awards associated with executive departures. Our 2016 stock-based compensation expense includes $280 thousand related to the accelerated vesting of awards related to our CFO transition. A deferred tax asset of $673 thousand, $824 thousand, and $506 thousand, resulting from stock-based compensation expense associated with awards relating to the Company's U.S. operations, was recorded for the twelve months ended December 31, 2018, 2017, and 2016, respectively. As of December 31, 2018, there was $5.2 million of total unrecognized stock-based compensation related to non-vested share-based compensation awards granted under the stock award plans. This cost is expected to be recognized over a weighted average period of 1.5 years.

We use the Black-Scholes Option Pricing Model ("BSOPM") to determine the fair value of option grants. The Company uses the "historical" method to calculate the estimated life of any options that may be granted. The expected stock price volatility is calculated by averaging the historical volatility of the Company's common stock over a term equal to the expected life of the options. We did not grant options in 2018. We granted 30,750 options in 2017 and 373,187 options in 2016.

The following weighted average assumptions were applied in determining the fair value of options granted during the respective periods:

	Year Ended December 31,		
	2018	2017	2016
Risk-free interest rate	—	2.02 %	1.21 %
Expected option life (years)	—	5.7	5.3
Expected stock price volatility	—	42 %	44 %
Expected dividend yield	—	—	—
Fair value of options granted	$—	$2.06	$1.51

The assumptions used in the BSOPM valuation are critical as a change in any given factor could have a material impact on the financial results of the Company. The weighted average grant-date fair value of awards of restricted stock and restricted stock units is based on quoted market price of the Company's common stock on the date of grant.

Stock Option Activity

The following is a summary of all stock option transactions for the three years ended December 31, 2018:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Yrs)
Outstanding at January 1, 2016	1,774,552	$ 3.65	
Granted at market price	373,187	$ 3.70	
Cancelled or expired	(63,700)	$ 3.95	
Exercised	(123,760)	$ 1.66	
Outstanding at December 31, 2016	1,960,279	$ 3.78	
Granted at market price	30,750	$ 4.96	
Cancelled or expired	(37,412)	$ 4.71	
Exercised	(932,303)	$ 4.51	
Outstanding at December 31, 2017	1,021,314	$ 3.11	
Granted at market price	—	$ 0.00	
Cancelled or expired	(7,480)	$ 4.04	
Exercised	(90,011)	$ 1.83	
Outstanding at December 31, 2018	923,823	$ 3.23	4.76
Options exercisable at December 31, 2018	817,573	$ 3.16	4.43

At December 31, 2018, all 923,823 options outstanding and all 817,573 options exercisable had an exercise price lower than the market value of the Company's common stock. The aggregate intrinsic value of these options was $2.3 million and $2.1 million, respectively. At December 31, 2017, 983,564 options outstanding and 802,314 options exercisable had an exercise price lower than the market value of the Company's common stock. The aggregate intrinsic value of these options was $1.3 million and $1.2 million, respectively.

The total intrinsic value of options exercised during the years ended December 31, 2018 and 2017, was $334 thousand and $914 thousand , respectively.

Summarized information about stock options outstanding at December 31, 2018, is as follows:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number Outstanding	Weighted Average Remaining	Weighted Average	Number Exercisable	Weighted Average

		Contractual Life	Exercise Price		Exercise Price
$2.00 - $3.49	431,813	2.90	$ 2.58	431,813	$ 2.58
$3.50 - $4.99	492,010	6.40	$ 3.80	385,760	$ 3.82
	923,823	4.76	$ 3.23	817,573	$ 3.16

There were 832,376 and 1,685,732 exercisable options at December 31, 2017 and 2016, respectively.

