

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

FORM 10-K
FOR ANNUAL AND TRANSITION REPORTS PURSUANT TO
SECTIONS 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

(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, 2019

OR

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

Commission file number 001-32600

Tucows Inc.

(Exact Name of Registrant as Specified in Its Charter)

Pennsylvania
(State or Other Jurisdiction of Incorporation or Organization)

23-2707366
(I.R.S. Employer Identification No.)

96 Mowat Avenue
Toronto, Ontario, Canada
(Address of Principal Executive Offices)

M6K 3M1
(Zip Code)

Registrant's telephone number, including area code: (416) 535-0123

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

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Common stock, no par value	TCX	NASDAQ Capital Market

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 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 files. Yes ☒ No ☐

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

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

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 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 Act). Yes ☐ No ☒

As of June 30, 2019, (the last day of our most recently completed second quarter), the aggregate market value of the common stock held by non-affiliates of the registrant was approximately \$577.2 million. Such aggregate market value was computed by reference to the closing sale price per share of \$61.02 as reported on the NASDAQ Capital Market on such date. For purposes of making this calculation, the registrant has excluded each executive officer, each director and each beneficial owner of more than ten percent of the outstanding shares of common stock of the Company. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of shares outstanding of the registrant's common stock as of March 2, 2020, was 10,621,338

TUCOWS INC.
ANNUAL REPORT ON FORM 10-K
For Fiscal Year Ended December 31, 2019

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TRADEMARKS, TRADE NAMES AND SERVICE MARKS

Tucows®, EPAG®, Hover®, OpenSRS®, Platypus®, Ting®, eNom®, Roam®, Roam Mobility®, Bulkregister®, Ascio®, Cedar®, and YummyNames® are registered trademarks of Tucows Inc. or its subsidiaries. Other service marks, trademarks and trade names of Tucows Inc. or its subsidiaries may be used in this Annual Report on Form 10-K (this “Annual Report”). All other service marks, trademarks and trade names referred to in this Annual Report are the property of their respective owners. Solely for convenience, any trademarks referred to in this Annual Report may appear without the ® or TM symbol, but such references are not intended to indicate, in any way, that we or the owner of such trademark, as applicable, will not assert, to the fullest extent under applicable law, our or its rights, or the right of the applicable licensor, to these trademarks.

Information Concerning Forward-Looking Statements

This Annual Report on Form 10-K contains, in addition to historical information, forward-looking statements by Tucows Inc. (the “Company”, “we”, “us” “Tucows” or “our”) with regard to our expectations as to financial results and other aspects of our business that involve risks and uncertainties and may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “may,” “should,” “anticipate,” “believe,” “plan,” “estimate,” “expect,” and “intend,” and other similar expressions are intended to identify forward-looking statements. The forward-looking statements contained in this report include statements regarding, among other things, the competition we expect to encounter as our business develops and competes in a broader range of Internet services, the Company’s foreign currency requirements, specifically for the Canadian dollar and Euro; Ting Mobile and fixed Internet access subscriber growth and retention rates, the number of new, renewed and transferred-in domain names we register as our business develops and competes; the effect of a potential generic top level domain (“gTLD”) expansion by the Internet Corporation for Assigned Names and Numbers (“ICANN”) on the number of domains we register and the impact it may have on related revenues; our belief that the market for domain name registration will trend upward gradually and may be affected by market volatility; our belief that, by increasing the number of services we offer, we will be able to generate higher revenues; the effectiveness of our intellectual property protection, including our ability to license proprietary rights to network partners and to register additional trademarks and service marks; the potential impact of current and pending claims on our business; our expectation to collect our outstanding receivables, net of our allowance for doubtful accounts; our expectation regarding fluctuations in certain expense and cost categories; our expectations regarding cash from operations to fund our business; and general business conditions and economic uncertainty. These statements are based on management’s current expectations and are subject to a number of uncertainties and risks that could cause actual results to differ materially from those described in the forward-looking statements. Many factors affect our ability to achieve our objectives and to successfully develop and commercialize our services including:

- Changes in the nature of key strategic relationships with our Mobile Virtual Network Operator (“MVNO”) partners;
 - The effects of vigorous competition on a highly penetrated mobile telephony market, including the impact of competition on the price we are able to charge subscribers for services and devices and on the geographic areas served by our MVNO partner wireless networks;
 - Our ability to manage any potential increase in subscriber churn or bad debt expense;
 - Our ability to continue to generate sufficient working capital to meet our operating requirements;
 - Our ability to service our debt commitments;
 - Our ability to maintain a good working relationship with our vendors and customers;
 - The ability of vendors to continue to supply our needs;
 - Actions by our competitors;
 - Our ability to attract and retain qualified personnel in our business;
 - Our ability to effectively manage our business;
 - The effects of any material impairment of our goodwill or other indefinite-lived intangible assets;
 - Our ability to obtain and maintain approvals from regulatory authorities on regulatory issues;
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- Our ability to invest in the build-out of fiber networks into selected towns and cities to provide Internet access services to residential and commercial customers while maintaining the development and sales of our established services;
- Adverse tax consequences such as those related to changes in tax laws or tax rates or their interpretations, including with respect to the impact of the Tax Cuts and Jobs Act of 2017;
- The application of judgment in determining our global provision for income taxes, deferred tax assets or liabilities or other tax liabilities given the ultimate tax determination is uncertain;
- Pending or new litigation; and
- Factors set forth herein under the caption “Item 1A Risk Factors”.

This list of factors that may affect our future performance and financial and competitive position and the accuracy of forward-looking statements is illustrative, but it is by no means exhaustive. Accordingly, all forward-looking statements should be evaluated with the understanding of their inherent uncertainty. All forward-looking statements included in this document are based on information available to us as of the date of this document, and we assume no obligation to update these cautionary statements or any forward-looking statements, except as required by law. These statements are not guarantees of future performance.

We qualify all the forward-looking statements contained in this Annual Report on Form 10-K by the foregoing cautionary statements.

PART I

ITEM 1. BUSINESS

Overview

Our mission is to provide simple useful services that help people unlock the power of the Internet.

We accomplish this by reducing the complexity of our customers’ experience as they access the Internet (at home or on the go) and while using Internet services such as domain name registration, email and other Internet services. We are organized, managed and report our financial results as two segments, Network Access Services and Domain Services, which are differentiated primarily by their services, the markets they serve and the regulatory environments in which they operate.

Our management regularly reviews our operating results on a consolidated basis, principally to make decisions about how we utilize our resources and to measure our consolidated operating performance. To assist us in forecasting growth and to help us monitor the effectiveness of our operational strategies, our management regularly reviews revenue for each of our service offerings in order to gain more depth and understanding of the key business metrics driving our business. Accordingly, we report Network Access Services and Domain Services revenue separately.

Network Access Services

Network Access Services includes mobile, fixed high-speed Internet access services and other revenue sources, including billing solutions to small Internet service providers (“ISPs”).

Our primary mobile service offering (“Ting Mobile”) is mainly distributed through the Ting website and to a lesser extent certain third-party retail stores and on-line retailers. We generate revenues from the sale of retail telephony services, mobile phone hardware and related accessories to individuals and small businesses through the Ting website. Ting Mobile’s primary focus is providing simple and easy to use services, including simple value pricing, in particular for multi-line accounts, and superior customer care.

The Company also operates other MVNO brands, Zipsim and Always Online Wireless (collectively referred to as the “Roam Mobility brands”). Roam Mobility brands operates as an MVNO on the same nationwide Global System for Mobile communications (“GSM”) network as Ting Mobile and distributes through third-party retail stores and product branded websites. The primary focus of the Roam Mobility brands is to offer affordable roaming service to international travelers.

The Company also derives revenue from the sale of fixed high-speed Internet access (“Ting Internet”) in select communities, including towns in North Carolina, Maryland, Idaho, Colorado, and Virginia. Our primary sales channel of Ting Internet is through the Ting website. The primary focus of Ting Internet is to provide reliable Gigabit Internet services to consumer and business customers.

Revenues from Ting Mobile and Ting Internet are generated in the United States and are provided on a monthly basis with no fixed contract term. Revenues from Roam Mobility brands are generated in the United States, and Canada on a prepaid usage basis with no fixed contract terms.

Recent Developments

On January 1, 2020, the Company closed its previously disclosed acquisition of Cedar Holdings Group, Incorporated (“Cedar”), a fiber Internet provider business based in Durango, Colorado. Cedar is a telecommunications provider serving multiple markets in the Western Slope of Colorado and northwestern New Mexico. Cedar has focused the last several years on building fiber to enterprise, anchor institution, and residential customers. The Cedar acquisition is discussed in more detail in Part II, Item 9B of this Annual Report on Form 10-K.

Domain Services

Domain Services includes wholesale and retail domain name registration services, value added services and portfolio services derived through our OpenSRS, eNom, Ascio and Hover brands. We earn revenues primarily from the registration fees charged to resellers in connection with new, renewed and transferred domain name registrations. In addition, we earn revenues from the sale of retail domain name registration and email services to individuals and small businesses; and by making our portfolio of domain names available for sale or lease. Domain Services revenues are attributed to the country in which the contract originates, primarily Canada and the United States.

Our primary distribution channel is a global network of approximately 36,000 resellers that operate in approximately 160 countries and who typically provide their customers, the end-users of Internet-based services, with solutions for establishing and maintaining an online presence. Our primary focus is serving the needs of this network of resellers by providing the broadest portfolio of gTLD and the country code top-level domain (“ccTLD”) options and related services, a white-label platform that facilitates the provisioning and management of domain names, a powerful Application Program Interface, easy-to-use interfaces, comprehensive management and reporting tools, and proactive and attentive customer service. Our services are integral to the solutions that our resellers deliver to their customers. We provide “second tier” support to our resellers by email, chat and phone in the event resellers experience issues or problems with our services. In addition, our Network Operating Center proactively monitors all services and network infrastructure to address deficiencies before customer services are impacted.

We believe that the underlying platforms for our services are among the most mature, reliable and functional reseller-oriented provisioning and management platforms in our industry, and we continue to refine, evolve and improve these services for both resellers and end-users. Our business model is characterized primarily by non-refundable, up-front payments, which lead to recurring revenue and positive operating cash flow.

Our wholesale domain name registration services, primarily branded as OpenSRS, Ascio and eNom, derives revenue from its Domain Service and from providing value-added services. The OpenSRS, Ascio and eNom Domain Services manage 23.8 million domain names under the Tucows, eNom and Ascio ICANN registrar accreditations and for other registrars under their own accreditations, which has increased by 0.5 million domain names since December 31, 2018. The increase from prior year is primarily due to the acquisition of 1.9 million names acquired in the Ascio acquisition on March 18, 2019. The increase was offset by a decrease of 0.9 million domain names related to the bulk transfer domain names in the third quarter of 2019, which were registered to a single, low margin hosted customer. A further decrease of 0.5 million domain names was related to the erosion of registrations related to non-core customers.

Our value-added services include hosted email which provides email delivery and webmail access to millions of mailboxes, Internet security services, Internet hosting, WHOIS privacy, publishing tools and other value-added services. All of these services are made available to end-users through a network of 36,000 web hosts, ISPs and other resellers around the world. In addition, we also derive revenue by monetizing domain names which are near the end of their lifecycle through advertising revenue or auction sale.

Our retail domain name registration services, primarily the Hover and eNom portfolio of websites, including eNom, eNom Central and Bulkregister, derive revenues from the sale of domain name registration and email services to individuals and small businesses. Our retail domain services also includes our Personal Names Service – based on over 36,000 surname domains – that allows roughly two-thirds of Americans to purchase an email address based on their last name.

Our portfolio services generate revenue by offering names in our domain portfolio for resale through a number of distribution channels including our reseller network.

Additional information about segments can be found in “Note 19 – Segment Reporting” of the Notes to the Consolidated Financial Statements included in Part II, Item 8 of this Annual Report.

Net Revenues

Network Access Services

The Company generates Network Access Services revenues primarily through the provisioning of mobile services. Other sources of revenue include the provisioning of fixed high-speed Internet access as well as billing solutions to ISPs.

Mobile

Ting Mobile wireless usage contracts grant customers access to standard talk, text and data mobile services. Ting Mobile contracts are billed based on the actual amount of monthly services utilized by each customer during their billing cycle and charged to customers on a postpaid basis. Voice minutes, text messages and megabytes of data are each billed separately based on a tiered pricing program. The Company recognizes revenue for Ting Mobile usage based on the actual amount of monthly services utilized by each customer.

Ting Mobile services are primarily contracted through the Ting website, for one month at a time and contain no commitment to renew the contract following each customer's monthly billing cycle. The Company's billing cycle for all Ting Mobile customers is computed based on the customer's activation date. In order to recognize revenue as the Company satisfies its obligations, we compute the amount of revenues earned but not billed from the end of each billing cycle to the end of each reporting period. In addition, revenues associated with the sale of wireless devices and accessories are recognized when title and risk of loss is transferred to the customer and shipment has occurred. Incentive marketing credits given to customers are recorded as a reduction of revenue.

Our Roam Mobility brands also offers standard talk, text and data mobile services. Roam customers prepay for their usage through the Roam Mobility website. When prepayments are received the amount is deferred, and subsequently recognized as the Company satisfies its obligation to provide mobile services. In addition, revenues associated with the sale of SIM cards are recognized when title and risk of loss is transferred to the subscriber and shipment has occurred. Incentive marketing credits given to customers are recorded as a reduction of revenue.

Other services

Other services derive revenues from providing Ting Internet to individuals and small businesses in select cities. In addition, we provide billing, provisioning and customer care software solutions to ISPs through our Platypus billing software. Ting Internet access contracts provide customers Internet access at their home or business through the installation and use of our fiber optic network. Ting Internet contracts are generally prepaid and grant customers with unlimited bandwidth based on a fixed price per month basis. Since consideration is collected before the service period, revenue is initially deferred and recognized as the Company performs its obligation to provide Internet access.

Ting Internet services are primarily contracted through the Ting website, for one month at a time and contain no commitment to renew the contract following each customer's monthly billing cycle. The Company's billing cycle for all Ting Internet access customers is computed based on the customer's activation date. In order to recognize revenue as the Company satisfies its obligations, we compute the amount of revenues earned but not billed from the end of each billing cycle to the end of each reporting period. In addition, revenues associated with the sale of Internet hardware to subscribers are recognized when title and risk of loss is transferred to the subscriber and shipment has occurred. Incentive marketing credits given to customers are recorded as a reduction of revenue.

In those cases, where payment is not received at the time of sale, revenue is not recognized until contract inception unless the collection of the related accounts receivable is reasonably assured. The Company records costs that reflect expected refunds, rebates and credit card charge-backs as a reduction of revenues at the time of the sale based on historical experiences and current expectations.

Domain Services

Wholesale

Domain registration contracts, which can be purchased for terms of one to ten years, provide our resellers and retail registrant customers with the exclusive right to a personalized Internet address from which to build an online presence. The Company enters into domain registration contracts in connection with each new, renewed and transferred-in domain registration. At the inception of the contract, the Company charges and collects the registration fee for the entire registration period. Though fees are collected upfront, revenue from domain registrations are recognized ratably over the registration period as domain registration contracts contain a ‘right to access’ license of IP, which is a distinct performance obligation measured over time. The registration period begins once the Company has confirmed that the requested domain name has been appropriately recorded in the registry under contractual performance standards.

Historically, our wholesale domain service has constituted the largest portion of our business and encompasses all of our services as an accredited registrar related to the registration, renewal, transfer and management of domain names. In addition, this service fuels other revenue categories as it often is the initial service for which a reseller will engage us, enabling us to follow on with other services and allowing us to add to our portfolio by purchasing names registered through us upon their expiration.

The Company is an ICANN accredited registrar. Thus, the Company is the primary obligor with our reseller and retail registrant customers and is responsible for the fulfillment of our registrar services to those parties. As a result, the Company reports revenue in the amount of the fees we receive directly from our reseller and retail registrant customers. Our reseller customers maintain the primary obligor relationship with their retail customers, establish pricing and retain credit risk to those customers. Accordingly, the Company does not recognize any revenue related to transactions between our reseller customers and their ultimate retail customers.

Wholesale – Value-Added Services

We derive revenue from domain related value-added services like digital certifications, WHOIS privacy, website hosting and hosted email by providing our resellers and retail registrant customers with tools and additional functionality to be used in conjunction with domain registrations. All domain related value-added services are considered distinct performance obligations which transfer the promised service to the customer over the contracted term. Fees charged to customers for domain related value-added services are collected at the inception of the contract, and revenue is recognized on a straight-line basis over the contracted term, consistent with the satisfaction of the performance obligations.

We also derive revenue from other value-added services primarily from Internet hosting services, advertising from the OpenSRS and eNom domain expiry streams.

Retail

We derive revenues from Hover and eNom’s retail properties through the sale of retail domain name registration and email services to individuals and small businesses.

Portfolio

The Company sells the rights to the Company’s portfolio domains or names acquired through the Company’s domain expiry stream. Revenue generated from sale of domain name contracts, containing a distinct performance obligation to transfer the domain name rights under the Company’s control, is generally recognized once the rights have been transferred and payment has been received in full. Domain portfolio names are sold through our premium domain name service, auctions or in negotiated sales. The size of our domain name portfolio varies over time, as we acquire and sell domains on a regular basis to maximize the overall value and revenue generation potential of our portfolio. In evaluating names for sale, we consider the potential foregone revenue from pay-per-click advertising, as well as other factors. The name will be offered for sale if, based on our evaluation, the name is deemed non-essential to our business and management believes that deriving proceeds from the sale is strategically more beneficial to the Company. In Fiscal 2019, the Company sold the remaining names held in its non-surname domain portfolio and portfolio revenue in Fiscal 2020 will only be derived from the sale of names from its surname portfolio. The Company expects significantly lower portfolio revenues going forward.

For information about geographic areas, see “Note 19 – Segment Reporting” of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report.

Intellectual Property

We believe that we are well positioned in the wholesale domain registration and email markets due in part to our highly-recognized “Tu cows”, “OpenSRS”, “Ascio” and “eNom” brands and the respect they confer on us as a defender of end-user rights and reseller-friendly approaches to doing business. We were among the first group of 34 registrars to be accredited by ICANN in 1999, and we remain active in Internet governance issues.

Our success and ability to compete depend on our ability to develop and maintain the proprietary aspects of our brand name and technology. We rely on a combination of trademark, trade secret and copyright laws, as well as contractual restrictions to protect our intellectual property rights.

We have registered the Tu cows trademark in the United States, Canada and the European Union and we register additional service marks and trademarks as appropriate and where such protection is available.

We seek to limit disclosure of our intellectual property by requiring all employees and consultants with access to our proprietary information to commit to confidentiality, non-disclosure and work-for-hire agreements. All of our employees are required to sign confidentiality and non-use agreements, which provide that any rights they may have in copyrightable works or patentable technologies accrue to us. Before entering into discussions with potential vendors and partners about our business and technologies, we require them to enter into a non-disclosure agreement. If these discussions result in a license or other business relationship, we also generally require that the agreement containing the parties’ rights and obligations include provisions for the protection of its intellectual property rights.

Customers

The majority of the customers to whom we provide reseller services are generally either web hosts or ISPs. A small number of customers are consultants and designers providing our services to their business clients. Both our Retail Domain Services and our Network Access Services customers are a very broad mix of consumers, small businesses and corporations.

No customer represented more than 10% of our consolidated revenues in any of the last three fiscal years.

While web hosts and ISPs are capitalizing on the growth in Internet usage and the demand for new services, they also face significant competition from numerous other service providers with competitive or comparable offerings. This has led such web hosts and ISPs to focus on core competencies. As such resellers are increasingly seeking to outsource non-core services. Outsourcing enables these resellers to better focus on customer acquisition and retention efforts by eliminating the need to own, develop and support non-core applications in-house.

Seasonality

During the summer months and certain other times of the year, such as major holidays, Internet usage often declines. As a result, many of our services (OpenSRS, eNom, Ascio, Hover, Ting and Roam Mobility) may experience reduced demand during these times. For example, our experience shows that new domain registrations decline during the summer months and around the year-end holidays. Seasonality may also affect advertising, which may have a slight impact on advertisement-based revenue. These seasonal effects could cause fluctuations in our financial results. For Ting Mobile, we see increased gross activation and churn activity in late summer as part of back-to-school activities as well as the holiday season in December. For Roam Mobility, we see increased roaming sales as consumers travel to warmer regions of the United States for extended periods of time.

Competition

Our competitors may be divided into the following groups:

- US Mobile Phone Service providers such as AT&T, Verizon, T-Mobile and Sprint, who primarily compete with Ting Mobile Services.
- US Broadband providers such as AT&T, Comcast, Verizon and CenturyLink, who primarily compete with Ting Internet Services.
- Retail-oriented domain registrars, such as GoDaddy and Web.com who compete with our Reseller customers in wholesale domain services and with Hover.
- Wholesale-oriented domain registrars, such as GoDaddy, who market services to resellers such as our customers.
- Wholesale Email Service providers, such as Google, Microsoft, Bluetie and MailTrust.

We expect to continue to experience significant competition from the competitors identified above and, as our business continues to develop, we expect to encounter competition from other providers. Service providers, Internet portals, web hosting companies, email hosting companies, outsourced application companies, country code registries and major telecommunication firms may broaden their services to include services we offer.

We believe the primary competitive factors in our Network Access Services are:

- Providing a superior customer service experience
- Providing a simple and friendly user experience through more usable web and application interfaces and more fair and transparent pricing;
- Being agnostic on telephony and internet hardware, including phones and network routers; and
- Providing superior technology, speed and reliability with fiber to the home services.

We believe the primary competitive factors in our Domain Services are:

- Providing superior customer service by anticipating the technical requirements and business objectives of resellers and providing them with technical advice to help them understand how our services can be customized to meet their particular needs;
- Providing cost savings over in-house solutions by relieving resellers of the expense of acquiring and maintaining hardware and software and the associated administrative burden;
- Enabling resellers to better manage their relationships with their end-users;
- Facilitating scalability through an infrastructure designed to support millions of transactions across millions of end-users; and
- Providing superior technology and infrastructure, consisting of industry-leading software and hardware that allow resellers to provide these services to their customers without having to make substantial investments in their own software or hardware.

Although we encounter pricing pressure in many markets in which we compete, we believe the effects of that pressure are mitigated by the fact that we deliver a high degree of value to our customers through our business and technical practices. We believe our status as a trusted supplier also allows us to mitigate the effects of this type of competition. We believe that the long-term relationships we have made with many customers results in a sense of certainty that would not be available to those customers through a competitor.

Employees

As of December 31, 2019, we had approximately 633 full-time employees. None of our employees are currently represented by a labor union. We consider our relations with our employees to be good.

Corporate Information

Our principal place of business is located in Canada.

We were incorporated under the laws of the Commonwealth of Pennsylvania in November 1992 under the name Infonautics, Inc. In August 2001, we completed our acquisition of Tucows Inc., a Delaware corporation, and we changed our name from Infonautics, Inc. to Tucows Inc. Our principal executive offices are located at 96 Mowat Avenue, Toronto, Ontario, M6K 3M1 Canada. Our telephone number is (416) 535-0123. We also have offices in Germany, Denmark and the United States of America.

We are subject to the filing requirements of the Securities Exchange Act of 1934 (the “Exchange Act”). Therefore, we file annual reports, periodic reports, proxy statements and other information with the Securities and Exchange Commission, or SEC. The SEC maintains an Internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically at www.sec.gov.

Our website address is tucows.com. We make available through our website, free of charge, copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as amended as soon as reasonably practicable after filing such material electronically or otherwise furnishing it to the SEC. The information on the website listed above is not and should not be considered part of this Annual Report and is not incorporated by reference in this document.

Executive Officers and Key Employees of the Registrant

The following table sets forth the names, ages and titles of persons currently serving as our executive officers and key employees.

Name	Age	Title
Elliot Noss	57	President and Chief Executive Officer
Davinder Singh	45	Chief Financial Officer
Dave Woroch	57	Executive Vice President, Domains
Bret Fausett	56	Chief Legal Officer
Hanno Liem	46	Chief Technology Officer
Jessica Johansson	47	Chief People Officer
Justin Reilly	32	Chief Product Officer
Michael Goldstein	48	Chief Revenue Officer, Ting
Ross Rader	48	Chief Customer Officer

Elliot Noss has served as our President and Chief Executive Officer since May 1999 and served as Vice President of Corporate Services for Tucows Interactive Limited, which was acquired by Tucows in May 1999, from April 1997 to May 1999.

Davinder Singh has served as our Chief Financial Officer since 2017, having previously served as Vice President Finance since joining the Company in 2016. Prior to joining the Company, Mr. Singh spent eight years at KPMG LLP primarily focusing on public company audits in the technology field. After leaving KPMG LLP, Mr. Singh joined TELUS and held progressive roles, including Chief Financial Officer of TELUS International, TELUS’ outsourcing division. Mr. Singh is a Chartered Professional Accountant with the Institute of Chartered Professional Accountants of British Columbia.

David Woroch has served as our Executive Vice President, Domains since 2014 and oversees the Domains business at Tucows, including OpenSRS, eNom, Ascio and EPAG (wholesale), Hover (retail) and the premium domain portfolio. Mr. Woroch joined Tucows in March 2000 after thirteen years at IBM and has helped build Tucows’ sales, marketing, business development, product management and technical support capabilities.

Bret Fausett joined Tucows in September 2017 as our Chief Legal Officer. Prior to joining Tucows, Mr. Fausett worked for Uniregistry, where he had served as General Counsel for six years. Prior to Uniregistry, Mr. Fausett worked as outside legal counsel to a number of domain industry related companies.

Hanno Liem joined Tucows in January 2018 as our Chief Technology Officer. Prior to joining Tucows, Mr. Liem worked for Rakuten Kobo since 2012 where he served as their Vice President of Global Operations and focused on site operations and engineering.

Jessica Johansson has served as our Chief People Officer since January 2017. Prior to joining Tucows, Ms. Johansson held executive level HR roles at Johnson Controls, Inc. since 2008, Brookfield Renewable Energy Group and Capgemini.

Michael Goldstein has served as our Chief Revenue Officer since September 2009. Before joining us, Mr. Goldstein spent five years at Ogilvy, NY as a Partner and, Marketing Director managing advertising, brand identity, digital and public relations campaigns for clients such as TD Ameritrade, Kraft, GlaxoSmithKline and DoubleClick.

Ross Rader has served as Chief Customer Officer since 2012, where he leads our customer service and support organization. In 2000, as our Director of Assigned Names, Ross helped launch Tucows OpenSRS service. In 2005, as General Manager, Retail Services he oversaw Tucows’ retail domain operations, including the development and launch of Hover in 2008.

Justin Reilly joined Tucows in September 2019 as our Chief Product Officer. Prior to joining Tucows, Justin was Head of Product & Customer Experience Innovation at Verizon, as well as founder of a number of companies with consumer grade product and machine learning at their core.

ITEM 1A. RISK FACTORS

Our business faces significant risks. Some of the following risks relate principally to our business and the industry and statutory and regulatory environment in which we operate. Other risks relate principally to the securities markets and ownership of our stock. The risks described below may not be the only risks we face. Additional risks that we do not yet know of or that we currently think are immaterial may also impair our business operations. If any of the events or circumstances described in the following risk factors actually occur, our business, financial condition or results of operations could suffer, and the trading price of our common stock could decline.

RISKS RELATED TO OUR BUSINESS AND INDUSTRY

We face intense competition and consolidation in the industries and markets we serve. If we do not continue to provide services that are useful to users, we may not remain competitive and be forced to reduce our prices, and our revenues and operating results could be adversely affected.

Network Access Services

The U.S. wireless communications & Internet services industry has become extremely competitive. We expect competition to continue to intensify as a result of the entrance of new competitors or the expansion of services offered by existing competitors. If we cannot compete effectively, our revenues, growth and profitability may be materially adversely affected. Our brands compete with (1) incumbent facilities-based wireless communication and Internet service providers and their prepaid affiliate brands and (2) other MVNOs. Most of our competitors have substantially greater financial, technical, personnel and marketing resources and a larger market share than we do, and we may not be able to compete successfully against them. Due to their size and bargaining power, they may obtain discounts for facilities, equipment, devices (including cellular handsets, IoT enabled devices and ONTs), content, and services, potentially placing us at a competitive disadvantage. As consolidation in the industry creates even larger competitors, our competitors' purchasing advantages may increase further, hampering our efforts to attract and retain customers. They may use their significant market power to introduce additional products and service features (or lower prices) that we are unable to offer at similar cost or price to the customer. This may impact our ability to gain significant market share from these competitors. To remain competitive, we may be compelled to offer greater subsidies for our devices, reduce the prices for our wireless or gigabit services or augment our service offerings. Any subsidies or price reductions that we offer in order to remain competitive may reduce our margins and revenues, and may adversely affect our profitability and cash flows. Lower prices may also make our services more accessible to new, lower-value customers with less disposable income available to spend on our services. In addition, if prices decline, customers without long-term contracts may change their service providers more frequently, thereby increasing our churn and resulting in higher acquisition costs to replace those customers. A shift to lower value or less loyal customers could have an adverse impact on our results of operations and cash flows.

Domain Services

The market for Internet services generally and domain registrations in particular is intensely competitive and rapidly evolving as participants strive to protect their current market share and improve their competitive position, and we expect competition to intensify in the future. If any of our competitors merge with one another, or existing suppliers (Registries) decide to begin competing in our core business areas, they will present a stronger force in the market and may attract the business of both existing and prospective resellers. In addition, our resellers may opt to build their own technical systems and seek ICANN accreditation in order to process domain applications themselves. Currently ICANN has over 2,500 active registrars who register domain names in one or more of the gTLDs that it oversees. Not all of these accredited registrars, however, are operational. There are relatively few barriers of entry to this market, so as this market continues to develop we expect the number of competitors to increase. The continued entry into the domain registration industry and the rapid growth of some competitive registrars and service providers who have already entered the industry may make it difficult for us to maintain our current market share. As a result, we may not be able to compete effectively and our sales may decrease materially. To remain competitive, competitors may offer aggressive price discounts on the services they offer. At the same time, registries may increase their prices, increasing the cost of the services we sell. These pricing pressures may require us to match these discounts or absorb price increases in order to remain competitive, which would reduce our margins, or cause us to lose customers who decide to purchase the discounted service offerings of our competitors or forego a purchase because of pricing. Most of our existing competitors are also expanding the variety of services that they offer. These competitors include, among others, domain name registrars, hosting companies and Internet service providers, as well as other large Internet companies, who have the ability to offer these services for free or at a reduced price as part of a bundle with other service offerings. If these companies decide to devote greater resources to the development, promotion and sale of these new products and services, greater numbers of individuals and businesses may choose to use these competitors as their starting point for creating an online presence and as a general platform for running their online business operations.

Our service offerings both in Network Access Services and Domain Services may not be successful if we are unable to maintain existing customer relationships or establish new relationships.

Network Access Services

Ting services, both mobile and fiber businesses may not prove to be successful or profitable in the long term. Ting's long-term success is dependent upon its sustained ability to generate sufficient revenue from its subscribers based on their use of its services and its ability to respond to churn by retaining existing customers and adding new customers. In Q2'19, the Company announced that it would not renew its agreement with T-Mobile effective December 19, 2019, whom operate on a GSM ("Global System for Mobile") platform. The Company therefore must incentivize current customers who use GSM devices to migrate to devices which are compatible with Ting Mobile's other MNOs – Sprint & Verizon. To mitigate transition effects, the Company has entered into a 3-year agreement with Prepaid Wireless Wholesale, LLC (PWW), a Mobile Virtual Network Enabler to provide wireless voice minutes and data services via the GSM standard on the T-Mobile network via a reseller arrangement with PWW. Due to the difficulty of identifying which inducements will be most effective, some customers may refuse or fail to migrate to compatible devices. This would result in increased customer churn, increased customer retention costs and/or significant shortfall penalties, if slow subscriber migration resulted in revenues below the minimum revenue commitments the Company has with the MNOs. If any of these events occur, our operational performance and financial results may be adversely affected.

Domain Services

Our network of resellers is our principal source for distributing domain services. We also rely on our resellers to market, promote and sell our services. Our ability to increase revenues in the future will depend significantly on our ability to maintain our reseller network, to sell more services through existing resellers and to develop our relationships with existing resellers by providing customer and sales support and additional products. Resellers have no obligations to distribute our services and may stop doing so at any time. If we are not able to maintain our relationships with resellers, our ability to distribute our services will be harmed, and our revenue may decline.

Our service offerings both in Network Access Services and Domain Services may be limited in ability to grow their respective businesses and customer base unless we can continue to manage vendor relationships and obtain both valuable network capacity and a multitude of domain name registration options. If these rates increase or product mix lags in comparison to our competitors, this have a significant impact upon our operating results.

Network Access Services

In order to remain competitive and to further expand our MVNO business, we must continue to obtain valuable wireless network capacity at favorable rates and terms, provide adequate customer service and acquire and market a sufficient quantity and mix of handsets and related accessories. Our operating performance and ability to attract new customers may be adversely affected if we are unable to meet the increasing demands for our services in a timely and efficient manner, while adequately addressing the growing demands on our customer service, billing, and other back-office functions. Any change in our ability, or the ability of third parties with whom we contract, to provide these services also could adversely affect our operations and financial performance. On June 6, 2018, two of our current Network Operators, T-Mobile and Sprint submitted a formal merger application to the Federal Communications Commission ("FCC"), which has since been approved. As of February 11, 2020, the merger between T-Mobile and Sprint is expected to be finalized as early as April 1, 2020, subject also to resolution of a lawsuit filed by certain state attorneys general. If the merger is successful, the consolidation of our Network Operators could hinder our ability in the future to negotiate favorable rates and access to the mobile services mentioned above. We also have added Verizon as a Network Operator but have not yet integrated with their systems or made this service available to our customers on our Ting MVNO platform. Our integration may not be successful or profitable.

Domain Services

In order to remain competitive, we must provide a multitude of domain name registration options (TLDs, ccTLDs) to our resellers. Any failure on our part to offer domain registrations in a significant number of TLDs/ccTLDs or in a popular TLD/ccTLD would cause us to lose a competitive advantage and could cause resellers to elect to take their business to a registrar that does offer these services. Each registry typically imposes a fee in association with the registration of each domain. For example, Verisign, the registry for .com, presently charges a \$7.85 fee for each .com registration and ICANN currently charges a \$0.18 fee for each .com domain name registered in the gTLDs that fall within its purview. We have no control over these agencies and cannot predict when they may increase their respective fees. An amendment to the registry agreement between ICANN and Verisign was approved by the U.S. Department of Commerce in November 2018. The amendment confirms that Verisign will operate the .com registry until 2024. The amendment also repeals price controls and provides Verisign the pricing flexibility to change its .com Registry Agreement with ICANN to increase wholesale .com prices. Specifically, the flexibility permits Verisign to pursue with ICANN an up to 7 percent increase in the prices for .com domain names, in each of the last four years of the six-year term of the .com Registry Agreement. The changes also affirm that Verisign may not vertically integrate or operate as a registrar in the .com top level domain.

Our service offerings both in Network Access Services and Domain Services may experience a material adverse effect should the nature of the Internet fundamentally change or fail to grow and expand internationally as a viable medium for commerce. This includes changes in current navigation practices, technologies or marketing practices.

Network Access Services

The success of our Network Access Services, primarily Ting Fiber depends on the continued development and acceptance of symmetrical gigabyte Internet infrastructure and service as a medium for faster Internet communication. A number of factors could prevent continued growth and acceptance, including:

- the unwillingness of companies and customers to shift their purchasing from traditional ISP vendors to alternative vendors like Ting Fiber;
- the Fiber infrastructure may not be able to support the demands placed on it, and its performance and reliability may decline as usage grows;
- the development of alternative, wireless technologies (such as 5G) that could provide a similar Internet speed and service without a fixed connection/physical network.
- Any of these issues could slow the growth of the adoption of Fiber Internet, which could limit our growth and revenues.

Domain Services

The domain name registration industry continues to develop and adapt to changing technology and the demands of individual governments. These developments may include changes in the administration or operation of the Internet, including (a) the creation and institution of alternate systems for directing Internet traffic without the use of the existing domain system or (b) systems under local government control that splinter from, or thwart the operation of, the Internet. Systems existing outside the domain name system are not subject to ICANN accreditation requirements and restrictions. Other competitors have attempted to introduce naming systems that use keywords rather than traditional domains. The widespread acceptance of any alternative systems and Internet navigation practices could eliminate the need to register a domain to establish an online presence and could materially adversely affect our business, financial condition and results of operations.

Additionally, we believe that a major source of growth for Internet-based companies will come from individuals and businesses outside the United States where Internet access and use is currently less prevalent. A substantial number of our resellers are currently based outside the United States and we plan to grow our business in other countries. If Internet usage in these jurisdictions does not increase as anticipated, or if governments prohibit the registration and use of domain names or certain classes of domain names, our revenues may not grow as anticipated.

Our ongoing investment in new businesses, services and technologies is inherently risky, and could disrupt our current operations. We may not be able to realize the intended and anticipated benefits from our investments and acquisitions, which could affect the value of these investments to our business and our ability to meet our financial obligations and targets in the short or medium term.

Network Access Services

We have invested and expect to continue to invest in our new fiber to the home (“FTTH”) deployments in select markets in the United States (Ting Fiber) both organically and inorganically through acquisitions like the purchase of Cedar Holdings Group, a telecommunications provider serving multiple markets in the Western Slope of Colorado and northwestern New Mexico. The investments are a reflection of our ongoing efforts to build FTTH network via public-private partnerships in communities we identify as having strong, unmet demand for FTTH services. Such FTTH investments may involve risks and uncertainties, including: insufficient revenues from such investments and acquisitions, in the short and medium term to offset any new commitments assumed and expenses associated with these new investments; inadequate return of capital on our investments; inability to obtain the appropriate technical and operational resources; and unanticipated local or federal regulatory changes that could cause us to fail to realize the anticipated benefits of such investments. Because these new FTTH deployments are inherently risky, no assurance can be given that such investments will be successful and will not adversely affect our financial condition and operating results.

Domain Services

We may acquire companies, assets or the rights to technologies in the future in order to develop new services or enhance existing services, to enhance our operating infrastructure, to fund expansion, to respond to competitive pressures or to acquire complementary businesses in the Domain Services industry. Entering into these types of arrangements entails many risks, any of which could materially harm our business, including: the diversion of management’s attention from other business concerns; the failure to effectively integrate the acquired technology or company into our business; the incurring of significant acquisition costs; the loss of key employees from either our current business or the acquired business; and the assumption of significant liabilities of the acquired company. Any of the foregoing or other factors could harm our ability to achieve anticipated levels of profitability from acquired businesses or to realize other anticipated benefits of acquisitions. We may not be able to identify or consummate any future acquisitions on favorable terms, or at all. If we do effect an acquisition, it is possible that the financial markets or investors will view the acquisition negatively.

The Company's success depends on our ability to keep pace with technological advances. Failure to respond to rapid technological changes in the industries we serve or difficulty in scaling or adapting existing architecture could result in the loss of customers and cause us to incur additional expenses.

Network Access Services

The U.S. wireless communications industry is experiencing rapid growth of new technologies, products and services. We cannot predict which of many possible future technologies, products, or services will be important to maintain our competitive position or what expenditures we will be required to make in order to develop and provide these technologies, products or services. To the extent we do not keep pace with technological advances or fail to timely respond to changes in the competitive environment affecting our industry, we could lose market share or experience a decline in revenue, cash flows and net income from our telecommunications brands (Ting Mobile, Roam). As a result of the financial strength and benefits of scale enjoyed by some of our competitors, they may be able to offer services at lower prices than we can, thereby adversely affecting our revenues, growth and profitability.

Currently there is no Internet access technology that comes close to the speed, reliability, scalability and value of fiber-optics. However, it's possible that another medium that's either better or more economically/easily deployed could be developed in the longer term, or wireless could be improved enough to supplant the need for fiber in certain types of installations, like multi-family units, that would impact Ting Fiber's ability to grow. To be successful as we continue to build out the Ting Fiber network in communities across the U.S. and bring customers onto the network we must ensure that our network infrastructure performs well and is reliable. The greater the user traffic and the greater the complexity of our services, the more computing power we will need. We have spent and expect to continue to spend substantial amounts on the purchase of equipment to enable our network infrastructure to handle increased traffic. This expansion is expensive and complex and could result in inefficiencies or operational failures. If we do not expand successfully, or if we experience inefficiencies and operational failures, the quality of our services and our customers' experience could decline. This could damage our reputation and lead us to lose current and potential customers. Cost increases, loss of traffic or failure to accommodate new technologies or changing business requirements could harm our operating results and financial condition.

Domain Services

The Internet and e-commerce are characterized by rapid technological change. Sudden changes in user and customer requirements and preferences, the frequent introduction of new applications and services embodying new technologies and the emergence of new industry standards and practices could make our applications, services and systems obsolete. The emerging nature of applications and services in the Internet application and services industry and their rapid evolution will require that we continually improve the performance, features and reliability of our applications and services. Our success will depend, in part, on our ability: to develop and license new applications, services and technologies that address the increasingly sophisticated and varied needs of our current and prospective customers; and to respond to technological advances and emerging industry standards and practices on a cost-effective and timely basis.