Restricted Stock Activity

The following is a summary of all Restricted Stock activity during the three years ended December 31, 2018:

	Restricted Shares	Weighted Average Fair Value
Non-vested restricted stock at January 1, 2016	423,250	$ 3.91
Granted at market price	573,461	$ 3.75
Vested	(292,469)	$ 3.50
Cancelled	(15,000)	$ 4.11
Non-vested restricted stock at December 31, 2016	689,242	$ 3.94
Granted at market price	665,623	$ 5.02
Vested	(251,956)	$ 4.00
Cancelled	(20,000)	$ 4.96
Non-vested restricted stock at December 31, 2017	1,082,909	$ 4.57
Granted at market price	842,546	$ 4.53
Vested	(419,452)	$ 4.44
Cancelled	(151,003)	$ 4.77
Non-vested restricted stock at December 31, 2018	1,355,000	$ 4.71

Restricted Stock Unit Activity

The following is a summary of all RSU activity during the three years ended December 31, 2018:

	Restricted Stock Units	Weighted Average Fair Value
Non-vested restricted stock units at January 1, 2016	299,500	$ 3.79
Granted at market price	38,500	$ 3.74
Vested	(179,914)	$ 3.66
Cancelled	—	$ —
Non-vested restricted stock units at December 31, 2016	158,086	$ 3.92
Granted at market price	54,500	$ 4.96
Vested	(126,167)	$ 4.07
Cancelled	—	$ —
Non-vested restricted stock units at December 31, 2017	86,419	$ 4.36
Granted at market price	36,500	$ 4.57

Vested	(50,751)	$ 4.18
Cancelled	—	$ —
Non-vested restricted stock units at December 31, 2018	72,168	$ 4.59

Performance RSU Activity

The following is a summary of all Performance RSU activity during the three years ended December 31, 2018:

	Restricted Stock Units	Weighted Average Fair Value
Non-vested performance RSUs at January 1, 2016	182,500	$ 3.88
Granted at market price	22,500	$ 3.61
Vested	(97,428)	$ 3.88
Forfeited	(16,741)	$ 3.88
Non-vested performance RSUs at December 31, 2016	90,831	$ 3.81
Granted at market price	11,500	$ 4.96
Vested	(20,999)	$ 4.08
Forfeited	(41,668)	$ 3.83
Non-vested performance RSUs at December 31, 2017	39,664	$ 3.98
Granted at market price	5,500	$ 4.04
Vested	(32,665)	$ 3.91
Forfeited	—	$ 0.00
Non-vested performance RSUs at December 31, 2018	12,499	$ 4.20

Performance Stock Activity

The following is a summary of all Performance Stock activity during the three years ended December 31, 2018:

	Restricted Stock Units	Weighted Average Fair Value
Non-vested performance stock at January 1, 2016	—	—
Granted at market price	141,500	$ 3.61
Vested	(20,000)	$ 3.61
Forfeited	—	—
Non-vested performance stock at December 31, 2016	121,500	$ 3.61
Granted at market price	112,112	$ 4.96
Vested	—	—
Forfeited	(40,502)	$ 3.61

Non-vested performance stock at December 31, 2017	193,110	$ 4.39
Granted at market price	153,723	$ 4.04
Vested	(77,874)	$ 4.26
Forfeited	(13,333)	$ 4.50
Non-vested performance stock at December 31, 2018	255,626	$ 4.22

The weighted average grant-date fair value of awards of Restricted Stock, RSUs, Performance RSU's, and Performance Stock is based on the quoted market price of the Company's common stock on the date of grant.

4. Supplemental Cash Flow Information

Supplemental information relating to interest and taxes:

	Year Ended December 31,		
(In thousands)	2018	2017	2016
Interest payments	$—	$—	$33
Income tax payments	$1,115	$636	$670

5. Receivables, net

(In thousands)	December 31,	
	2018	2017
Gross accounts receivables	$14,135	$9,307
Allowance for returns and doubtful accounts	(277)	(270)
Unpaid portion of deferred revenue	(10,670)	(7,648)
Note receivable	458	458
Allowance for note receivable	(458)	(458)
Receivables, net	$3,188	$1,389

The allowance for doubtful accounts includes all specific accounts receivable which we believe are likely not collectable based on known information. In addition, we record 2.5% of all accounts receivable greater than 90 days past due, net of those accounts specifically reserved, as a general allowance against accounts that could potentially become uncollectible.