The development of applications and services and other proprietary technology involves significant technological and business risks and requires substantial expenditures and lead-time. We may be unable to use new technologies effectively or adapt our internally developed technology and transaction-processing systems to customer requirements or emerging industry standards in a timely manner, or at all. Our internal development teams may also be unable to keep pace with new technological developments that affect the marketplace for our services. In addition, as we offer new services and functionality, we will need to ensure that any new services and functionality are well integrated with our current services, particularly as we offer an increasing number of our services as part of bundled suites. To the extent that any new services offered by us do not interoperate well with our existing services, our ability to market and sell those new services would be adversely affected and our revenue level and ability to achieve and sustain profitability might be harmed. Updating technology internally and licensing new technology from third parties may require us to incur significant additional capital expenditures.

Corporate Systems

For our fiber, MVNO, and domain services businesses, we use data centers, some provided by third-parties and some provided by ourselves, for the storage and exchange of corporate and customer data. Any damage to or failure of our data center systems could result in interruptions in our service, which could reduce our revenues and profits, and damage our brands.

We rely on network operators, bandwidth providers, data centers and other vendors in providing services to our customers, and any system failure or interruption in the services provided by either our Company or third parties could harm our ability to operate our business and damage our reputation.

Network Access Services

As an MVNO, our telecommunications brands (Ting Mobile & Roam) do not own or operate a physical network, but rather utilize the nationwide wireless communication networks of our Network Operators. We rely on them and their third-party affiliates to maintain their wireless facilities and government authorizations and to comply with government policies and regulations. If they fail to do so, we may incur substantial losses. Some of the risks related to their nationwide wireless communication networks and infrastructure include: major equipment failures, breaches of network or information technology security that affect their wireless networks, including transport facilities, communications switches, routers, microwave links, cell sites or other equipment or third-party owned local and long-distance networks on which we rely, power surges or outages, software defects and disruptions beyond their control, such as natural disasters and acts of terrorism, among others. The Master Services Agreements with our Network Operators do not contain any contractual indemnification provisions relating to network outages or other disruptions. Any impact on their nationwide wireless communication networks could disrupt our operations, require significant resources, result in a loss of subscribers or impair our ability to attract new subscribers, which in turn could have a material adverse effect on our business, results of operations and financial condition. Delays or failure to add network capacity, or increased costs of adding capacity or operating the network, could limit our ability to increase our customer base, limit our ability to increase our revenues, or cause a deterioration of our operating margin.

Domain Services

The availability of our Domain Name services depends on the continuing operation of our information technology and communications systems. Any damage to or failure of our systems could result in interruptions in our service, which could reduce our revenues and profits, and damage our brands. Our systems are vulnerable to damage or interruption from earthquakes, terrorist attacks, floods, fires, power loss, telecommunications failures, computer viruses, computer denial of service attacks or other attempts to harm our systems. Some of our data centers are located in areas with a high risk of major earthquakes. Our data centers are also subject to break-ins, sabotage and intentional acts of vandalism, and to potential disruptions if the operators of these facilities have financial difficulties. Some of our systems are not fully redundant, and our disaster recovery planning cannot account for all eventualities. The occurrence of a natural disaster, a decision to close a facility without adequate notice or other unanticipated problems at our data centers could result in lengthy interruptions in our service.

We have currently entered into agreements with unrelated parties for certain business operations and to license third-party technologies. Any claims against these unrelated parties to which we rely for business operations and/or licensed technology could result in the need to incur substantial costs to replace the technology or services which could delay and increase the cost of product and service developments.

Network Access Services

We have entered into agreements with unrelated parties for the day-to-day execution of certain services, the development and maintenance of certain systems necessary for the operation of our business, and for network equipment, handsets, devices, and other equipment. We expect our dependence on key suppliers to continue as more advanced technologies are developed. If we experience difficulties with regard to these arrangements, it could result in additional expense, loss of subscribers and revenue, interruption of our services or a delay in the roll-out of new technology.

Domain Services

We currently license certain technologies from third parties and incorporate them into certain of our services including email, security certificates, anti-spam and anti-virus. The Internet services market is evolving and we may need to license additional technologies to remain competitive. We may not be able to license these technologies on commercially reasonable terms or at all (should these third-party technology licenses infringe on the proprietary rights of others). To the extent we cannot license necessary solutions, we may have to devote our resources to development of such technologies, which could delay and increase the cost of product and service developments overall.

Our systems face security risks, and any compromise of the security of these systems could disrupt our business, damage our reputation and result in the disclosure of confidential information, legal liability for damages and loss of customers.

In the ordinary course of our business, we collect and store sensitive data, including intellectual property, our proprietary business information and that of our customers, suppliers and business partners, and personally identifiable information of our customers and employees. Due to the fact that all of our services are Internet based, the amount of data we store for our users on our servers (including personal information) has been increasing. We make extensive use of online services and centralized data processing, including through third-party service providers. The secure maintenance and transmission of customer information is an important element of our operations.

From time to time, concerns have been expressed about whether our services compromise the privacy of our users and others. Concerns about our practices with regard to the collection, use, disclosure or security of personal information or other privacy-related matters, even if unfounded, could damage our reputation and operating results and expose us to litigation and possible liability, including claims for unauthorized purchases with credit card information, impersonation, or fraud claims and other claims relating to the misuse of personal information and unauthorized marketing purposes. While we strive to comply with all applicable data protection laws and regulations, as well as our own privacy policies, any failure or perceived failure to comply may result in proceedings or actions against us by government entities or others, which could potentially have an adverse effect on our business.

We have previously been the target of attempted attacks and must monitor and develop our systems to protect this data from misappropriation. Our information technology and other systems that maintain and transmit customer information, including location or personal information, or those of service providers, may be compromised by a malicious third-party penetration of our network security, or that of a third-party service provider, or impacted by advertent or inadvertent actions or inactions by our employees, or those of a third-party service provider. Cyber-attacks, which include the use of malware, computer viruses and other means for disruption or unauthorized access, have increased in frequency, scope and potential harm in recent years. While, to date, we have not been subject to any successful cyber-attacks or other cyber incidents which, individually or in the aggregate, have been material to our operations or financial condition, the preventive actions we take to reduce the risk of cyber incidents and protect our information technology and networks may be insufficient to repel a major cyber-attack in the future. As a result, our subscribers' information may be lost, disclosed, accessed, used, corrupted, destroyed or taken without the subscribers' consent.

Any major compromise of our data or network security, failure to prevent or mitigate the loss of our services or customer information and delays in detecting any such compromise or loss could disrupt our operations, impact our reputation and subscribers' willingness to purchase our services and subject us to additional costs and liabilities, including litigation, which could be material.

Disputes concerning the ownership or rights to use intellectual property and litigation involving other rights of third parties could be costly and time-consuming to litigate, may distract management from operating the business, and may result in us paying significant damage awards, losing significant rights and our ability to operate all or a portion of our business.

We rely upon copyright, trade secret and trademark law, confidentiality and nondisclosure agreements, invention assignment agreements and work-for-hire agreements to protect our proprietary technology, all of which offer only limited protection. Due to the global nature of our web-based businesses and services, we cannot ensure that our efforts to protect our proprietary information will be adequate to protect against infringement and misappropriation by third parties, particularly in foreign countries where laws or law enforcement practices may not protect proprietary rights as fully as in the United States of America and Canada.

We have licensed, and may in the future license, some of our trademarks and other proprietary rights to others. Third parties may also reproduce or use our intellectual property rights without seeking a license and thus benefit from our technology without paying for it. Third parties could also independently develop technology, processes or other intellectual property that are similar to or superior to those used by us. Actions by licensees, misappropriation of the intellectual property rights or independent development by others of similar or superior technology might diminish the value of our proprietary rights or damage our reputation. The unauthorized reproduction or other misappropriation of our intellectual property rights, including copying the look, feel and functionality of our website could enable third parties to benefit from our technology without us receiving any compensation. The enforcement of our intellectual property rights may depend on our taking legal action against these infringing parties, and we cannot be sure that these actions will be successful.

Defense of claims of infringement of intellectual property or other rights of third parties against us would require the resources of both our time and money. Third parties may assert claims of infringement of patents or other intellectual property rights against us concerning past, current or future technologies. Content obtained from third parties and distributed over the Internet by us may result in liability for defamation, negligence, intellectual property infringement, product or service liability and dissemination of computer viruses or other disruptive problems. We may also be subject to claims from third parties asserting trademark infringement, unfair competition and violation of publicity and privacy rights relating specifically to domains.

As a domain name registrar, we regularly become involved in disputes over registration of domain names. These disputes are typically resolved through the UDRP, ICANN's administrative process for domain name dispute resolution, or less frequently through litigation under the ACPA, or under general theories of trademark infringement or dilution. The UDRP generally does not impose liability on registrars, and the ACPA provides that registrars may not be held liable for registering or maintaining a domain name absent a showing of bad faith intent to profit or reckless disregard of a court order by the registrars. However, we may face liability if we fail to comply in a timely manner with procedural requirements under these rules. In addition, these processes typically require at least limited involvement by us, and therefore increase our cost of doing business. The volume of domain name registration disputes may increase in the future as the overall number of registered domain names increases.

We have substantial goodwill and other intangible assets, therefore to the extent that any intellectual property is deemed impaired we would be required to record a significant charge to earnings in our financial statements during the period in which any impairment of our goodwill or intangible assets is determined. Any impairment charges or changes to the estimated amortization periods could have a material adverse effect on our financial results.

Our service offerings both in Network Access Services and Domain Services are exposed to risks associated with credit card and other online payment chargebacks, fraud and new payment methods.

Network Access Services

Ting offers its wireless and Internet services on a postpaid basis. The success of its postpaid offerings depends on its ability to manage its credit risk while attracting new customers with profitable usage patterns. Both Ting Mobile & Ting Fiber have a short operating history and there can be no assurance that it will be able to manage its credit risk or generate sufficient revenue to cover its postpaid-related expenses, including losses arising from its customers' failure to make payments when due. Ting manages credit risk exposure using techniques that are designed to set terms and limits for the credit risk it accepts. The techniques it uses may not accurately predict future defaults due to, among other things, inaccurate assumptions or fraud. Ting's ability to manage credit risk may also be adversely affected by legal or regulatory changes, competitors' actions, consumer behavior, and inadequate collections staffing or techniques. While Ting continually seeks to improve its assumptions and controls, its failure to manage its credit risks appropriately may materially adversely affect our profitability and ability to grow.

Domain Services

A substantial majority of our revenue originates from online credit card transactions. Under current credit card industry practices, we are liable for fraudulent and disputed credit card transactions because we do not obtain the cardholder's signature at the time of the transaction, even though the financial institution issuing the credit card may have authorized the transaction. Under credit card association rules, penalties may be imposed at the discretion of the association. Any such potential penalties would be imposed on our credit card processor by the association. Under our contract with our processor, we are required to reimburse our processor for such penalties. Our current level of fraud protection, based on our fraudulent and disputed credit card transaction history, is within the guidelines established by the credit card associations. However, we face the risk that one or more credit card associations may, at any time, assess penalties against us or terminate our ability to accept credit card payments from customers, which would have a material adverse effect on our business, financial condition and results of operations.

Our indebtedness could adversely affect our financial condition, our ability to raise additional capital to fund our operations, our ability to operate our business, divert our cash flow from operations for debt payments and prevent us from meeting our debt obligations. Our debt agreements impose significant operating and financial restrictions on us and our subsidiaries, which may prevent us from capitalizing on business opportunities.

As of March 2, 2020, our outstanding debt under our credit facility was \$114.4 million. Our ability to generate cash flow from operations to make principal and interest payments on our debt will depend on our future performance, which will be affected by a range of economic, competitive and business factors as well as changes in government monetary or fiscal policy.

Absent sufficient cash flows from operations, we may need to engage in equity or debt financings to secure additional funds to meet our operating and capital needs. We may not be able to secure additional debt or equity financing on favorable terms, or at all, at the time when we need that funding. In addition, even though we may have sufficient cash flow, we may still elect to sell additional equity or debt securities or obtain credit facilities for other reasons. If we raise additional funds through further issuances of equity or convertible debt securities, our existing shareholders could suffer significant dilution in their percentage ownership of our company, and any new equity securities we issue could have rights, preferences and privileges senior to those of holders of our common stock. In addition, if we decide to raise funds through debt or convertible debt financings, we may be unable to meet our interest or principal payments. Our inability to generate sufficient cash flow from operations or obtain additional capital or alternative financing on acceptable terms could have a material adverse effect on our business, financial condition and results of operations.

The current agreements governing our indebtedness impose significant operating and financial restrictions on us. These restrictions, subject in certain cases to customary baskets, exceptions, and incurrence-based ratio tests, may limit our or our subsidiaries' ability to engage in some transactions, including the following: incurring additional indebtedness and issuing stock; paying dividends, share repurchases or making other restricted payments or investments; selling assets, properties, or licenses that we have or in the future may procure; creating liens on assets; engaging in mergers, acquisitions, business combinations, or other transactions. These restrictions could limit our ability to react to changes in our operating environment or the economy. Any future indebtedness that we incur may contain similar or more restrictive covenants. Any failure to comply with the restrictions of our debt agreements may result in an event of default under these agreements, which in turn may result in defaults or acceleration of obligations under these agreements and other agreements, giving our lenders the right to terminate any commitments they had made to provide us with further funds and to require us to repay all amounts then outstanding. Any of these events would have a material adverse effect on our business, financial condition, and operating results.

The international nature of our businesses and operations expose us to additional risks that could harm our business, operating results, and growth strategy; including risks related to taxation and foreign currencies fluctuations.

We are a U.S. based multinational company. Expansion into international markets is a continued element of our growth strategy. Introducing and marketing our services internationally, developing direct and indirect international sales and support channels and managing foreign personnel and operations all require significant management attention and financial resources. We face a number of risks associated with expanding our businesses internationally that could negatively impact our results of operations, including the following:

- Foreign currency fluctuations and exchange rates: Our operating results are accordingly subject to fluctuations in foreign currency exchange rates, which could adversely affect our future operating results. We attempt to mitigate a portion of these risks through foreign currency hedging, based on our judgment of the appropriate trade-offs among risk, opportunity and expense. We generally use hedging programs to partially hedge our exposure to foreign currency exchange rate fluctuations for Canadian dollars, the currency in which we incur the majority of operating expenses. Although we regularly review our hedging program and make adjustments as necessary based on the judgment factors discussed above, our hedging activities may not offset more than a portion of the adverse financial impact resulting from unfavorable movement in foreign currency exchange rates, which could adversely affect our financial condition or results of operations.
- Potentially adverse tax consequences or an inability to realize tax benefits: Significant judgment is required in determining our provision for income taxes, deferred tax assets or liabilities and in evaluating our tax positions on a worldwide basis. While we believe our tax positions are consistent with the tax laws in the jurisdictions in which we conduct our business, it is possible that these positions may be overturned by jurisdictional tax authorities, which may have a significant impact on our provision for income taxes. Tax laws are dynamic and subject to change as new laws are passed and new interpretations of the law are issued or applied, including the Tax Cuts and Job Act of 2017. In addition, governmental tax authorities are increasingly scrutinizing the tax positions of companies. If U.S. or other foreign tax authorities change applicable tax laws, our overall taxes could increase, and our business, financial condition or results of operations may be adversely impacted.
- Management, communication and integration problems resulting from cultural differences and geographic dispersion.
- Compliance with foreign laws, accreditation and regulatory requirements in relation to provision of services, protection of intellectual property and third-party data in foreign jurisdictions.
- Competition from companies with international operations, including large international competitors and entrenched local companies.
- To the extent we choose to make acquisitions to enable our international expansion efforts, the identification of suitable acquisition targets in the markets into which we want to expand.
- Political and economic instability in some international markets
- Sufficiently qualified labor pools in various international markets
- We may not succeed in our efforts to continue to expand our international presence as a result of the factors described above or other factors that may have an adverse impact on our overall financial condition and results of operations.

Unanticipated changes in effective tax rates or adverse outcomes resulting from examination of our income or other tax returns could adversely affect our operating results and financial condition.

We are subject to income and other taxes in a number of jurisdictions and our tax structure is subject to review by both domestic and foreign tax authorities. We must make significant assumptions, judgments and estimates to determine our current provision for income taxes, deferred tax assets and liabilities and any valuation allowance that may be recorded against our deferred tax assets. Although we believe that our estimates are reasonable, the ultimate determination of our tax liability is always subject to review by the applicable tax authorities. Any adverse outcome of such a review could have a negative effect on our operating results and financial condition in the period or periods for which such determination is made. Our current and future tax liabilities could be adversely affected by:

- international income tax authorities, including the Canada Revenue Agency and the U.S. Internal Revenue Service, challenging the validity of our arms-length related party transfer pricing policies or the validity of our contemporaneous documentation.
- changes in the valuation of our deferred tax assets; or
- changes in tax laws, regulations, accounting principles or the interpretations of such laws.

We could be subject to changes in tax rates, the adoption of new U.S. or international tax legislation, or exposure to additional tax liabilities. This could discourage the registration or renewal of domain names.

Due to the global nature of the Internet, it is possible that, although our services and the Internet transactions related to them typically originate in Virginia, Toronto, Canada, Denmark and Germany, governments of other states or foreign countries might attempt to regulate our transactions or levy sales, income or other taxes relating to our activities. Tax authorities at the international, federal, state and local levels are currently reviewing the appropriate treatment of companies engaged in Internet commerce. New or revised international, federal, state or local tax regulations may subject us or our customers to additional sales, income and other taxes. We cannot predict the effect of current attempts to impose sales, income or other taxes on commerce over the Internet on Tucows or on our customers. New or revised taxes and, in particular, sales taxes, would likely increase the cost of doing business online and decrease the attractiveness of advertising and selling goods and services over the Internet. New taxes could also create significant increases in internal costs necessary to capture data, and collect and remit taxes. Any of these events could have an adverse effect on our business and results of operations.

Our corporate culture has contributed to our success, and if we cannot maintain this culture as we grow, we could lose the innovation, creativity and teamwork fostered by our culture, and our business may be harmed.

We believe that a critical contributor to our success has been our corporate culture, which we believe fosters innovation, creativity and teamwork. As our organization grows and we are required to implement more complex organizational management structures, we may find it increasingly difficult to maintain the beneficial aspects of our corporate culture. This could negatively impact our future success.

The Company's success depends on the continued service and availability of key personnel.

Much of the Company's future success depends on the continued availability and service of key personnel, including its Chief Executive Officer, executive team and other highly skilled employees. Experienced personnel in the technology industry are in high demand and competition for their talents is intense. We may not be able to retain our key employees or replace them when necessary.

Our business depends on our strong brands. If we are not able to maintain and enhance our brands, our ability to expand our customer base will be impaired and our business and operating results will be harmed.

In recognition of the evolving nature of the internet services market and to make it easier to clearly differentiate each service we offer from our competitors, we enhanced our branding by focusing our primary service offerings under six distinct brands namely "OpenSRS", "eNom", "Hover", "epag", "Ascio" and "Ting". We also believe that maintaining and enhancing the "Tucows" corporate brand and our service brands is critical to expanding our customer base. We anticipate that, as our market becomes increasingly competitive, maintaining and enhancing our brands may become increasingly difficult and expensive. Maintaining and enhancing our brands will depend largely on our ability to be a technology leader providing high quality products and services, which we may not do successfully. To date, we have engaged in relatively little direct brand promotion activities. This enhances the risk that we may not successfully implement brand enhancement efforts in the future.

If we fail to maintain an effective system of disclosure controls and internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act, our ability to produce timely and accurate financial statements or comply with applicable regulations could be impaired.

Section 404 of the Sarbanes-Oxley Act of 2002 requires us to evaluate the effectiveness of our internal control over financial reporting as of the end of each year, and to include a management report assessing the effectiveness of our internal control over financial reporting in each Annual Report on Form 10-K. Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our internal control over financial reporting will prevent all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. Over time, controls may become inadequate because changes in conditions or deterioration in the degree of compliance with policies or procedures may occur. Implementation of new technology related to the control system may result in misstatements due to errors that are not detected and corrected during testing. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and may not be detected.

As a result, we cannot assure you that material weaknesses in our internal control over financial reporting will not be identified in the future. Any failure to maintain or implement required new or improved controls, or any difficulties we encounter in their implementation, could result in material weaknesses, cause us to fail to timely meet our periodic reporting obligations, or result in material misstatements in our financial statements. Any such failure could also adversely affect the results of periodic management evaluations regarding disclosure controls and the effectiveness of our internal control over financial reporting required under Section 404 of the Sarbanes-Oxley Act of 2002 and the rules proclaimed after that. The existence of a material weakness could result in errors in our financial statements that could result in a restatement of financial statements, cause us to fail to timely meet our reporting obligations and cause investors to lose confidence in our reported financial information, leading to a decline in our stock price, and it could make it more difficult for us to attract and retain qualified persons to serve on our Board of Directors ("Board") or as executive officers.

Economic, political, and market conditions may adversely affect our businesses, financial condition, and operating results.

The financial results of our business are both directly and indirectly dependent upon economic conditions throughout the world, which in turn can be impacted by conditions in the global financial markets. Uncertainty about global economic conditions may lead businesses to postpone spending in response to tighter credit and reductions in income or asset values. Weak economic activity may lead government customers to cut back on services. Factors such as interest rates, availability of credit, inflation rates, changes in laws (including laws relating to taxation), trade barriers, currency exchange rates and controls, and national and international political circumstances (including wars, terrorist acts or security operations) could have a material adverse effect on our business and investments, which could reduce our revenue, profitability and value of our assets. These factors may also adversely affect the business, liquidity and financial condition of our customers. In addition, periods of poor economic conditions could increase our ongoing exposure to credit risks on our accounts receivable balances. This could have a material adverse effect on our business, financial condition and results of operations.

Our business and financial performance could be adversely affected, directly or indirectly, by disasters, by terrorist activities or by international hostilities.

Neither the occurrence nor the potential impact of disasters, terrorist activities or international hostilities can be predicted. However, these occurrences could impact us directly as a result of damage to our facilities or by preventing us from conducting our business in the ordinary course, or indirectly as a result of their impact on our customers, suppliers or other counterparties. We could also suffer adverse consequences to the extent that disasters, terrorist activities or international hostilities affect the financial markets or the economy in general or in any particular region. For example, a significant earthquake could impact us directly by disrupting our business operations, including the disruption of data centers we operate that could affect customers across all of our regions of operation and business lines.

Our ability to mitigate the adverse consequences of such occurrences is in part dependent on the quality of our resiliency planning, and our ability, if any, to anticipate the nature of any such event that occurs. The adverse impact of disasters or terrorist activities or international hostilities also could be increased to the extent that there is a lack of preparedness on the part of national or regional emergency responders or on the part of other organizations and businesses that we deal with, particularly those that we depend upon but have no control over.

RISKS RELATED TO LEGAL, GOVERNMENTAL AND REGULATORY MATTERS

ICANN's Oversight of Domain Name Registration System and domain name registration charge. If these fee increase, this may have a significant impact on our operating results.

ICANN is a private sector, not-for-profit corporation formed in 1998 by the U.S. Department of Commerce for the express purposes of overseeing a number of Internet related tasks previously performed directly on behalf of the U.S. government, including managing the domain name registration system. ICANN currently imposes a fee (\$0.18) in association with the registration of each domain name. We have no control over ICANN and cannot predict when they may increase their respective fees. If we absorb such cost increases, or if surcharges act as a deterrent to registration, our profits may be adversely impacted by these third-party fees.

ICANN has been subject to strict scrutiny by the public and by the U.S. and other governments around the world with many of those governments becoming increasingly interested in Internet governance. For example, the U.S. Congress has held hearings to evaluate ICANN's selection process for new TLDs. In addition, ICANN faces significant questions regarding efficacy as a private sector entity. ICANN may continue to evolve both its long-term structure and mission to address perceived shortcomings such as a lack of accountability to the public and a failure to maintain a diverse representation of interests on its board of directors. We continue to face the risks that:

- the U.S. or any other government may reassess its decision to introduce competition into, or ICANN's role in overseeing, the domain registration market;
- the Internet community or the U.S. Department of Commerce or U.S. Congress may refuse to recognize ICANN's authority or support its policies, which could create instability in the domain registration system;
- some of ICANN's policies and practices, and the policies and practices adopted by registries and registrars, could be found to conflict with the laws of one or more jurisdictions;
- ICANN may lose any one of the several claims pending against it in both the U.S. and international courts, in which case its credibility may suffer and its policies may be discredited;
- the terms of the Registrar Accreditation Agreement (the "RAA"), under which we are accredited as a registrar, could change in ways that are disadvantageous to us or under certain circumstances could be terminated by ICANN preventing us from operating our Registrar, or ICANN could adopt unilateral changes to the RAA that are unfavorable to us, that are inconsistent with our current or future plans, or that affect our competitive position;
- ICANN and, under their registry agreements, VeriSign and other registries may impose increased fees received for each ICANN accredited registrar and/or domain name registration managed by those registries;
- ICANN or any registries may implement policy changes that would impact our ability to run our current business practices throughout the various stages of the lifecycle of a domain name; and
- international regulatory or governing bodies, such as the International Telecommunications Union or the European Union, may gain increased influence over the management and regulation of the domain registration system, leading to increased regulation in areas such as taxation and privacy.
- If any of these events occur, they could create instability in the domain registration system. These events could also disrupt or suspend portions of our domain registration solution, which would result in reduced revenue.

Data protection regulations may impose legal obligations on us that we cannot meet or that conflict with our ICANN contractual requirements.

In 2018, the European Commission adopted the General Data Protection Regulation (the "GDPR"), which creates obligations around the procurement, processing, publication and sharing of personal data. Potential fines for violations of certain provisions of GDPR reach as high as 4% of a company's annual total revenue, potentially including the revenue of its international affiliates. The solutions we develop for GDPR-compliance may not be adequate in the views of regulatory authorities or ICANN, which may cause the loss of WHOIS privacy revenue or increase our costs of developing compliant solutions or subject us to litigation, liability, civil penalties, or loss of market share. As the privacy laws and regulations around the world continue to evolve, these changes could adversely affect our business operations in similar ways.

The law relating to the use of and ownership of intellectual property on the internet as well as the liability of internet services companies for data and content carried on or disseminated through their network's websites is currently unsettled and could expose us to unforeseen liabilities. This could negatively affect the public's perception of our corporate image.

As a registrar of domain names services, we may be subject to potential liability for illegal activities by our resellers' customers on their websites. We provide an automated service that enables users to register domain names. We do not monitor or review, nor does our accreditation agreement with ICANN require that we monitor or review, the appropriateness of the domain names we register for our customers or the content of their websites, and we have no control over the activities in which these customers engage. While we have policies in place to terminate domain names or to take other action if presented with evidence of illegal conduct, customers could nonetheless engage in prohibited activities without our knowledge.

Several bodies of law may be deemed to apply to us with respect to various customer activities. Because we operate in a relatively new and rapidly evolving industry and since our industry is characterized by rapid changes in technology and in new and growing illegal activity, these bodies of laws are constantly evolving. Some of the laws that apply to us with respect to certain customer activities include the following:

- The Communications Decency Act of 1996 (the "CDA"), generally protects online service providers, such as Tucows, from liability for certain activities of their customers, such as posting of defamatory or obscene content, unless the online service provider is participating in the unlawful conduct. Notwithstanding the general protections from liability under the CDA, we may nonetheless be forced to defend ourselves from claims of liability covered by the CDA, resulting in an increased cost of doing business.
- The Digital Millennium Copyright Act of 1998 (the "DMCA"), provides recourse for owners of copyrighted material who believe that their rights under U.S. copyright law have been infringed on the Internet. Under the DMCA, we generally are not liable for infringing content posted by third parties. However, if we receive a proper notice from a copyright owner alleging infringement of its protected works by web pages for which we provide hosting services, and we fail to expeditiously remove or disable access to the allegedly infringing material, fail to post and enforce a digital rights management policy or a policy to terminate accounts of repeat infringers, or otherwise fail to meet the requirements of the safe harbor under the DMCA, the owner may seek to impose liability on us.
- Although established statutory law and case law in these areas to date generally have shielded us from liability for customer activities, court rulings in pending or future litigation may serve to narrow the scope of protection afforded us under these laws. In addition, laws governing these activities are unsettled in many international jurisdictions, or may prove difficult or impossible for us to comply with in some international jurisdictions. Also, notwithstanding the exculpatory language of these bodies of law, we may be embroiled in complaints and lawsuits which, even if ultimately resolved in our favor, add cost to our doing business and may divert management's time and attention. Finally, other existing bodies of law, including the criminal laws of various states, may be deemed to apply or new statutes or regulations may be adopted in the future. Our insurance may not be adequate to compensate or may not cover us at all in the event we incur liability for damages due to data and content carried on or disseminated through our network. Any costs not covered by insurance that are incurred as a result of this liability or alleged liability, including any damages awarded and costs of litigation, could harm our business and prospects.
- Domain name registrars also face potential tort law liability for their role in wrongful transfers of domain names. The safeguards and procedures we have adopted may not be successful in insulating us against liability from such claims in the future. In addition, we face potential liability for other forms of "domain name hijacking," including misappropriation by third parties of our network of customer domain names and attempts by third parties to operate websites on these domain names or to extort the customer whose domain name and website were misappropriated. Furthermore, our risk of incurring liability for a security breach on a customer website would increase if the security breach were to occur following our sale to a customer of an SSL certificate that proved ineffectual in preventing it. Finally, we are exposed to potential liability as a result of our private domain name registration service, wherein we become the domain name registrant, on a proxy basis, on behalf of our customers. While we have a policy of providing the underlying information and reserve the right to cancel privacy services on domain names giving rise to domain name disputes including when we receive reasonable evidence of an actionable harm, the safeguards we have in place may not be sufficient to avoid liability in the future, which could increase our costs of doing business.
- There have been ongoing legislative developments and judicial decisions concerning trademark infringement claims, unfair competition claims and dispute resolution policies relating to the registration of domains. To help protect ourselves from liability in the face of these ongoing legal developments, we have taken the following precautions:
 - our standard registration agreement requires that each registrant indemnify, defend and hold us harmless for any dispute arising from the registration or use of a domain registered in that person's name; and
 - since December 1, 1999, we have required our resellers to ensure that all registrants are bound to the UDRP as approved by ICANN.

Despite these precautions, we cannot be assured that our indemnity and dispute resolution policies will be sufficient to protect us against claims asserted by various third parties, including claims of trademark infringement and unfair competition.

New laws or regulations concerning domains and registrars may be adopted at any time. Our responses to uncertainty in the industry or new regulations could increase our costs or prevent us from delivering our domain registration services over the Internet, which could delay growth in demand for our services and limit the growth of our revenues. New and existing laws may cover issues such as:

- pricing controls;
- the creation of additional generic top-level domains and country code domains;
- consumer protection;
- cross-border domain registrations;
- trademark, copyright and patent infringement;
- domain dispute resolution; and
- the nature or content of domains and domain registration.

An example of legislation passed in response to novel intellectual property concerns created by the Internet is the ACPA enacted by the United States government in November 1999. This law seeks to curtail a practice commonly known in the domain registration industry as cybersquatting. A cyber squatter is generally defined in the ACPA as one who registers a domain that is identical or similar to another party's trademark, or the name of another living person, with the bad faith intent to profit from use of the domain. The ACPA states that registrars may not be held liable for registration or maintenance of a domain for another person absent a showing of the registrar's bad faith intent to profit from the use of the domain. Registrars may be held liable, however, if they do not comply promptly with procedural provisions of the ACPA. For example, if there is litigation involving a domain, the registrar is required to deposit a certificate representing the domain registration with the court. If we are held liable under the ACPA, any liability could have a material adverse effect on our business, financial condition and results of operations.

Our service offerings both in Network Access Services and Domain Services may become subject to new government regulations that may be costly to adopt, and may adversely affect our business prospects, future growth or results of operations.

Network Access Services

The FCC and other federal, state and local, as well as international, governmental authorities have jurisdiction over our business and could adopt regulations or take other actions that would adversely affect our business prospects or results of operations.

The licensing, construction, operation, sale and interconnection arrangements of wireless telecommunications systems are regulated by the FCC and, depending on the jurisdiction, international, state and local regulatory agencies. In particular, the FCC imposes significant regulation on licensees of wireless spectrum with respect to how radio spectrum is used by licensees, the nature of the services that licensees may offer and how the services may be offered, and resolution of issues of interference between spectrum bands.

The FCC grants wireless licenses for terms of generally ten years that are subject to renewal and revocation. There is no guarantee that our Network Operators' licenses will be renewed. Failure to comply with FCC requirements applicable to a given license could result in revocation of that license and, depending on the nature of the non-compliance, other licenses.

Various states are considering regulations over terms and conditions of service, including certain billing practices, privacy, and consumer-related issues that may not be pre-empted by federal law. If imposed, these regulations could make it more difficult and expensive to implement national sales and marketing programs and could increase the costs of our wireless operations.

Domain Services

To date, government regulations have not materially restricted use of the Internet in most parts of the world. The legal and regulatory environment pertaining to the Internet, however, is uncertain and may change. New laws may be passed, existing but previously inapplicable laws may be deemed to apply to the Internet, or existing legal safe harbors may be narrowed, both by U.S. federal or state governments and by governments of foreign jurisdictions. These changes could affect:

- the liability of online resellers for actions by customers, including fraud, illegal content, spam, phishing, libel and defamation, infringement of third-party intellectual property and other abusive conduct;
- other claims based on the nature and content of Internet materials, such as pornography;
- user privacy and security issues;
- consumer protection;
- sales and other taxes, including the value-added tax of the European Union member states;
- characteristics and quality of services; and
- cross-border commerce.

The adoption of any new laws or regulations, or the application or interpretation of existing laws or regulations to the Internet, could hinder growth in use of the Internet and online services generally, and decrease acceptance of the Internet and online services as a means of communications, commerce and advertising. In addition, such changes in laws could increase our costs of doing business, subject our business to increased liability or prevent us from delivering our services over the Internet, thereby harming our business and results of operations.

Our Network Access Services businesses rely on Network Operators. Failure by the Network Operators to obtain the proper licenses and governmental approvals from regulatory authorities would cause us to be unable to successfully operate those businesses.

The FCC licenses currently held by our Network Operators and their third-party affiliates to provide wireless services are subject to renewal and revocation. There is no guarantee that their wireless licenses will be renewed. The FCC requires all wireless licensee to meet certain requirements, including so-called "build-out" requirements, to retain their licenses. Their failure to comply with certain FCC requirements in a given license area could result in the revocation of their wireless license for that geographic area. As Ting expands its Internet business, enters new markets, and considers offering regulated telecommunications services, it takes on additional local, state and federal regulatory and compliance obligations that require additional diligence and resources.

We may experience unforeseen or potentially uninsured liabilities or losses in connection with our Domain Services business, including the risk that our standard agreements with customers may not be enforceable. This could negatively impact our financial results.

We operate on a global basis and all of our customers must execute our standard agreements that govern the terms of the services we provide to our customers. These agreements contain provisions intended to limit our potential liability arising from the provision of services to our customers. As most of our customers purchase our services online, execution of our agreements by resellers occurs electronically or, in the case of our terms of use, is deemed to occur because of a user's continued use of the website/internet service following notice of those terms. We believe that our reliance on these agreements is consistent with the practices in our industry, but if a domestic, foreign or international court were to find that either one of these methods of execution is invalid or that key provisions of our services agreements are unenforceable, we could be subject to liability that has a material adverse effect on our business or we could be required to change our business practices in a way that increases our cost of doing business.

Although we maintain general liability insurance, claims could exceed the coverage obtained or might not be covered by our insurance. While we typically obtain representations from our technology and content providers and contractual partners concerning the ownership of licensed technology and informational content and obtain indemnification to cover any breach of these representations, we still may not receive accurate representations or adequate compensation for any breach of these representations. We may have to pay a substantial amount of money for claims that are not covered by insurance or indemnification or for claims where the existing scope or adequacy of insurance or indemnification is disputed or insufficient.

RISKS RELATES TO OWNERSHIP OF OUR STOCK

Our share price may be volatile, which may make it difficult for shareholders to sell their shares of common stock when they want to, at an attractive price.

Our share price has varied recently and the price of our common stock may decrease in the future, regardless of our operating performance. Investors may be unable to resell their common stock following periods of volatility because of the market's adverse reaction to this volatility.

The following factors may contribute to this volatility: actual or anticipated variations in our quarterly operating results; interruptions in our services; seasonality of the markets and businesses of our customers; announcements of new technologies or new services by our company or our competitors; our ability to accurately select appropriate business models and strategies; the operating and stock price performance of other companies that investors may view as comparable to us; analyst or short-seller reports; news relating to our industry as a whole; and news relating to trends in our markets.

The stock market in general and the market for Internet-related companies in particular, including our company, has experienced volatility.

We cannot guarantee that our recently announced stock buyback program will be fully consummated or that such program will enhance the long-term value of our share price.

In February 2020, the Company's Board approved a stock buyback program to repurchase up to \$40 million of the Company's common stock, which can be discontinued at any time. Although, the Company has repurchased shares under previous programs, including 101,816 shares in Fiscal 2019, there is no obligation for the Company to continue to repurchase or to repurchase any specific dollar amount of stock. The stock buyback program could affect the price of our stock and increase volatility in the market. We cannot guarantee that this program will be fully consummated or that such program will enhance the long-term value of our share price.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

Our principal administrative, engineering, marketing and sales office is located in Toronto, Ontario, consists of approximately 28,000 square feet. We lease satellite offices in various cities across the United States as well as internationally in Germany and Denmark.

The Company purchased real property in Centennial, CO and Fuquay-Varina, NC where we are currently constructing a mix of offices and data centers both to support our local logistical operations and our North American colocation needs.

Currently, substantially all of our computer and communications hardware is located at our facilities or at server hosting facilities in Toronto, Ontario, San Jose, CA and Ashburn, VA.

ITEM 3. LEGAL PROCEEDINGS

We are involved in various investigations, claims and lawsuits arising in the normal conduct of our business, none of which, individually or in aggregate in our opinion, will materially harm our business. We cannot assure you that we will prevail in any litigation. Regardless of the outcome, any litigation may require us to incur significant litigation expense and may result in significant diversion of management attention.

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

Price Range of Common stock

Our common stock is traded on the NASDAQ Capital Market under the symbol "TCX". Our common stock is also traded on the Toronto Stock Exchange under the symbol "TC".

As of March 2, 2020, Tucows had 80 shareholders of record.

We have not declared or paid any cash dividends on our common stock during the fiscal years ended December 31, 2019 and December 31, 2018, and we do not intend to do so in the immediate future, but we may decide to do so in the future depending on ongoing market conditions. Our ability to pay any cash dividends on our common stock, should our Board decide to do so, is also dependent on our earnings and cash requirements and may, from time to time, be governed by the terms of our credit agreements.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

2020 Stock Buyback Program:

On February 12, 2020, the Company announced that its Board had approved a stock buyback program to repurchase up to \$40 million of its common stock in the open market. The \$40 million buyback program commenced on February 13, 2020 and is expected to terminate on February 12, 2021.

2019 Stock Buyback Program:

On February 13, 2019, the Company announced that its Board had approved a stock buyback program to repurchase up to \$40 million of its common stock in the open market. The \$40 million buyback program commenced on February 14, 2019 and terminated on February 13, 2020. The Company repurchased 101,816 shares under this program for total consideration of \$5.0 million.

2018 Stock Buyback Program:

On February 14, 2018, the Company announced that its Board had approved a stock buyback program to repurchase up to \$40 million of its common stock in the open market. The \$40 million buyback program commenced on February 14, 2018 and terminated on February 13, 2019. No repurchases were made under this program.

Net Exercise of Stock Options:

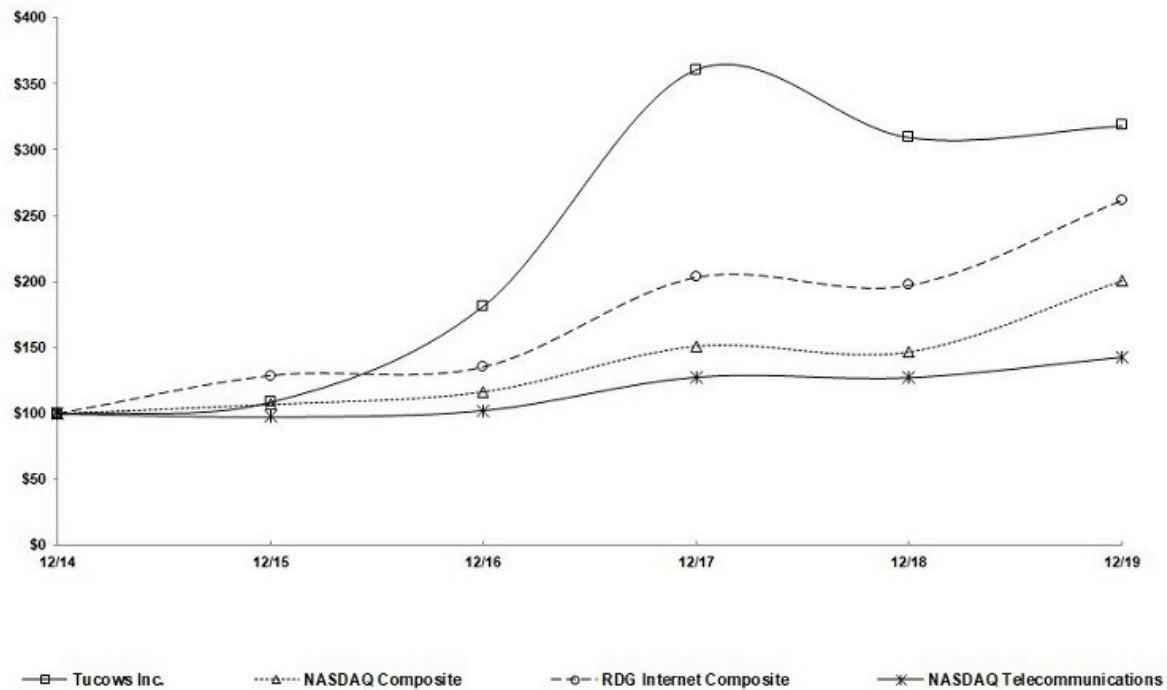
Our current equity-based compensation plans include provisions that allow for the "net exercise" of stock options by all plan participants. In a net exercise, any required payroll taxes, federal withholding taxes and exercise price of the shares due from the option holder can be paid for by having the option holder tender back to the Company a number of shares at fair value equal to the amounts due. These transactions are accounted for by the Company as a purchase and retirement of shares and are included in the table below as common stock received in connection with share-based compensation.