The reduction for deferred revenue represents future customer service or maintenance obligations which have been billed to customers, but remain unpaid as of the respective balance sheet dates. Deferred revenue on our consolidated balance sheets represents future customer service or maintenance obligations which have been billed and collected as of the respective balance sheet dates.

The note receivable represents the remaining outstanding balance of an original note related to the sale of a product line in 2005 in the amount of $540 thousand. This was fully reserved at the time of the sale as the note's collectability was not assured. The note receivable is fully reserved at December 31, 2018 and 2017.

6. Prepaid and other current assets

(In thousands)	December 31,	
	2018	2017
Prepaid insurance, maintenance, software licenses and other	$2,460	$2,386
Deferred commissions	—	415
Tax-related	716	421
Prepaid and other current assets	$3,176	$3,222

7. Property and Equipment

(In thousands)	December 31,	
	2018	2017
Computer and office equipment and software	$26,762	$25,379
Leasehold improvements	6,834	6,763
Furniture and fixtures	2,181	2,136
	35,777	34,278
Less accumulated depreciation	(31,853)	(30,230)
Property and equipment, net	$3,924	$4,048

Our operations include depreciation expense related to property and equipment of $2.4 million, $2.4 million, and $2.3 million in 2018, 2017, and 2016, respectfully.

8. Other Assets and Deferred Costs

As of December 31, 2018, our other assets and deferred costs balance primarily consists of $9.3 million in unamortized contract acquisition costs related to our adoption of ASC 606 as discussed above in Note 2 to the consolidated financial statements.

9. Goodwill and Other Intangible Assets

The changes in the carrying amount of goodwill for the years ended December 31, 2018 and 2017, are as follows:

(In thousands)	Year Ended December 31, 2018	2017
Opening balance	$8,469	$2,161
Additions	6,215	6,308
Acquisition adjustments	(901)	—
Goodwill	$13,783	$8,469

Our 2018 acquisition of Erado (as defined herein) resulted in the addition to our goodwill the increase to our goodwill in 2018. Our acquisition adjustments to goodwill reflect the appropriate reallocation of excess purchase price from goodwill to acquired assets and liabilities related to our 2017 Greenview and EMS (as defined herein) purchases. We evaluate goodwill for impairment annually in the fourth quarter, or when there is reason to believe that the value has been diminished or impaired. There were no impairment indicators to the goodwill recorded as of December 31, 2018.

Our other intangible assets consist of the following:

(In thousands)	December 31, 2018 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Internal use software	$1,189	$ (162)	$ 1,027
Internally-developed hosting arrangement	1,520	(77)	1,443
Trademarks and other	691	(113)	578
Technology	7,604	(2,678)	4,926
Customer relationships	7,870	(593)	7,277
Intangible assets, net	$18,874	$ (3,623)	$ 15,251

For the twelve months ended December 31, 2018, amortization of intangible assets was recorded to the following line items of our consolidated statements of operations:

(In thousands)	Year Ended December 31, 2018

Cost of revenue	$ 368
Research and development expenses	203
Selling, general and administrative expenses	699
Amortization of intangible assets	$ 1,270

The following table summarizes our estimated future amortization expense:

(In thousands)	2019	2020	2021	2022	2023	Thereafter	Total
Amortization expense	$1,670	1,690	$1,690	$1,481	$1,310	$ 7,410	$15,251

10. Accrued Expenses

	December 31,	
(In thousands)	2018	2017
Employee compensation and benefits	$5,122	$4,452
Professional fees	1,289	356
Taxes	113	154
Other	3,223	1,139
Total accrued expenses	$9,747	$6,101

11. Revenue from Contracts with Customers

Accounting policies

Our Company provides message security solutions as subscription services in which we recognize revenue as our services are rendered. Our customer contracts are typically one to three year contracts billed annually. We exclude from the measurement of the transaction price all taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction and collected by our Company from a customer (e.g., sales, use, value added, and some excise taxes).