	Year Ended December 31,		
	2019	2018	2017
Common stock repurchased on the open market or through tender offer			
Number of shares	101,816	-	-
Aggregate market value of shares (in thousands)	\$ 4,986	\$ -	\$ -
Average price per share	\$ 48.97	\$ -	\$ -
Common stock received in connection with share-based compensation			
Number of shares	21,332	19,777	50,454
Aggregate market value of shares (in thousands)	\$ 1,510	\$ 1,138	\$ 2,602
Average price per share	\$ 70.77	\$ 57.56	\$ 51.58

STOCK PERFORMANCE GRAPH

The following graph and table compares the Company's stock performance to three stock indices over a five-year period assuming a \$100 investment was made on the last day of fiscal year 2014.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among Tucows Inc., the NASDAQ Composite Index,
the RDG Internet Composite Index and the NASDAQ Telecommunications Index



*\$100 invested on 12/31/14 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.

ITEM 6. SELECTED FINANCIAL DATA

Beginning with the Company's Quarterly Report on Form 10-Q ended June 30, 2018 filed with the SEC August 8, 2018, all dollar values of current and comparative figures in the financial statements and accompanying tables have been rounded to the nearest thousand (\$000), except when otherwise indicated.

The following table summarizes certain selected financial data. The selected financial data is derived from, and is qualified by reference to, our audited consolidated financial statements for the years ended December 31, 2019, 2018, 2017, 2016, and 2015 and should be read in conjunction with those statements (amounts expressed in thousands, except per share amounts).

Please note that the Company has adopted ASC 2016-02, *Leases* (Topic 842) on January 1, 2019 using the modified retrospective method and ("ASC") Topic 606, *Revenue from Contracts with Customers* (Topic 606) on January 1, 2018 using the modified retrospective method. The comparative periods were not restated. See "Note 2 (v) – Significant Accounting Policies" of the Notes to the Consolidated Financial Statements for the years ended December 31, 2019, December 31, 2018 and December 31, 2017 included in Part II, Item 8 of this Annual Report.

	For the year ended December 31,				
	2019	2018	2017	2016	2015
Statement of Operations Data					
Revenue	\$ 337,145	\$ 346,013	\$ 329,421	\$ 189,819	\$ 171,687
Total cost of revenues	236,368	249,243	244,900	126,765	119,629
Sales and marketing	34,270	33,063	29,423	20,755	17,394
Technical operations and development	9,717	8,748	7,258	4,495	4,503
General and administrative	17,880	17,710	13,594	11,405	10,662
Depreciation, amortization and impairment of indefinite life intangible assets	9,695	7,671	7,262	1,451	690
Loss on disposition of property and equipment	73	-	-	-	-
Loss (gain) on currency forward contracts	(198)	254	(98)	(99)	793
Total other income (expense), net	(4,769)	(3,169)	(3,007)	66	(73)
Income before provision for income taxes	24,571	26,155	24,075	25,113	17,943
Provision for (recovery of) income taxes	9,173	9,020	1,748	9,046	6,569
Net income	\$ 15,398	\$ 17,135	\$ 22,327	\$ 16,067	\$ 11,374
Net income per share attributable to common stockholders					
Basic	\$ 1.45	\$ 1.62	\$ 2.12	\$ 1.53	\$ 1.04
Diluted	\$ 1.43	\$ 1.59	\$ 2.07	\$ 1.50	\$ 1.00
Weighted average shares used in computing net income per share					
Basic	10,624	10,605	10,537	10,525	10,969
Diluted	10,773	10,794	10,794	10,714	11,360
	At December 31,				
	2019	2018	2017	2016	2015
Balance Sheet Data					
Cash and cash equivalents	\$ 20,393	\$ 12,637	\$ 18,049	\$ 15,105	\$ 7,723
Prepaid domain name registry and ancillary services fees	109,167	106,527	127,003	60,390	55,749
Total assets	425,918	339,575	350,650	154,413	129,130
Deferred revenue	149,303	143,694	160,582	77,849	71,594
Debt	113,503	64,601	76,924	10,249	3,500
Total liabilities	331,724	259,799	290,439	116,596	102,801
Total stockholders' equity	\$ 94,194	\$ 79,776	\$ 60,211	\$ 37,817	\$ 26,329

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

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

The following discussion and analysis should be read together with the audited consolidated financial statements of Tucows Inc. (the "Company", "we", "us", "Tucows" or "our") as at December 31, 2019 and December 31, 2018 and for the years ended December 31, 2019, 2018 and 2017 and accompanying notes set forth elsewhere in this report. All financial information is presented in U.S. dollars.

Some of the statements set forth in this section are forward-looking statements relating to our future results of operations. Accordingly, reference is made to "Part I. Item 1A. Risk Factors" and "Cautionary Statement Regarding Forward-Looking Statements," which describe important factors that could cause actual results to differ from expectations and non-historical information contained herein.

OVERVIEW

Our mission is to provide simple useful services that help people unlock the power of the Internet.

We accomplish this by reducing the complexity of our customers' experience as they access the Internet (at home or on the go) and while using Internet services such as domain name registration, email, and other Internet services. We are organized, managed and report our financial results as two segments, Network Access Services and Domain Services, which are differentiated primarily by their services, the markets they serve and the regulatory environments in which they operate.

Our principal place of business is located in Canada. We manage our business as segments, Network Access Services, which primarily derives revenue from the sale of retail mobile phones, telephony services and high-speed Internet access to individuals and small businesses, and Domain Services, which derives revenue from three distinct service offerings – wholesale, retail and portfolio. To assist us in forecasting growth and to help us monitor the effectiveness of our operational strategies, our management regularly reviews revenue and cost of revenues for each of our segments in order to gain more depth and understanding of the key business metrics driving our business.

For the years ended December 31, 2019, 2018 and 2017, we reported revenue of \$337 million, \$346 million and \$329 million, respectively.

Network Access Services

Network Access Services derives revenue from the sale of retail mobile phones and services to individuals and small businesses through the Ting website, as well as from providing high speed Internet access, and network consulting services to customers in select cities in the United States. Ting provides its mobile and internet customers with access to our provisioning and management tools to enable them, via the ting.com website, to purchase retail mobile phones and services nationally and fixed Internet access in select cities. Revenues are generated in the United States and are provided on a monthly basis with no fixed contract term. As of December 31, 2019, Ting mobile managed mobile telephony services for approximately 160,000 subscribers and had approximately 289,000 devices under management.

Our primary distribution channel for Ting Internet services is through our website, ting.com. We strive to meet or exceed our Network Access Service customers' needs by providing them with superior services, easy-to-use interfaces and proactive and attentive customer service.

The Company also operates other MVNO brands, Zipsim and Always Online Wireless brands (collectively referred to as "Roam Mobility brands"). Roam Mobility brands operates as a MVNO on the same nationwide Global System for Mobile communications ("GSM") network as Ting Mobile and distributes through third-party retail stores and product branded websites. The primary focus of the Roam Mobility brands is to offer affordable roaming service to international travelers.

Domain Services

Domain Services include wholesale and retail domain name registration services, value added services and portfolio services derived through our OpenSRS, eNom, Ascio and Hover brands. We earn revenues primarily from the registration fees charged to resellers in connection with new, renewed and transferred domain name registrations. In addition, we earn revenues from the sale of retail domain name registration and email services to individuals and small businesses; and by making our portfolio of domain names available for sale or lease. Domain Services revenues are attributed to the country in which the contract originates, primarily Canada and the United States.

Our wholesale domain name registration service, primarily branded as OpenSRS, eNom and Ascio, derives revenue from its Domain Service and from providing Value-added services. The OpenSRS, eNom and Ascio Domain Services manage 23.8 million domain names under the Tucows, eNom and Ascio ICANN registrar accreditations and for other registrars under their own accreditations, which has increased by 0.5 million domain names since December 31, 2018. The increase from prior year is primarily due to the acquisition of 1.9 million names acquired in the Ascio acquisition on March 18, 2019. The increase was offset by the decrease of 0.9 million domain names is related to the bulk transfer domain names in the third quarter of 2019, which were registered to a single, low margin hosted customer. A further decrease of 0.5 million domain names was related to the erosion of registrations related to non-core customers.

Our value-added services include hosted email which provides email delivery and webmail access to millions of mailboxes, Internet security services, Internet hosting, WHOIS privacy, publishing tools and other value-added services. All of these services are made available to end-users through a network of 36,000 web hosts, ISPs and other resellers around the world. In addition, we also derive revenue by monetizing domain names which are near the end of their lifecycle through advertising revenue or auction sale.

Our retail domain name registration service, primarily the Hover and eNom portfolio of websites, including eNom, eNom Central and Bulkregister, derive revenues from the sale of domain name registration and email services to individuals and small businesses. Retail domain service also includes our Personal Names Service – based on over 36,000 surname domains – that allows roughly two-thirds of Americans to purchase an email address based on their last name.

Portfolio generates revenue by offering names in our domain portfolio for resale through a number of distribution channels, and our reseller network.

KEY BUSINESS METRICS and Non-GAAP Measure

We regularly review a number of business metrics, including the following key metrics and non-GAAP measure, to assist us in evaluating our business, measure the performance of our business model, identify trends impacting our business, determine resource allocations, formulate financial projections and make strategic business decisions. The following tables set forth the key business metrics which we believe are the primary indicators of our performance for the periods presented:

Adjusted EBITDA

Tucows reports all financial information in accordance with United States generally accepted accounting principles (“GAAP”). Along with this information, to assist financial statement users in an assessment of our historical performance, we typically disclose and discuss a non-GAAP financial measure, adjusted EBITDA, on investor conference calls and related events that exclude certain non-cash and other charges as we believe that the non-GAAP information enhances investors’ overall understanding of our financial performance. Please see discussion of adjusted EBITDA in the Results of Operations section below.

Ting Mobile

	For the year ended December 31, ⁽¹⁾		
	2019	2018	2017
	(in '000's)		
Ting mobile accounts under management	160	163	166
Ting mobile subscribers under management	289	296	282

- (1) For a discussion of these period-to-period changes in subscribers and devices under management and how they impacted our financial results, see the Net Revenues discussion below.

Ting Internet

	For the year ended December 31,		
	2019	2018	2017
	(in '000's)		
Ting Internet accounts under management	10	7	N/A
Ting Internet serviceable addresses ⁽¹⁾	36	28	N/A

- (1) Defined as premises to which Ting has the capability to provide a customer connection in a service area.

Domain Services

	For the year ended December 31, ⁽¹⁾		
	2019	2018	2017
	(in '000's)		
Total new, renewed and transferred-in domain name registrations provisioned ⁽²⁾	17,285	17,358	19,361
Domains under management			
Registered using Registrar Accreditation belonging to the Tucows Group	19,233	18,537	22,300
Registered using Registrar Accreditation belonging to Resellers	4,540	4,772	5,400
Total domain names under management ⁽²⁾	23,773	23,309	27,700

- (1) For a discussion of these period-to-period changes in the domains provisioned and domains under management and how they impacted our financial results see the Net Revenues discussion below.
- (2) Throughout 2018, the Company completed bulk transfers of 2.89 million names, for domain names under management related to Namecheap.

OPPORTUNITIES, CHALLENGES AND RISKS

As a MVNO our Ting Mobile service is reliant on our Mobile Network Operators (“MNOs”) providing competitive networks. Our MNOs each continue to invest in network expansion and modernization to improve their competitive positions. Deployment of new and sophisticated technology on a very large-scale entails risks. Should they fail to implement, maintain and expand their network capacity and coverage, adapt to future changes in technologies and continued access to and deployment of adequate spectrum successfully, our ability to provide wireless services to our subscribers, to retain and attract subscribers and to maintain and grow our subscriber revenues could be adversely affected, which would negatively impact our operating margins.

Ting Mobile enjoyed rapid growth in its first four years of operation with the growth slowing for the past two years. During the rapid growth phase, we were able to continue to grow gross customer additions and maintain a consistent churn rate, which allowed us to maintain net new customer additions despite the impact of churn on a fast-growing customer base. We have also been able to supplement organic growth with bulk migrations of customer bases of other MVNOs. We expect price competition to grow more intense in the industry which could result in increased customer churn or reductions of customer acquisition rates either of which could result in a further slowing growth rate or in certain cases, our ability to maintain growth.

On June 6, 2018, our current MNOs, T-Mobile and Sprint, submitted a formal merger application to the Federal Communications Commission (“FCC”), which has since been approved. As of February 11, 2020, the merger between T-Mobile and Sprint is expected to be finalized as early as April 1, 2020, subject also to resolution of a lawsuit filed by certain state attorneys general. If T-Mobile and Sprint successfully consummate the merger, the consolidation of our MNOs could hinder our ability in the future to negotiate favourable rates and access to mobile services. On July 9, 2019, the Company announced that it will offer service with a new MNO partner, Verizon.

As an ISP, we have invested and expect to continue to invest in new fiber to the home (“FTTH”) deployments in select markets in the United States. The investments are a reflection of our ongoing efforts to build FTTH network via public-private partnerships in communities we identify as having strong, unmet demand for FTTH services. Given the significant upfront build and operational investments for these FTTH deployments, there is risk that future technological and regulatory changes as well as competitive responses from incumbent local providers, may result in us not fully recovering these investments.

The communications industry continues to compete on the basis of network reach and performance, types of services and devices offered, and price.

The increased competition in the market for Internet services in recent years, which we expect will continue to intensify in the short and long term, poses a material risk for us. As new registrars are introduced, existing competitors expand service offerings and competitors offer price discounts to gain market share, we face pricing pressure, which can adversely impact our revenues and profitability. To address these risks, we have focused on leveraging the scalability of our infrastructure and our ability to provide proactive and attentive customer service to aggressively compete to attract new customers and to maintain existing customers.

Substantially all of our Domain Services revenue is derived from domain name registrations and related value-added services from wholesale and retail customers using our provisioning and management platforms. The market for wholesale registrar services is both price sensitive and competitive and is evolving with the introduction of new gTLDs, particularly for large volume customers, such as large web hosting companies and owners of large portfolios of domain names. We have a relatively limited ability to increase the pricing of domain name registrations without negatively impacting our ability to maintain or grow our customer base. Growth in our Domain Services revenue is dependent upon our ability to continue to attract and retain customers by maintaining consistent domain name registration and value-added service renewal rates and to grow our customer relationships through refining, evolving and improving our provisioning platforms and customer service for both resellers and end-users. In addition, we also generate revenue through pay-per-click advertising and the sale of names from our portfolio of domain names and through the OpenSRS Domain Expiry Stream. The revenue associated with names sales and advertising has recently experienced flat to declining trends due to the uncertainty around the implementation of ICANN’s New gTLD Program, lower traffic and advertising yields in the marketplace, which we expect to continue.

From time-to-time certain of our vendors provide us with market development funds to expand or maintain the market position for their services. Any decision by these vendors to cancel or amend these programs for any reason may result in payments in future periods not being commensurate with what we have achieved during past periods.

Sales of domain names from our domain portfolio have a negative impact on our advertising revenue as these names are no longer available for advertising purposes. In addition, the timing of larger domain names portfolio sales is unpredictable and may lead to significant quarterly and annual fluctuations in our Portfolio revenue. In the fourth quarter of 2019, the Company disposed of its remaining domain portfolio, excluding surname domains used in the Realnames email service. The Company expects portfolio revenue to materially decline in Fiscal 2020 and thereafter.

Our revenue is primarily realized in U.S. dollars and a major portion of our operating expenses are paid in Canadian dollars. Fluctuations in the exchange rate between the U.S. dollar and the Canadian dollar may have a material effect on our business, financial condition and results from operations. In particular, we may be adversely affected by a significant weakening of the U.S. dollar against the Canadian dollar on a quarterly and an annual basis. Our policy with respect to foreign currency exposure is to manage our financial exposure to certain foreign exchange fluctuations with the objective of neutralizing some or all of the impact of foreign currency exchange movements by entering into foreign exchange forward contracts to mitigate the exchange risk on a portion of our Canadian dollar exposure. We may not always enter into such forward contracts and such contracts may not always be available and economical for us. Additionally, the forward rates established by the contracts may be less advantageous than the market rate upon settlement.

Net Revenues

Network Access Services

The Company generates Network Access Services revenues primarily through the provisioning of mobile services. Other sources of revenue include the provisioning of fixed high-speed Internet access as well as billing solutions to ISPs.

Mobile

Ting Mobile wireless usage contracts grant customers access to standard talk, text and data mobile services. Ting Mobile contracts are billed based on the actual amount of monthly services utilized by each customer during their billing cycle and charged to customers on a postpaid basis. Voice minutes, text messages and megabytes of data are each billed separately based on a tiered pricing program. The Company recognizes revenue for Ting Mobile usage based on the actual amount of monthly services utilized by each customer.

Ting Mobile services are primarily contracted through the Ting website, for one month at a time and contain no commitment to renew the contract following each customer's monthly billing cycle. The Company's billing cycle for all Ting Mobile customers is computed based on the customer's activation date. In order to recognize revenue as the Company satisfies its obligations, we compute the amount of revenues earned but not billed from the end of each billing cycle to the end of each reporting period. In addition, revenues associated with the sale of wireless devices and accessories are recognized when title and risk of loss is transferred to the customer and shipment has occurred. Incentive marketing credits given to customers are recorded as a reduction of revenue.

Our Roam Mobility brands also offer standard talk, text and data mobile services. Roam customers prepay for their usage through the Roam Mobility website. When prepayments are received the amount is deferred, and subsequently recognized as the Company satisfies its obligation to provide mobile services. In addition, revenues associated with the sale of SIM cards are recognized when title and risk of loss is transferred to the subscriber and shipment has occurred. Incentive marketing credits given to customers are recorded as a reduction of revenue.

Other services

Other services derive revenues from providing Ting Internet to individuals and small businesses in select cities. In addition, we provide billing, provisioning and customer care software solutions to Internet Service Providers ("ISPs") through our Platypus billing software. Ting Internet access contracts provide customers Internet access at their home or business through the installation and use of our fiber optic network. Ting Internet contracts are generally prepaid and grant customers with unlimited bandwidth based on a fixed price per month basis. Since consideration is collected before the service period, revenue is initially deferred and recognized as the Company performs its obligation to provide Internet access.

Ting Internet services are primarily contracted through the Ting website, for one month at a time and contain no commitment to renew the contract following each customer's monthly billing cycle. The Company's billing cycle for all Ting Internet access customers is computed based on the customer's activation date. In order to recognize revenue as the Company satisfies its obligations, we compute the amount of revenues earned but not billed from the end of each billing cycle to the end of each reporting period. In addition, revenues associated with the sale of Internet hardware to subscribers are recognized when title and risk of loss is transferred to the subscriber and shipment has occurred. Incentive marketing credits given to customers are recorded as a reduction of revenue.

In those cases, where payment is not received at the time of sale, revenue is not recognized until contract inception unless the collection of the related accounts receivable is reasonably assured. The Company records costs that reflect expected refunds, rebates and credit card charge-backs as a reduction of revenues at the time of the sale based on historical experiences and current expectations.

Domain Services

Wholesale

Domain registration contracts, which can be purchased for terms of one to ten years, provide our resellers and retail registrant customers with the exclusive right to a personalized internet address from which to build an online presence. The Company enters into domain registration contracts in connection with each new, renewed and transferred-in domain registration. At the inception of the contract, the Company charges and collects the registration fee for the entire registration period. Though fees are collected upfront, revenue from domain registrations are recognized rateably over the registration period as domain registration contracts contain a ‘right to access’ license of IP, which is a distinct performance obligation measured over time. The registration period begins once the Company has confirmed that the requested domain name has been appropriately recorded in the registry under contractual performance standards.

Historically, our wholesale domain service has constituted the largest portion of our business and encompasses all of our services as an accredited registrar related to the registration, renewal, transfer and management of domain names. In addition, this service fuels other revenue categories as it often is the initial service for which a reseller will engage us, enabling us to follow on with other services and allowing us to add to our portfolio by purchasing names registered through us upon their expiration. Domain services will continue to be the largest portion of our business and will further fuel our ability to sell add-on services.

The Company is an ICANN accredited registrar. Thus, the Company is the primary obligor with our reseller and retail registrant customers and is responsible for the fulfillment of our registrar services to those parties. As a result, the Company reports revenue in the amount of the fees we receive directly from our reseller and retail registrant customers. Our reseller customers maintain the primary obligor relationship with their retail customers, establish pricing and retain credit risk to those customers. Accordingly, the Company does not recognize any revenue related to transactions between our reseller customers and their ultimate retail customers.

Wholesale – Value-Added Services

We derive revenue from domain related value-added services like digital certifications, WHOIS privacy and hosted email and by providing our resellers and retail registrant customers with tools and additional functionality to be used in conjunction with domain registrations. All domain related value-added services are considered distinct performance obligations which transfer the promised service to the customer over the contracted term. Fees charged to customers for domain related value-added services are collected at the inception of the contract, and revenue is recognized on a straight-line basis over the contracted term, consistent with the satisfaction of the performance obligations.

We also derive revenue from other value-added services, which primarily consists of Internet hosting services on the OpenSRS and eNom domain expiry streams.

Retail

We derive revenues from Hover and eNom’s retail properties through the sale of retail domain name registration and email services to individuals and small businesses.

Portfolio

The Company sells the rights to its portfolio domains or names acquired through the Company’s domain expiry stream. Revenue generated from sale of domain name contracts, containing a distinct performance obligation to transfer the domain name rights under the Company’s control, is generally recognized once the rights have been transferred and payment has been received in full. Domain portfolio names are sold through our premium domain name service, auctions or in negotiated sales. The size of our domain name portfolio varies over time, as we acquire and sell domains on a regular basis to maximize the overall value and revenue generation potential of our portfolio. In evaluating names for sale, we consider the potential foregone revenue from pay-per-click advertising, as well as other factors. The name will be offered for sale if, based on our evaluation, the name is deemed non-essential to our business and management believes that deriving proceeds from the sale is strategically more beneficial to the Company. In the fourth quarter of 2019, the Company disposed of its entire domain portfolio, excluding surname domains used in the Realnames email service. The Company expects portfolio revenue to materially decline in Fiscal 2020 and thereafter.

Critical Accounting Policies

The following is a discussion of our critical accounting policies and methods. Critical accounting policies are defined as those that are both important to the portrayal of our financial condition and results of operations and are reflective of significant judgments and uncertainties made by management that may result in materially different results under different assumptions and conditions. “Note 2 – Significant Accounting Policies” of the Notes to the Consolidated Financial Statements for the year ended December 31, 2019 (“Fiscal 2019”) included in Part II, Item 8 of this Annual Report, includes further information on the significant accounting policies and methods used in the preparation of our consolidated financial statements.

The preparation of our consolidated financial statements in conformity with U.S. GAAP requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, we evaluate the application of these estimates, including those related to the recoverability of useful lives and valuation of intangible assets, valuation of goodwill, fair value measurement of assets and liabilities, product development costs, revenue recognition and deferred revenue and accounting for income taxes. We base our 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 judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual amounts could differ significantly from these estimates.

Revenue Recognition Policy

The Company's revenues are derived from (a) the provisioning of mobile and fiber Internet services; and from (b) domain name registration contracts, other domain related value-added services and domain sale contracts. Amounts received in advance of meeting the revenue recognition criteria described below are recorded as deferred revenue. All products are generally sold without the right of return or refund.

Revenue is measured based on consideration specified in a contract with a customer and excludes any sales incentives and amounts collected on behalf of third parties. The Company recognizes revenue when it satisfies a performance obligation by transferring control over a product or service to a customer.

Nature of goods and services

The following is a description of principal activities – separated by reportable segments – from which the Company generates its revenue. For more detailed information about reportable segments. See “Note 19 – Segment Reporting” of the Notes to the Consolidated Financial Statements included in this report for more information.

(a) Network Access Services

The Company generates Network Access Services revenues primarily through the provisioning of mobile services (“Ting Mobile”). Other sources of revenue include the provisioning of fixed high-speed Internet access (“Ting Internet”) as well as billing solutions to ISPs.

Ting Mobile wireless usage contracts grant customers access to standard talk, text and data mobile services. Ting Mobile contracts are billed based on the actual amount of monthly services utilized by each customer during their billing cycle and charged to customers on a postpaid basis. Voice minutes, text messages and megabytes of data are each billed separately based on a tiered pricing program. The Company recognizes revenue for Ting Mobile usage based on the actual amount of monthly services utilized by each customer.

Ting Internet contracts provide customers Internet access at their home or business through the installation and use of our fiber optic network. Ting Internet contracts are generally prepaid and grant customers with unlimited bandwidth based on a fixed price-per-month basis. Because consideration is collected before the service period, revenue is initially deferred and recognized as the Company performs its obligation to provide Internet access.

Both Ting Mobile and Ting Internet access services are primarily contracted through the Ting website, for one month at a time and contain no commitment to renew the contract following each customer's monthly billing cycle. The Company's billing cycle for all Ting Mobile and Ting Internet customers is computed based on the customer's activation date. In order to recognize revenue as the Company satisfies its obligations, we compute the amount of revenues earned but not billed from the end of each billing cycle to the end of each reporting period. In addition, revenues associated with the sale of wireless devices and accessories and Internet hardware to subscribers are recognized when title and risk of loss is transferred to the subscriber and shipment has occurred. Incentive marketing credits given to customers are recorded as a reduction of revenue.

Our Roam Mobility brands also offer standard talk, text and data mobile services. Roam customers prepay for their usage through the Roam Mobility website. When prepayments are received the amount is deferred, and subsequently recognized as the Company satisfies its obligation to provide mobile services. In addition, revenues associated with the sale of SIM cards are recognized when title and risk of loss is transferred to the subscriber and shipment has occurred. Incentive marketing credits given to customers are recorded as a reduction of revenue.

In those cases, where payment is not received at the time of sale, revenue is not recognized at contract inception unless the collection of the related accounts receivable is reasonably assured. The Company records costs that reflect expected refunds, rebates and credit card charge-backs as a reduction of revenues at the time of the sale based on historical experiences and current expectations.

(b) Domain Services

Domain registration contracts, which can be purchased for terms of one to ten years, provide our resellers and retail registrant customers with the exclusive right to a personalized internet address from which to build an online presence. The Company enters into domain registration contracts in connection with each new, renewed and transferred-in domain registration. At the inception of the contract, the Company charges and collects the registration fee for the entire registration period. Though fees are collected upfront, revenue from domain registrations are recognized ratably over the registration period as domain registration contracts contain a ‘right to access’ license of IP, which is a distinct performance obligation measured over time. The registration period begins once the Company has confirmed that the requested domain name has been appropriately recorded in the registry under contractual performance standards.

Domain related value-added services like digital certifications, WHOIS privacy and hosted email provide our resellers and retail registrant customers tools and additional functionality to be used in conjunction with domain registrations. All domain related value-added services are considered distinct performance obligations which transfer the promised service to the customer over the contracted term. Fees charged to customers for domain related value-added services are collected at the inception of the contract, and revenue is recognized on a straight-line basis over the contracted term, consistent with the satisfaction of the performance obligations.

The Company is an ICANN accredited registrar. Thus, the Company is the primary obligor with our reseller and retail registrant customers and is responsible for the fulfillment of our registrar services to those parties. As a result, the Company reports revenue in the amount of the fees we receive directly from our reseller and retail registrant customers. Our reseller customers maintain the primary obligor relationship with their retail customers, establish pricing and retain credit risk to those customers. Accordingly, the Company does not recognize any revenue related to transactions between our reseller customers and their ultimate retail customers.

The Company also sells the rights to the Company's portfolio domains or names acquired through the Company's domain expiry stream. Revenue generated from sale of domain name contracts, containing a distinct performance obligation to transfer the domain name rights under the Company's control, is generally recognized once the rights have been transferred and payment has been received in full.

Valuation of Goodwill, Intangible Assets and Long-Lived Assets

The excess of the purchase price over the fair values of the identifiable assets and liabilities from our acquisitions is recorded as goodwill. At December 31, 2019, we had \$109.8 million in goodwill related to our acquisitions and \$57.7 million in intangible assets comprised of indefinite life intangibles of \$12.3 million and finite life intangible assets of \$45.4 million. At December 31, 2018, we had \$90.1 million in goodwill related to our acquisitions and \$49.4 million in intangible assets comprised of indefinite life intangibles of \$12.4 million and finite life intangible assets of \$37.0 million. We report our financial results as two operating segments, Domain Services, being wholesale and retail domain name registration services, value added services and portfolio, and Network Access which derives revenue from the sale of retail mobile phones, telephony services, fixed high speed internet access, Internet hosting and network consulting services. Ninety-eight percent of goodwill relates to our Domain Services operating segment and 2% of goodwill relates to our Network Access segment. Of our goodwill balance, \$81.0 million is not deductible for tax purposes. Ninety percent of intangible assets relate to our Domain Services operating segment and 10% of intangible assets relate to our Network Access operating segment.

We account for goodwill and indefinite life intangible assets in accordance with the Financial Accounting Standards Board's ("FASB's") authoritative guidance, which requires that goodwill and indefinite life intangible assets are not amortized, but are subject to an annual impairment test. We complete our impairment test on an annual basis, during the fourth quarter of our fiscal year, or more frequently, if changes in facts and circumstances indicate that impairment indicators are present.

Our indefinite life intangible assets consist of surname domain names and direct navigation domain names. In order to maintain our rights to these domain names, we pay annual renewal fees to the applicable domain name registries. Over the course of time, we sometimes decide not to renew certain under-performing domain names and incur an impairment charge associated with such non-renewal. We recorded an impairment charge of nil for both 2019 and 2018 respectively and \$0.1 million in 2017.

With regard to long-lived assets comprised of property and equipment and finite life intangible assets, we continually evaluate whether events or circumstances have occurred that indicate the remaining estimated useful lives of our definite-life intangible assets may warrant revision or whether the carrying amount of such assets may not be recoverable and exceed their fair value. We use an estimate of the related undiscounted cash flows over the remaining life of the asset in measuring whether the asset is recoverable. There was no impairment recorded on definite-life intangible assets and property and equipment during 2019, 2018 or 2017.

We performed a qualitative assessment to determine whether there were events or circumstances which would lead to a determination, whether it is more likely than not, that goodwill and indefinite life intangible assets have been impaired. In performing the qualitative testing, we made an evaluation of the impact of various factors to the expected future cash flows attributable to our operating segments and to the assumed discount rate which would be used to present value those cash flows. Consideration was given to factors such as macro-economic, industry and market conditions including the capital markets and the competitive environment amongst others. We concluded that there were no indications of impairment under the qualitative approach. The analysis was consistent with the approach we utilized in our analysis performed in prior years.

Any changes to our key assumptions about our businesses and our prospects, or changes in market conditions, could cause the fair value of our operating segments to fall below its carrying value, resulting in a potential impairment charge. In addition, changes in our organizational structure or how our management allocates resources and assesses performance, could result in a change in our operating segments, requiring a reallocation and updated impairment analysis of goodwill and indefinite life intangible assets. A goodwill or intangible asset impairment charge could have a material effect on our consolidated financial statements because of the significance of goodwill and intangible assets to our consolidated balance sheet. There was no further impairment of goodwill or intangible assets as a result of the annual impairment tests completed during the fourth quarters of 2019, 2018 or 2017.

Accounting for Income Taxes

We are subject to income taxes in the U.S. and numerous foreign jurisdictions. Significant judgment is required in evaluating our uncertain tax positions and determining our provision for income taxes. We apply a two-step approach to recognizing and measuring uncertain tax positions. The first step is to evaluate the tax position for recognition by determining if on the weight of available evidence, 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 that is more than 50% likely to be realized upon settlement.

Although we believe we have adequately reserved for our uncertain tax positions, no assurance can be given that the final tax outcome of these matters will not be different. We adjust these reserves in light of changing facts and circumstances, such as the closing of a tax audit or the refinement of an estimate based on new information that may become available. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will impact the provision for income taxes in the period in which such determination is made.

As we account for income taxes under the asset and liability method, we recognize deferred tax assets or liabilities for the anticipated future tax effects of temporary differences between the financial statement basis and the tax basis of our assets and liabilities. We record a valuation allowance to reduce the net deferred tax assets when it is more likely than not that the benefit from the deferred tax assets will not be realized. In assessing the need for a valuation allowance, historical and future levels of income, expectations and risks associated with estimates of future taxable income and ongoing tax planning strategies are considered. In the event that it is determined that the deferred tax assets to be realized in the future would be in excess of the net recorded amount, an adjustment to the deferred tax asset valuation allowance would be recorded. This adjustment would increase income in the period that such determination was made. Likewise, should it be determined that all or part of a recorded net deferred tax asset would not be realized in the future, an adjustment to increase the deferred tax asset valuation allowance would be charged to income in the period that such determination would be made. At December 31, 2019, the valuation allowance of \$9.4 million was related to foreign tax credits, R&D tax credits and net operating losses that we are not expected to realize.

On a periodic basis, we evaluate the probability that our deferred tax asset balance will be recovered to assess its realizability. To the extent we believe it is more likely than not that some portion of our deferred tax assets will not be realized, we will increase the valuation allowance against the deferred tax assets. Realization of our deferred tax assets is dependent primarily upon future taxable income. Our judgments regarding future profitability may change due to future market conditions, changes in U.S. or international tax laws and other factors. These changes, if any, may require possible material adjustments to these deferred tax assets, impacting net income or net loss in the period when such determinations are made.

In connection with the eNom acquisition in 2017, we acquired deferred tax liabilities primarily composed of prepaid registry fees. As a result, we aligned our tax methodology pertaining to the deductibility of prepaid registry fees for our legacy domain services. In the first quarter of 2019, we determined that we were in technical violation with respect to the administrative application of the accounting method change relating to the deductibility of prepaid registry fees. In the fourth quarter of 2019, the Internal Revenue Service granted the Company relief with respect to the technical violation to the administrative application of the accounting method change. Based on the Company's filing position on the accounting method change itself, relating to the deductibility of prepaid registry fees, we believe that on a more likely than not basis that our tax position will be sustained. If the position is not sustained, then the accounting method change would be deferred into the following taxation period and we may be subject to incremental taxes as well as interest and penalties.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the "Act") was signed into law making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial system, and a one-time transition tax on the mandatory deemed repatriation of foreign earnings. For the year ended December 31, 2017, we recorded in our provision for income taxes a net \$5.8 million reduction to income tax expense related to the implementation impact of the Act. The net positive impact amount related to the remeasurement of certain deferred tax assets and liabilities, based on the rates at which they are expected to reverse in the future, was \$10.0 million. This positive impact was offset by us recording a valuation allowance of \$1.3 million related to prior year foreign tax credits as we have determined there is insufficient foreign source income projected to utilize these credits. The amount related to the one-time transition tax on the mandatory deemed repatriation of foreign earnings was less than \$0.1 million.

Recently Issued Accounting Standards

See "Note 2 – Significant Accounting Policies" of the Notes to the Consolidated Financial Statements included in Part II, Item 8 of this Annual Report for information regarding recently issued accounting standards.

RESULTS OF OPERATIONS FOR THE YEAR ENDED DECEMBER 31, 2019 AS COMPARED TO THE YEAR ENDED DECEMBER 31, 2018

The Company has initially applied Accounting Standard Update (“ASU”) No. 2016-02, *Leases (Topic 842)* on January 1, 2019, which was adopted using the modified retrospective basis. Accordingly, comparative figures have not been restated.

NET REVENUES

The following table presents our net revenues, by revenue source:

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
<u>Network Access Services:</u>		
Mobile Services	\$ 84,657	\$ 89,340
Other Services	11,006	7,984
Total Network Access Services	95,663	97,324
<u>Domain Services:</u>		
<u>Wholesale</u>		
Domain Services	182,957	189,434
Value Added Services	18,922	17,756
Total Wholesale	201,879	207,190
<u>Retail</u>		
Portfolio	34,786	34,524
	4,817	6,975
Total Domain Services	241,482	248,689
	\$ 337,145	\$ 346,013
(Decrease) increase over prior period	\$ (8,868)	
(Decrease) increase - percentage	(3)%	

The following table presents our revenues, by revenue source, as a percentage of total revenues:

	Year ended December 31,	
	2019	2018
<u>Network Access Services:</u>		
Mobile Services	25%	26%
Other Services	3%	2%
Total Network Access Services	28%	28%
<u>Domain Services:</u>		
<u>Wholesale</u>		
Domain Services	55%	55%
Value Added Services	6%	5%
Total Wholesale	61%	60%
<u>Retail</u>		
Portfolio	10%	10%
	1%	2%
Total Domain Services	72%	72%
	100%	100%

Total net revenues for Fiscal 2019 decreased by \$8.9 million, or 3%, to \$337.1 million from \$346.0 million for the fiscal year ended December 31, 2019 (“Fiscal 2019”). The overall decrease in revenue was primarily driven by the \$16.9 million acceleration of revenue related to the Namecheap bulk transfer of 2.89 million names throughout Fiscal 2018. Wholesale and domain revenue decreased a further \$5.8 million during Fiscal 2019 related an erosion in Wholesale domain registrations by non-core customers. Ting Mobile handset and mobile usage revenue decreased \$4.6 million due to a decrease in mobile subscribers, and portfolio revenue decreased \$2.2 million. The decreases in revenues were offset by a \$17.4 million increase related to the acquisition of Ascio, a domain registrar business acquired on March 18, 2019, an increase in Wholesale domain revenue related to price increases, as well as a \$3.0 million increase in revenue related to the expanding Ting Internet footprint. Deferred revenue from domain name registrations and other Internet services at December 31, 2019 increased to \$149.3 million from \$143.7 million at December 31, 2018, primarily due to the acquisition of Ascio.

No customer accounted for more than 10% of revenue during Fiscal 2019 or Fiscal 2018, and no customers accounted for more than 10% of accounts receivable as of December 31, 2019 and 2018. Management judgment is required at the time of recording of revenue to assess whether the collection of the resulting receivables is reasonably assured. On an ongoing basis, we assess the ability of our customers to make required payments. Based on this assessment, we expect the carrying amount of our outstanding receivables, net of allowance for doubtful accounts, to be fully collected.

Network Access Services

Mobile and Other Services

Net revenues from mobile phone equipment and services for Fiscal 2019, as compared to Fiscal 2018, decreased by \$4.6 million or 5% to \$84.7 million. The overall decrease in revenue was primarily related to a decline in mobile service revenue, which decreased by \$2.2 million compared to Fiscal 2018, to \$78.2 million, as a result of a decline in mobile subscribers. Revenues from the sale of mobile hardware and related accessories decreased by \$2.4 million compared to Fiscal 2018, to \$6.5 million. The decrease in device revenue was primarily driven by reduced demand for higher-priced devices compared to Fiscal 2018.

Other revenues from Ting Internet and billing solutions generated \$11.0 million in revenue during Fiscal 2019, up \$3.0 million or 38% compared to Fiscal 2018. Growth in Ting Internet revenues was as a result of the increased Ting Internet footprint in existing Ting towns throughout the United States, as well as the addition of Fuquay-Varina, NC in the first quarter of 2019.

As of December 31, 2019, Ting Mobile had 160,000 mobile subscribers and 289,000 mobile devices under its management compared to 163,000 subscribers and 296,000 devices under its management as of December 31, 2018.

As of December 31, 2019, Ting Internet had access to 36,000 serviceable addresses and 10,000 active accounts under its management compared to having access to 28,000 serviceable addresses and 7,000 active accounts under its management as of December 31, 2018.

Domain Services

Wholesale

During Fiscal 2019, Wholesale domain services revenue decreased by \$6.4 million or 3% to \$183.0 million. The decrease in revenue compared to Fiscal 2018 was primarily driven by the \$16.9 million acceleration of revenue related to the Namecheap bulk transfer of 2.89 million domain names during 2018. Wholesale domain revenue decreased a further \$10.1 million related to the erosion of registrations by non-core customers during Fiscal 2019. The overall decrease in Wholesale domain revenues was partially offset by a \$17.4 million increase in revenue related to the acquisition of Ascio and a \$3.2 million increase in revenue related to price increases.