Disaggregation of Revenue

In 2018, we recorded revenue for our services in the following core industry verticals: 49% healthcare, 29% financial services, 7% government sector, and 15% as other. The disaggregation of revenue by industry verticals does not include our revenue from Greenview and Erado.

We operate as a single operating segment. Revenue generated from our email protection services represented 100% of our revenue in 2018 and 2017. Further, we sell our solutions as a bundle, applying significant judgement to allocate transaction prices of our services based on the standalone selling price of our component services.

Contract balances

Our contract assets include our accounts receivable, discussed in Footnote 5 above, and the deferred cost associated with commissions earned by our sales team on securing new, add-on, and renewal contract orders. Upon our adoption of ASC 606, we recorded a cumulative effect adjustment, establishing a $6.6 million noncurrent deferred contract asset in recognition of the lengthened amortization period required by the new guidance. The Company simultaneously released the previously existing current deferred commission asset balance of $415 thousand. During the twelve months ended December 31, 2018, we increased our noncurrent deferred contract asset by $4.9 million, resulting from commissions earned by our sales team during the twelve months ended December 31, 2018. We also amortized $2.2 million of deferred cost, as a selling and marketing expense in the related periods. Our deferred cost asset is assessed for impairment on a periodic basis. There were no impairment losses recognized on deferred contract cost assets for the twelve months ended December 31, 2018.

Our contract liabilities consist of deferred revenue representing future customer services which have been billed and collected. The $2.7 million increase to our net deferred revenue in the twelve months ended December 31, 2018, is

related to the timing of orders and payments as well as growth of revenue.

Performance obligations

As of December 31, 2018, the aggregate amount of the transaction prices allocated to remaining service performance obligations, which represents the transaction price of firm orders less inception to date revenue, was $73.0 million. We expect to recognize approximately $47.3 million of revenue related to this backlog in 2019, and $25.7 million in periods thereafter. Approximately $45.1 million of our $70.5 million revenue recognized in the twelve months ended December 31, 2018, was included in our performance obligation balance at the beginning of the period.

12. Fair Value Measurements

FASB guidance regarding fair value measurement establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value. These tiers include: Level 1, defined as observable inputs such as quoted prices in active markets for identical assets or liabilities; Level 2, defined as inputs other than quoted prices for similar assets and liabilities in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs for which little or no market data exists, therefore requiring an entity to develop its own assumptions.

For certain of the Company's financial instruments, including cash and cash equivalents, trade receivables, and accounts payable, the fair values approximate the carrying value due to the short-term maturities of these instruments. The carrying values of other current assets and accrued expenses are also not recorded at fair value, but approximate fair value due to their short-term nature.

The Company recorded a contingent liability for the estimated fair value of earn-out consideration payments in our Greenview acquisition. The Company determined the fair value of this earn-out liability based on the probability of attainment of certain sales milestones. Any changes to the variables and assumptions could significantly impact the estimated fair values recorded for the liability, resulting in significant changes to the Consolidated Statements of Operations. The fair value measurements are based on significant inputs not observable in the market and thus represent Level 3 measurements, which reflect the Company's own assumptions concerning the achievement of the sales milestones in measuring the fair value of the acquisition-related contingent earn-out lability.

The following table represents a reconciliation of our acquisition-related contingent earn-out liability measured at fair value on a recurring basis, using Level 3 inputs for the year ended December 31, 2018:

(In thousands)	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)
Balance at December 31, 2017	$ 1,488
Additions during the period	—
Payments during the period	(800)
Adjustments to fair value during the period recorded in General and Administrative expenses	476
Balance at December 31, 2018	$ 1,164

13. Earnings Per Share and Potential Dilution

Basic earnings per share are computed using the weighted average number of common shares outstanding for the period under the Treasury Stock method. The dilutive effect of potential common shares outstanding is included in diluted earnings per share. The computations for basic and diluted earnings per share for the years ended December 31, 2018, 2017, and 2016, are as follows:

	Year Ended December 31,		
	2018	2017	2016
Basic weighted average shares	52,591,714	53,430,492	53,819,772
Effect of dilutive securities:			
Employee and director stock options	347,167	—	317,329
Restricted Stock	409,871	—	149,817
RSUs	24,369	—	63,484
Performance RSUs	9,367	—	24,449
Performance Stock	98,807	—	20,294
Potential dilutive common shares	53,481,295	53,430,492	54,395,145

For the year ended December 31, 2018, weighted average shares related to 73,313 stock options; 131,774 shares of Restricted Stock, 6,084 RSUs, 917 Performance RSUs, and 18,536 shares of Performance Stock were excluded from the calculation of diluted earnings per share because these awards were anti-dilutive. For the year ended December 31,

2017, potential common shares of all securities were excluded from the calculation of diluted earnings per share because the awards were anti- dilutive. For the year ended December 31, 2016, weighted average shares related to 1,079,474 stock options; 109,293 shares of Restricted Stock, 20,600 RSUs, 886 Performance RSUs, and 5,572 shares of Performance Stock, respectively were excluded from the calculation of diluted earnings per share because these awards were anti-dilutive .

14. Significant Customers

In 2018, 2017, and 2016, no single customer accounted for 10% or more of our revenues.

15. Commitments and Contingencies

Leases

We lease office facilities under non-cancelable operating lease agreements. Our operations include rent expense for these operating leases of $1.6 million, $1.4 million, and $1.4 million in 2018, 2017, and 2016 respectively. The lease of our headquarters facility in Dallas expires in 2024.

A summary of our fixed contractual obligations and commitments at December 31, 2018, is as follows:

(In thousands)	2019	2020	2021	2022	2023	Thereafter	Total
Operating leases	$1,625	$1,220	$1,072	$1,089	$1,116	$ 861	$6,983

Claims and Proceedings

We are subject to legal proceedings, claims, and litigation against our business. While the outcome of these matters is currently not determinable and the costs and expenses of defending these matters may be significant, we currently do not expect that the ultimate costs to resolve these matters will have a material adverse effect on our consolidated financial statements.

16. Other Comprehensive Loss

The assets and liabilities of international subsidiaries are translated from the respective local currency to the U.S. dollar using exchange rates at the balance sheet date. Related translation adjustments are recorded as a component of the accumulated other comprehensive loss. Our Consolidated Statement of Comprehensive Income of international subsidiaries are translated from the local currency to the U.S. dollar using average exchange rates for the period covered by the income statements.

We are exposed to fluctuations in the foreign currency exchange rates as a result of our net investments and operations in Canada. For fiscal 2018, movements in currency exchange rates and the related impact on the translation of the balance sheets of our subsidiary in Canada was the primary cause of our foreign currency translation loss of $16 thousand, net of $26 thousand in income taxes.

17. Income Taxes

Components of the income taxes are as follows:

(In thousands)	2018	2017	2016
Current:			
U.S.	$(794)	$183	$100
State	725	(196)	329
Foreign	71	156	75
Deferred			
Federal	(4,722)	18,461	3,185
Foreign	—	2	3
Income tax (benefit) expense	$(4,720)	$18,606	$3,692

On December 22, 2017, the U.S. enacted the Tax Cuts and Jobs Act of 2017 (the “Tax Act”) which significantly changed U.S. tax law. The Tax Act, among other things, lowered the federal statutory corporate income tax rate from

34% to 21% effective January 1, 2018. The Company completed its assessment of the impact to 2018 noting no changes from what it disclosed in 2017. The Company's income tax expense (benefit) for 2018, 2017 and 2016, respectively, reflect tax expense (benefit) based on statutory rates in 2018, 2017, and 2016.

A reconciliation of the expected U.S. tax expense (benefit) to income taxes related to continuing operations is as follows:

(In thousands)	2018	2017	2016
Expected tax expense at U.S. statutory rate	$2,260	$3,587	$3,250
Change in corporate tax rate- deferreds	—	12,473	—
Increase (decrease) in valuations allowance			