The number of overall transactions from new, renewed and transferred-in domain name registrations for Fiscal 2019, as compared to Fiscal 2018, decreased by 0.1 million to 17.3 million. The decrease was primarily driven by the departure of a few large, low margin customers, including Namecheap. The overall decrease was partially offset by an increase in new, renewed and transferred-in domain name registrations related to the acquisition of Ascio. While we anticipate that the number of new, renewed and transferred-in domain name registrations will continue to incrementally increase in the long term, the volatility of these factors could affect the growth of domain names that we manage.

Net revenues from value-added services increased by \$1.1 million to \$18.9 million compared to Fiscal 2018. The increase in value-added service revenue over Fiscal 2018 was primarily driven by an increase in expiry stream revenue.

Retail

Net revenues from retail increased by \$0.3 million to \$34.8 million compared to Fiscal 2018. Revenue increased, because Fiscal 2018 revenue was negatively impacted by the fair value effect of deferred revenue acquired in the eNom acquisition to a greater extent than in Fiscal 2019.

Portfolio

Portfolio revenues decreased by \$2.2 million to \$4.8 million compared to Fiscal 2018. The decrease is due to a decrease in the volume of portfolio sales in Fiscal 2019. In the fourth quarter of 2019, the Company disposed of its entire domain portfolio, excluding surname domains used in the Realnames email service. The Company expects portfolio revenue to materially decline in Fiscal 2020 and thereafter.

COST OF REVENUES

Network Access Services

Mobile

Cost of revenues for mobile services includes the costs of provisioning mobile services, which is primarily our customers' voice, messaging, data usage provided by our Network Operators, and the costs of providing mobile phone hardware, which is the cost of mobile phone devices and SIM cards sold to our customers, order fulfillment related expenses, and inventory write-downs.

Other Services

Cost of revenues for other services primarily includes the costs for provisioning high speed Internet access, which is comprised of network access fees and software licenses and the costs of providing hardware. Hardware costs are comprised of network routers sold to our customers, order fulfillment related expenses, inventory write-downs and fees paid to third-party service providers primarily for printing services in connection with billing services to ISPs.

Wholesale

Domain Service

Cost of revenues for domain registrations represents the amortization of registry and accreditation fees on a basis consistent with the recognition of revenues from our customers, namely rateably over the term of provision of the service. Registry fees, the primary component of cost of revenues, are paid in full when the domain is registered, and are initially recorded as prepaid domain registry fees. This accounting treatment reasonably approximates a recognition pattern that corresponds with the provision of the services during the period. Market development funds that do not represent a payment for distinct goods or services provided by the Company, and thus do not meet the criteria for revenue recognition under ASU 2014-09, are reflected as cost of goods sold and are recognized as earned.

Value-Added Services

Costs of revenues for value-added services include licensing and royalty costs related to the provisioning of certain components of related to hosted email and fees paid to third-party hosting services. Fees payable for trust certificates are amortized on a basis consistent with the provision of service, generally one year, while email hosting fees and monthly printing fees are included in cost of revenues in the month they are incurred.

Retail

Costs of revenues for our provision and management of Internet services through our retail sites, Hover.com and the eNom branded sites, include the amortization of registry fees on a basis consistent with the recognition of revenues from our customers, namely rateably over the term of provision of the service. Registry fees, the primary component of cost of revenues, are paid in full when the domain is registered, and are recorded as prepaid domain registry fees.

Portfolio

Costs of revenues for our portfolio represent the amortization of registry fees for domains added to our portfolio over the renewal period, which is generally one year, the value attributed under intangible assets to any domain name sold and any impairment charges that may arise from our assessment of our domain name intangible assets. Payments for domain registrations are payable for the full term of service at the time of activation of service and are recorded as prepaid domain registry fees and are expensed rateably over the renewal term.

Network expenses

Network expenses include personnel and related expenses, depreciation and amortization, communication costs, equipment maintenance, stock-based compensation and employee and related costs directly associated with the management and maintenance of our network. Communication costs include bandwidth, co-location and provisioning costs we incur to support the supply of all our services.

The following table presents our cost of revenues, by revenue source:

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
Network Access Services:		
Mobile Services	\$ 44,415	\$ 46,061
Other Services	3,928	3,994
Total Network Access Services	48,343	50,055
Domain Services:		
Wholesale		
Domain Services	148,530	160,216
Value Added Services	2,986	3,154
Total Wholesale	151,516	163,370
Retail	17,093	17,725
Portfolio	627	953
Total Domain Services	169,236	182,048
Network Expenses:		
Network, other costs	9,190	9,846
Network, depreciation and amortization costs	9,599	7,294
	18,789	17,140
	\$ 236,368	\$ 249,243
(Decrease) increase over prior period	\$ (12,875)	
(Decrease) increase - percentage	-5%	

The following table presents our cost of revenues, as a percentage of total cost of revenues for the periods presented:

	Year ended December 31,	
	2019	2018
Network Access Services:		
Mobile Services	19%	18%
Other Services	2%	2%
Total Network Access Services	21%	20%
Domain Services:		
Wholesale		
Domain Services	63%	65%
Value Added Services	1%	1%
Total Wholesale	64%	66%
Retail	7%	7%
Portfolio	0%	0%
Total Domain Services	71%	73%
Network Expenses:		
Network, other costs	4%	4%
Network, depreciation and amortization costs	4%	3%
	8%	7%
	100%	100%

Total cost of revenues for Fiscal 2019 decreased by \$12.8 million, or 5%, to \$236.4 million from \$249.2 million in Fiscal 2018. The decrease was primarily driven by the \$16.8 million acceleration of costs related to the Namecheap bulk transfer of 2.89 million names during Fiscal 2018. Wholesale domain and value added service costs decreased a further \$9.9 million related to an erosion in registrations by non-core customers. Retail domain costs decreased \$0.6 million related to the churn of low margin customers and portfolio costs decreased by \$0.4 million. Cost of revenue decreased a further \$1.7 million due to a decline in mobile subscribers. The overall decrease in cost of revenue was offset by an increase of \$14.8 million of costs related to the acquisition of Ascio, and an increase of \$1.7 million in Network Expenses associated with the expanding Ting Internet footprint. Prepaid domain registration and other Internet services fees as of December 31, 2019 increased by \$2.7 million, or 3%, to \$109.2 million from \$106.5 million at December 31, 2018 primarily from the acquisition of Ascio.

Network Access Services

Mobile and Other Services

Cost of revenues from mobile phone equipment and services for Fiscal 2019, as compared to Fiscal 2018, decreased by \$1.7 million or 4% to \$44.4 million. The decrease in mobile usage charges was primarily driven by a decrease in Roam Mobility brands related costs of \$1.8 million related to lower network operator costs in the current period and restructuring charges that were incurred during Fiscal 2018. The decrease was also driven by lower mobile hardware and related accessories costs, which decreased \$2.1 million as compared to Fiscal 2018. The decrease in hardware sales was primarily driven by reduced demand for higher-priced devices compared to Fiscal 2018. The decrease in mobile usage costs were offset by an increase in Ting mobile service related costs of \$2.2 million related to increased minimum charges with network operators.

In Fiscal 2019, costs related to provisioning high speed Internet access and billing solutions decreased \$0.1, or 3%, to \$3.9 million as compared to \$4.0 million during Fiscal 2018. The decrease in costs was primarily due to the fact that overhead resources have been increasingly focused on capital activities as compared to Fiscal 2018.

Domain Services

Wholesale

Domain Service

Costs for wholesale domain services for Fiscal 2019 decreased by \$11.7 million to \$148.5 million, when compared to Fiscal 2018. The decrease was primarily driven by the accelerated recognition of \$16.8 million domains revenue associated with the Namecheap bulk transfer of 2.89 million names throughout Fiscal 2018. Wholesale domain costs decreased a further \$9.7 million related to an erosion in registrations by non-core customers. The decreases were partially offset by a \$14.8 million increase related to the acquisition of Ascio.

Value-Added Services

Costs for wholesale value-added services for Fiscal 2019 decreased by \$0.2 million to \$3.0 million, when compared to Fiscal 2018. The decrease in cost of revenue is primarily related to an overall decline in certification and email sales during Fiscal 2018.

Retail

Costs for retail for Fiscal 2019 decreased by \$0.6 million, to \$17.1 million, when compared to Fiscal 2018. The decrease was a result of an overall declining volume of transactions related to certain retail brands.

Portfolio

Costs for portfolio decreased by \$0.4 million for Fiscal 2019, to \$0.6 million when compared to Fiscal 2018, the decrease in cost is primarily driven by a lower volume of portfolio sales compared to Fiscal 2018. In the fourth quarter of 2019, the Company disposed of its entire domain portfolio, excluding surname domains used in the Realnames email service. The Company expects portfolio cost of revenue to materially decline in Fiscal 2020 and thereafter inline with the expected decline in revenue.

Network Expenses

Network costs for Fiscal 2019 increased by \$1.7 million to \$18.8 million when compared to Fiscal 2018, which is primarily driven by the increase in network costs and depreciation of the fiber assets associated with the continuing expansion of the Ting Fiber footprint.

SALES AND MARKETING

Sales and marketing expenses consist primarily of personnel costs. These costs include commissions and related expenses of our sales, product management, public relations, call center, support and marketing personnel. Other sales and marketing expenses include customer acquisition costs, advertising and other promotional costs.

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
Sales and marketing	\$ 34,270	\$ 33,063
Increase over prior period	\$ 1,207	
Increase - percentage	4%	
Percentage of net revenues	10%	10%

Sales and marketing expenses for Fiscal 2019 increased by \$1.2 million, or 4%, to \$34.3 million as compared to Fiscal 2018. This increase primarily related to a \$1.3 million increase in people costs acquired in the acquisition of Ascio in the first quarter of 2019. Stock-based compensation expenses also increased \$0.2 million in Fiscal 2019 to attract and retain labor. The overall increase in sales and marketing expense was partially offset by a decrease in other marketing expenses of \$0.3 million.

Excluding movements in exchange rates, we expect sales and marketing expenses for the fiscal year ending December 31, 2020 ("Fiscal 2020") to increase in absolute dollars, as we adjust our marketing programs and sales and customer support personnel costs to support our network access services marketing and customer service needs.

TECHNICAL OPERATIONS AND DEVELOPMENT

Technical operations and development expenses consist primarily of personnel costs and related expenses required to support the development of new or enhanced service offerings and the maintenance and upgrading of existing infrastructure. This includes expenses incurred in the research, design and development of technology that we use to register domain names, network access services, email, retail, domain portfolio and other Internet services, as well as to distribute our digital content services. Editorial costs relating to the rating and review of the software content libraries are included in the costs of product development. All technical operations and development costs are expensed as incurred.

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
Technical operations and development	\$ 9,717	\$ 8,748
Increase over prior period	\$ 969	
Increase - percentage	11%	
Percentage of net revenues	3%	3%

Technical operations and development expenses for Fiscal 2019 increased by \$1.0 million, or 11%, to \$9.7 million. The increase in costs relates primarily to a \$0.7 million increase related to the Ascio acquisition, with a further increase of \$0.3 million related to increased salaries and benefits driven by an expanding workforce and wage inflation.

Excluding movements in exchange rates, we expect technical operations and development expenses for Fiscal 2020, in absolute dollars, to increase when compared to Fiscal 2019 to support the ongoing growth in our operations.

GENERAL AND ADMINISTRATIVE

General and administrative expenses consist primarily of compensation and related costs for managerial and administrative personnel, fees for professional services, public listing expenses, rent, foreign exchange and other general corporate expenses.

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
General and administrative	\$ 17,880	\$ 17,710
Increase over prior period	\$ 170	
Increase - percentage	1%	
Percentage of net revenues	5%	5%

General and administrative expenses for Fiscal 2019 increased by \$0.2 million, or 1%, to \$17.9 million as compared to Fiscal 2018. The overall increase in general and administrative expense was primarily driven by a \$0.7 million increase related to Ascio expenses. The overall increase in general and administrative expenses was partially offset by a foreign exchange gain of \$0.5 million.

Excluding movements in exchange rates, we expect general and administrative expenses for Fiscal 2020, in absolute dollars, to increase when compared to Fiscal 2019 largely to support the growth of our business.

DEPRECIATION OF PROPERTY AND EQUIPMENT

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
Depreciation of property and equipment	\$ 486	\$ 424
Increase over prior period	\$ 62	
Increase - percentage	15%	
Percentage of net revenues	0%	0%

Depreciation costs for Fiscal 2019 increased to \$0.5 million when compared to \$0.4 million for Fiscal 2018. The increase is driven by an increase in computer hardware assets, compared to Fiscal 2018.

LOSS ON DISPOSAL OF PROPERTY AND EQUIPMENT

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
Loss on disposition of property and equipment	\$ 73	\$ -
Increase over prior period	\$ 73	
Increase - percentage	N/A	
Percentage of net revenues	0%	-%

Loss on disposal costs were \$0.1 million during the Fiscal 2019 related to equipment disposal from the Kirkland office.

AMORTIZATION OF INTANGIBLE ASSETS

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
Amortization of intangible assets	\$ 9,209	\$ 7,247
Increase over prior period	\$ 1,962	
Increase - percentage	27%	
Percentage of net revenues	3%	2%

Amortization of intangible assets increased \$2.0 million for Fiscal 2019, to \$9.2 million. The increase is primarily driven by the acquisition of Ascio.

Network rights, brand and customer relationships acquired in connection with the acquisitions eNom in January 2017, Roam Mobility brands in September of 2017 and Ascio in March of 2019 are amortized on a straight-line basis over a range of two to seven years.

LOSS (GAIN) ON CURRENCY FORWARD CONTRACTS

Although our functional currency is the U.S. dollar, a major portion of our fixed expenses are incurred in Canadian dollars. Our goal with regard to foreign currency exposure is, to the extent possible, to achieve operational cost certainty, manage financial exposure to certain foreign exchange fluctuations and to neutralize some of the impact of foreign currency exchange movements. Accordingly, we enter into foreign exchange contracts to mitigate the exchange rate risk on portions of our Canadian dollar exposure.

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
Loss (gain) on currency forward contracts	\$ (198)	\$ 254
Decrease over prior period	\$ (452)	
Decrease - percentage	178%	
Percentage of net revenues	0%	0%

We have entered into certain forward exchange contracts that do not comply with the requirements of hedge accounting to meet a portion of our future Canadian dollar requirements through December 2019. During Fiscal 2019, the Company recorded a net gain of \$0.3 million on the change in fair value of outstanding contracts as well as a \$0.1 million realized loss on matured contracts. In Fiscal 2018 the Company recorded a net loss of \$0.2 million for the change in fair value of outstanding contracts and a loss of less than \$0.1 million of settlements of contracts not designated as hedges.

At December 31, 2019, our balance sheet reflects a derivative instrument asset of \$0.7 million as a result of our existing foreign exchange contracts. Until their respective maturity dates, these contracts will fluctuate in value in line with movements in the Canadian dollar relative to the U.S. dollar.

OTHER INCOME (EXPENSES)

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
Other income (expense), net	\$ (4,769)	\$ (3,169)
Increase over prior period	\$ (1,600)	
Increase - percentage	50%	
Percentage of net revenues	1%	1%

Other expenses increased by \$1.6 million when compared to Fiscal 2018 primarily due to interest incurred on our credit facility with the majority of the borrowings on the credit facility to support the build-out of the Ting Fiber network. Other expense consists primarily of the interest we incur in connection with our Amended 2019 Credit Facility. The interest incurred primarily relates to our loan balances obtained to fund the acquisition of eNom, the acquisition of Ascio and funding for expenditures associated with the Company's Fiber to the Home program. Costs in 2018 were partially offset by income of \$0.5 million from the amortization of a \$1.5 million Joint Marketing Agreement commencing in November 2015, which fully amortized in the fourth quarter of 2018.

INCOME TAXES

The following table presents our provision for income taxes for the periods presented:

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
Provision for income taxes	\$ 9,173	\$ 9,020
Increase in provision over prior period	\$ 153	
Increase - percentage	2%	
Effective tax rate	37%	34%

We operate in various tax jurisdictions, and accordingly, our income is subject to varying rates of tax. Losses incurred in one jurisdiction cannot be used to offset income taxes payable in another jurisdiction. Our ability to use income tax loss carry forwards and future income tax deductions is dependent upon our operations in the tax jurisdictions in which such losses or deductions arise. Income taxes are computed using the asset and liability method, under which deferred tax assets and liabilities are determined based on the difference between the financial statement carrying values and tax base of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to affect taxable income. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

Fiscal 2019 includes tax on profits of \$24.6 million compared to \$26.2 million for Fiscal 2018. Our Fiscal 2019 income tax expense benefited from the inclusion of a \$0.6 million tax recovery related to the adoption of ASU 2016-09, which requires all excess tax benefits and tax deficiencies related to employee share-based payments to be recognized through income tax expense on a prospective basis. The Fiscal 2018 tax recovery related to excess tax benefits related to employee share-based compensation was \$0.7 million.

On December 22, 2017, the Act was signed into law making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial system, bonus depreciation that will allow for full expensing of qualified property, and a one-time transition tax on the mandatory deemed repatriation of foreign earnings.

In Fiscal 2019, the Company was able to utilize the bonus depreciation with respect to its continued investment in the Ting Internet business. The impact of this, together with the reduction in tax rate to 21%, make it unlikely we will ultimately be able to fully claim the Fiscal 2019 foreign taxes paid in future years. As such, we have taken a valuation allowance for foreign tax credits and R&D tax credits not utilized for 2019 income tax purposes and net operating losses not expected to be utilized in the future, the net negative effect of which is a \$5.3 million addition to income tax expense, as compared to \$2.8 million additional tax expense in Fiscal 2018.

A reconciliation of the federal statutory income tax rate to our effective tax rate is set forth in "Note 9 – Income Taxes" of the Notes to the Consolidated Financial Statements included in Part II, Item 8 of this Annual Report.

ADJUSTED EBITDA

We believe that the provision of this supplemental non-GAAP measure allows investors to evaluate the operational and financial performance of our core business using similar evaluation measures to those used by management. We use adjusted EBITDA to measure our performance and prepare our budgets. Since adjusted EBITDA is a non-GAAP financial performance measure, our calculation of adjusted EBITDA may not be comparable to other similarly titled measures of other companies; and should not be considered in isolation, as a substitute for, or superior to measures of financial performance prepared in accordance with GAAP. Because adjusted EBITDA is calculated before recurring cash charges, including interest expense and taxes, and is not adjusted for capital expenditures or other recurring cash requirements of the business, it should not be considered as a liquidity measure. See the Consolidated Statements of Cash Flows included in the attached financial statements. Non-GAAP financial measures do not reflect a comprehensive system of accounting and may differ from non-GAAP financial measures with the same or similar captions that are used by other companies and/or analysts and may differ from period to period. We endeavor to compensate for these limitations by providing the relevant disclosure of the items excluded in the calculation of adjusted EBITDA to net income based on U.S. GAAP, which should be considered when evaluating the Company's results. Tucows strongly encourages investors to review its financial information in its entirety and not to rely on a single financial measure.

Our adjusted EBITDA definition excludes depreciation, amortization of intangible assets, income tax provision, interest expense (net), stock-based compensation, asset impairment, gains and losses from unrealized foreign currency transactions and infrequently occurring items. Gains and losses from unrealized foreign currency transactions removes the unrealized effect of the change in the mark-to-market values on outstanding unhedged foreign currency contracts, as well as the unrealized effect from the translation of monetary accounts denominated in non-U.S. dollars to U.S. dollars.

The following table reconciles net income to adjusted EBITDA:

Reconciliation of Net income to Adjusted EBITDA (In Thousands of US Dollars) (unaudited)	Twelve months ended December 31,		
	2019 (unaudited)	2018 (unaudited)	2017 (unaudited)
Net income for the period	\$ 15,398	\$ 17,135	\$ 22,327
Depreciation of property and equipment	8,961	5,722	3,728
Loss on disposition of property and equipment	73	-	-
Amortization of intangible assets	10,333	9,243	8,400
Impairment of intangible assets	-	-	111
Interest expense, net	4,769	3,687	3,567
Provision for income taxes	9,173	9,020	1,748
Stock-based compensation	2,876	2,574	1,457
Unrealized loss (gain) on change in fair value of forward contracts	(313)	207	17
Unrealized loss (gain) on foreign exchange revaluation of foreign denominated monetary assets and liabilities	(581)	940	(805)
Acquisition and other costs ¹	1,216	1,526	806
Adjusted EBITDA	\$ 51,905	\$ 50,054	\$ 41,356

¹Acquisition and other costs represents transaction-related expenses, transitional expenses, such as duplicative post-acquisition expenses, primarily related to our acquisition of eNom in January 2017 and Ascio in March 2019. Expenses include severance or transitional costs associated with department, operational or overall company restructuring efforts, including geographic alignments.

Adjusted EBITDA for the year ended December 31, 2019 increased by \$1.8 million, or 4% to \$51.9 million when compared to the year ended December 31, 2018. The increase in adjusted EBITDA from period-to-period was primarily driven by an increase in contribution from eNom, which is the result of increased operating cost synergies realized during Fiscal 2019, as well as an increased contribution from Ting Fiber. The overall increase in EBITDA was partially offset by a lower contribution from Ting Mobile, related to a decreasing subscriber base and minimum carrier fees, as well as a decreased contribution from domain Portfolio sales.

OTHER COMPREHENSIVE INCOME (LOSS)

To mitigate the impact of the change in fair value of our foreign exchange contracts on our financial results, in October 2012 we begun applying hedge accounting for the majority of the contracts we need to meet our Canadian dollar requirements on a prospective basis. The impact of the fair value adjustment on outstanding hedged contracts for Fiscal 2019 was a net gain in other comprehensive income of \$1.3 million compared to a net loss of \$0.8 million for Fiscal 2018.

The following table presents other comprehensive income for the periods presented:

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2019	2018
Other comprehensive income (loss)	\$ 1,283	\$ (810)
Increase over prior period	\$ 2,093	
Increase - percentage	(258)%	
Percentage of net revenues	0%	(0)%

The impact of the fair value adjustments on outstanding hedged contracts during 2019 was a gain in OCI of \$1.1 million as compared to a loss of \$1.0 million during 2018.

The net amount reclassified to earnings during 2019 was a loss of \$0.2 million compared to a loss of \$0.2 million during 2018.

RESULTS OF OPERATIONS FOR THE YEAR ENDED DECEMBER 31, 2018 AS COMPARED TO THE YEAR ENDED DECEMBER 31, 2017

The Company has reclassified certain prior year income statement amounts to conform the current year presentation. As a result of these reclassifications, there were no changes to previously reported net income, comprehensive income and income from operations.

The Company has initially applied ASC 2014-09 (Topic 606) on January 1, 2018 using the modified retrospective method. Under this method, the comparative information is not restated.

NET REVENUES

The following table presents our net revenues, by revenue source:

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Network Access Services:		
Mobile Services	\$ 89,340	\$ 83,885
Other Services	7,984	5,567
Total Network Access Services	97,324	89,452
Domain Services:		
Wholesale		
Domain Services	189,434	183,731
Value Added Services	17,756	17,832
Total Wholesale	207,190	201,563
Retail	34,524	31,649
Portfolio	6,975	6,757
Total Domain Services	248,689	239,969
	\$ 346,013	\$ 329,421
Increase over prior period	\$ 16,592	
Increase - percentage	5%	

The following table presents our revenues, by revenue source, as a percentage of total revenues:

	Year ended December 31,	
	2018	2017
Network Access Services:		
Mobile Services	26%	25%
Other Services	2%	2%
Total Network Access Services	28%	27%
Domain Services:		
Wholesale		
Domain Services	55%	56%
Value Added Services	5%	5%
Total Wholesale	60%	61%
Retail	10%	10%
Portfolio	2%	2%
Total Domain Services	72%	73%
	100%	100%

Total net revenues for Fiscal 2018 increased by \$16.6 million, or 5%, to \$346.0 million from \$329.4 million for the fiscal year ended December 31, 2017 ("Fiscal 2017"). The overall increase in revenue was primarily driven by full year impact of the 2017 acquisitions of Enom and Roam Mobility, the expanding footprint of Ting Internet, organic growth in both Ting Mobile services and wholesale domain services and the \$16.9 million acceleration of revenue related to the Namecheap bulk transfer of 2.89 million names throughout 2018, a portion of which would have otherwise been recognized after Fiscal 2018. Revenue also increased as compared to fiscal 2017 because eNom revenues 2017 were negatively impacted by amortizing into revenue, deferred revenue that was recorded at fair value at the acquisition date which was approximately 10% lower than the historical cost basis of eNom. The increase in revenue was partially offset by a subsequent decline in ongoing domain registrations related to the departure of Namecheap and lower mobile device sales due to reduced demand for higher priced devices. Deferred revenue from domain name registrations and other Internet services at December 31, 2018 decreased to \$143.7 million from \$160.6 million at December 31, 2017, primarily due to the bulk transfers discussed above.

No customer accounted for more than 10% of revenue during Fiscal 2018 or Fiscal 2017, and no customers accounted for more than 10% of accounts receivable as of December 31, 2018 and 2017. Management judgment is required at the time of recording of revenue to assess whether the collection of the resulting receivables is reasonably assured. On an ongoing basis, we assess the ability of our customers to make required payments. Based on this assessment, we expect the carrying amount of our outstanding receivables, net of allowance for doubtful accounts, to be fully collected.

Network Access Services

Mobile and Other Services

Net revenues from mobile phone equipment and services for Fiscal 2018, as compared to Fiscal 2017, increased by \$5.5 million or 7% to \$89.3 million. This increase primarily reflects the growth in service revenue, which grew by \$6.9 million to \$80.4 million as compared to Fiscal 2017. Revenues from the sale of mobile hardware and related accessories decreased by \$1.4 million to \$8.9 million in Fiscal 2018. The decrease in device revenue was primarily driven by reduced demand for higher-priced devices compared to the Fiscal 2017.

High speed Internet access, and network consulting services generated \$8.0 million in revenue during Fiscal 2018, up \$2.4 million from Fiscal 2017. Growth in Ting Internet revenues was as a result of the increased Ting Internet footprint in Charlottesville, VA, Westminster, MD and Holly Springs, NC. The Company began offering Ting Internet in Sandpoint, ID in the second quarter of 2018 and in Centennial, CO in the third quarter of 2018.

As of December 31, 2018, Ting Mobile had 163,000 mobile subscribers and 296,000 mobile devices under its management compared to 166,000 subscribers and 282,000 devices under its management as of December 31, 2017.

Domain Services

Wholesale

During Fiscal 2018, wholesale domain services revenue increased by \$5.7 million to \$189.4 million. The increase was driven by the accelerated recognition of \$16.9 million in domain revenue associated with the Namecheap bulk transfer of 2.8 million names during 2018, of which approximately \$5.0 million would have been otherwise recognized after Fiscal 2018. The increase in wholesale domain revenue was also driven by the organic growth and price increases associated with the Company's existing customer base of \$4.9 million. Revenue also increased compared to Fiscal 2017 because eNom revenues and gross margins in 2017 were negatively impacted by amortizing into revenue, deferred revenue that was recorded at fair value at the acquisition date which was approximately 10% lower than the historical cost basis of eNom. The increase in revenue was partially offset by a decrease in revenue associated with a decline in the number of overall transactions from new, renewed and transferred-in domain name registrations, which has decreased to 17.4 million from 19.4 million when compared to Fiscal 2017. The overall decrease in new, renewed and transferred-in domain name registrations was primarily driven by the migration of Namecheap, a low margin customer who moved their domain management and domain transaction processing to their own accreditation and in-house system. We anticipate that the number of new, renewed and transferred-in domain name registrations will continue to be impacted by decisions that large volume customers make with regard to acquiring their own accreditations, as well as the impact on the market, of the significant expansion in the number of new gTLDs added pursuant to the implementation of ICANN's new gTLD Program. While we anticipate that the number of new, renewed and transferred-in domain name registrations will continue to incrementally increase in the long term, the volatility of these factors could affect the growth of domain names that we manage.

Value-added services decreased by \$0.1 million to \$17.8 million when compared to Fiscal 2017. The decrease in revenue from Fiscal 2017 was primarily driven by decreased expiry stream revenue.

Retail

Net revenues from retail for Fiscal 2018, as compared to Fiscal 2017, increased by \$2.9 million to \$34.5 million. This increase was primarily due to the full year impact of the acquisition of eNom and to a lesser extent growth in our incumbent retail operations, Hover.

Portfolio

Net revenues from portfolio for Fiscal 2018, as compared to Fiscal 2017, increased by \$0.2 million to \$7.0 million. The increase is primarily due to a large bulk sale of names in the fourth quarter of 2018.

COST OF REVENUES

The following table presents our cost of revenues, by revenue source:

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Network Access Services:		
Mobile Services	\$ 46,061	\$ 45,335
Other Services	3,994	3,305
Total Network Access Services	50,055	48,640
Domain Services:		
Wholesale		
Domain Services	160,216	161,013
Value Added Services	3,154	2,450
Total Wholesale	163,370	163,463
Retail	17,725	17,346
Portfolio	953	1,151
Total Domain Services	182,048	181,960
Network Expenses:		
Network, other costs	9,846	9,324
Network, depreciation and amortization costs	7,294	4,976
	17,140	14,300
	\$ 249,243	\$ 244,900
Increase over prior period	\$ 4,343	
Increase - percentage		2%

The following table presents our cost of revenues, as a percentage of total cost of revenues for the periods presented:

	Year ended December 31,	
	2018	2017
Network Access Services:		
Mobile Services	18%	19%
Other Services	2%	1%
Total Network Access Services	20%	20%
Domain Services:		
Wholesale		
Domain Services	65%	66%
Value Added Services	1%	1%
Total Wholesale	66%	67%
Retail	7%	7%
Portfolio	0%	0%
Total Domain Services	73%	74%
Network Expenses:		
Network, other costs	4%	4%
Network, depreciation and amortization costs	3%	2%
	7%	6%
	100%	100%

Total cost of revenues for Fiscal 2018 increased by \$4.3 million, or 2%, to \$249.2 million from \$244.9 million in Fiscal 2017. This increase primarily resulted from the increase in network and people costs associated with the continuing expansion of the Ting Fiber footprint and to a lesser extent, restructuring charges associated with terminating an unfavourable Roam Mobility service supply contract. Prepaid domain registration and other Internet services fees as of December 31, 2018 decreased by \$20.5 million, or 16%, to \$106.5 million from \$127.0 million at December 31, 2017.

Network Access Services

Mobile and Other Services

Cost of revenues from mobile phone equipment and services for Fiscal 2018, as compared to Fiscal 2017, increased by \$0.7 million or 2% to \$46.1 million. This increase primarily reflects the impact of mobile service costs of revenue which grew by \$2.3 million to \$36.5 million as compared to Fiscal 2017. The increase in mobile service costs of revenue include restructuring charges associated with terminating an unfavourable Roam Mobility service supply contract for \$0.4 million. Mobile hardware, shipping and related accessories costs decreased \$1.6 million to \$9.6 million. The decrease in device cost of revenue was primarily driven by reduced demand for higher-priced devices compared to the Fiscal 2017.

In addition, in Fiscal 2018, we incurred costs of \$4.0 million in provisioning high speed Internet access and network consulting services as compared to \$3.3 million during Fiscal 2017. The increase in costs was primarily due to the expansion of the Ting Fiber foot print and increasing subscriber base.

Domain Services

Wholesale

Domain Service

Costs for wholesale domain services for Fiscal 2018 decreased by \$0.8 million to \$160.2 million, when compared to Fiscal 2017. The decrease was driven by a \$8.9 million decrease due to the decline in overall transactions from new, renewed and transferred-in domain name registrations to 17.4 million from 19.4 million when compared to Fiscal 2017. The overall decrease in new, renewed and transferred-in domain name registrations was primarily driven by the migration of Namecheap, a low margin customer who moved their domain management and domain transaction processing to their own accreditation and in-house system. The decrease was partially offset by the accelerated recognition of \$16.7 million in cost of revenue associated with the Namecheap bulk transfer of 2.8 million names during 2018, of which approximately \$4.9 million would have been otherwise recognized after Fiscal 2018. The decrease was also offset by organic growth in existing customers \$3.2 million.

Value-Added Services

Costs for wholesale value-added services for Fiscal 2018 increased by \$0.7 million to \$3.2 million, when compared to Fiscal 2017. The increase in cost of revenue is primarily related to organic growth in certification and email sales during Fiscal 2018.

Retail

Costs for retail for Fiscal 2018 increased by \$0.4 million, to \$17.7 million, when compared to Fiscal 2017. This increase was primarily due to the full year impact of the acquisition of eNom and to a lesser extent growth in our incumbent retail operations, Hover.

Portfolio

Costs for portfolio decreased by \$0.2 million for Fiscal 2018, to \$1.0 million when compared to Fiscal 2017, the decrease in cost is primarily driven by a lower cost per name sold as compared to Fiscal 2017.

Network Expenses

Network costs for Fiscal 2018 increased by \$2.8 million to \$17.1 million when compared to Fiscal 2017, which is primarily driven by the increase in network costs and depreciation of the fiber assets associated with the continuing expansion of the Ting Fiber footprint.

SALES AND MARKETING

Sales and marketing expenses consist primarily of personnel costs. These costs include commissions and related expenses of our sales, product management, public relations, call center, support and marketing personnel. Other sales and marketing expenses include customer acquisition costs, advertising and other promotional costs.

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Sales and marketing	\$ 33,063	\$ 29,423
Increase over prior period	\$ 3,640	
Increase - percentage	12%	
Percentage of net revenues	10%	9%

Sales and marketing expenses for Fiscal 2018 increased by \$3.6 million, or 12%, to \$33.1 million as compared to Fiscal 2017. This increase primarily related to a \$3.3 million increase in workforce, travel, contract services and stock-based compensation, which was driven by the growth in network access initiatives. In addition, marketing and other expenses increased \$0.3 million largely to support and acquire Ting Mobile and fixed Internet access subscribers.

TECHNICAL OPERATIONS AND DEVELOPMENT

Technical operations and development expenses consist primarily of personnel costs and related expenses required to support the development of new or enhanced service offerings and the maintenance and upgrading of existing infrastructure. This includes expenses incurred in the research, design and development of technology that we use to register domain names, network access services, email, retail, domain portfolio and other Internet services, as well as to distribute our digital content services. Editorial costs relating to the rating and review of the software content libraries are included in the costs of product development. All technical operations and development costs are expensed as incurred.

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Technical operations and development	\$ 8,748	\$ 7,258
Increase over prior period	\$ 1,490	
Increase - percentage	21%	
Percentage of net revenues	3%	2%

Technical operations and development expenses for Fiscal 2018 increased by \$1.5 million, or 21%, to \$8.7 million. The increase in costs relate primarily to the full year impact of the eNom acquisition, increased salaries and benefits, contract services and stock-based compensation driven by an expanding workforce and wage inflation.

GENERAL AND ADMINISTRATIVE

General and administrative expenses consist primarily of compensation and related costs for managerial and administrative personnel, fees for professional services, public listing expenses, rent, foreign exchange and other general corporate expenses.

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
General and administrative	\$ 17,710	\$ 13,594
Increase over prior period	\$ 4,116	
Increase - percentage	30%	
Percentage of net revenues	5%	4%

General and administrative expenses for Fiscal 2018 increased by \$4.1 million, or 30%, to \$17.7 million as compared to Fiscal 2017. The increase was primarily the result of an increase in workforce, contract services and stock-based compensation related costs of \$3.8 million due to expanding workforce, unfavourable foreign exchange impacts and wage inflation. The increase was also related to an increase in credit card processing fees and other administrative costs of \$0.3 million.

DEPRECIATION OF PROPERTY AND EQUIPMENT

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Depreciation of property and equipment	\$ 424	\$ 585
Decrease over prior period	\$ (161)	
Decrease - percentage	(28)%	
Percentage of net revenues	0%	0%

Depreciation costs for Fiscal 2018 decreased to \$0.4 million when compared to \$0.6 million for Fiscal 2017. The decrease is driven by decreased purchases of equipment in 2018, compared to 2017 when the Company's purchased equipment increased due to the acquisition of eNom.

AMORTIZATION OF INTANGIBLE ASSETS

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Amortization of intangible assets	\$ 7,247	\$ 6,566
Increase over prior period	\$ 681	
Increase - percentage	10%	
Percentage of net revenues	2%	2%

Amortization of intangible assets increased \$0.7 million for Fiscal 2018, to \$7.2 million. The increase in amortization is primarily related to customer acquisitions totalling \$0.6 million throughout 2018 and the full year impact of acquisitions during 2017.

Network rights, brand and customer relationships acquired in connection with the acquisitions the BRI Group in February 2015, the international reseller channel of Melbourne IT in April 2016, eNom in January 2017, and Roam Mobility in September of 2017 and immaterial acquisitions in 2018 are amortized on a straight-line basis over seven years.

IMPAIRMENT OF INDEFINITE LIFE INTANGIBLE ASSETS

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Impairment of indefinite life intangible assets	\$ -	\$ 111
Decrease over prior period	\$ (111)	
Decrease - percentage	(100)%	
Percentage of net revenues	-%	0%

As part of our normal renewal process, we assess whether certain domain names acquired in the June 2006 acquisition of Mailbank.com Inc. should not be renewed and be allowed to expire. During Fiscal 2018, we renewed all of the acquired domain names. In Fiscal 2017, we assessed that that acquired domain names with a book value of less than \$0.1 million should be written off and accordingly, we recorded an impairment of indefinite life intangible assets.

LOSS (GAIN) ON CURRENCY FORWARD CONTRACTS

Although our functional currency is the U.S. dollar, a major portion of our fixed expenses are incurred in Canadian dollars. Our goal with regard to foreign currency exposure is, to the extent possible, to achieve operational cost certainty, manage financial exposure to certain foreign exchange fluctuations and to neutralize some of the impact of foreign currency exchange movements. Accordingly, we enter into foreign exchange contracts to mitigate the exchange rate risk on portions of our Canadian dollar exposure.

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Loss (gain) on currency forward contracts	\$ 254	\$ (98)
Increase over prior period	\$ 352	
Increase - percentage	359%	
Percentage of net revenues	0%	0%

We have entered into certain forward exchange contracts that do not comply with the requirements of hedge accounting to meet a portion of our future Canadian dollar requirements through December 2019. During Fiscal 2018, the Company recorded a net loss of \$0.2 million on the change in fair value of outstanding contracts as well as less than \$0.1 million realized loss on matured contracts. In Fiscal 2017 the Company recorded a net loss of less than \$0.1 million for the change in fair value of outstanding contracts and a gain \$0.1 million of settlements of contracts not designated as hedges.

At December 31, 2018, our balance sheet reflects a derivative instrument liability of \$1.3 million as a result of our existing foreign exchange contracts.

OTHER INCOME AND (EXPENSES)

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Other income (expense), net	\$ (3,169)	\$ (3,007)
Increase over prior period	\$ (162)	
Increase - percentage	5%	
Percentage of net revenues	1%	1%

Other expenses increased by \$0.2 million when compared to Fiscal 2017 primarily due to interest incurred on our credit facility with the majority of the borrowings on the credit facility to support the build-out of the Ting Fiber network. Within Other expense we also recognized \$0.5 million of a positive financial contribution from a Joint Marketing agreement that we entered into in February 2015 where we waived our rights under a proposed joint venture to operate the online registry. The recognition of this gain was consistent with the amount recognized in Fiscal 2017. The deferred gain has been fully recognized as of December 31, 2018.

INCOME TAXES

The following table presents our provision for income taxes for the periods presented:

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Provision for income taxes	\$ 9,020	\$ 1,748
Increase in provision over prior period	\$ 7,272	
Increase - percentage	416%	
Effective tax rate	37%	7%

We operate in various tax jurisdictions, and accordingly, our income is subject to varying rates of tax. Losses incurred in one jurisdiction cannot be used to offset income taxes payable in another jurisdiction. Our ability to use income tax loss carry forwards and future income tax deductions is dependent upon our operations in the tax jurisdictions in which such losses or deductions arise. Income taxes are computed using the asset and liability method, under which deferred tax assets and liabilities are determined based on the difference between the financial statement carrying values and tax base of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to affect taxable income. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

Fiscal 2018 includes tax on profits of \$26.2 million compared to \$24.1 million for Fiscal 2017. Our Fiscal 2017 income tax expense benefited from a net \$5.8 million positive implementation impact from the Tax cuts and Jobs Act of 2017, more fully described below as well as the inclusion of a \$2.8 million tax recovery related to the adoption of ASU 2016-09 in Fiscal 2017, which requires all excess tax benefits and tax deficiencies related to employee share-based payments to be recognized through income tax expense on a prospective basis. The Fiscal 2018 tax recovery related to excess tax benefits related to employee share-based was \$0.7 million.

On December 22, 2017, the Act was signed into law making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017, the transition of U.S international taxation from a worldwide tax system to a territorial system, bonus depreciation that will allow for full expensing of qualified property, and a one-time transition tax on the mandatory deemed repatriation of foreign earnings.

In Fiscal 2018, the Company was able to utilize the bonus depreciation with respect to its continued investment in the Ting Internet business. The impact of this, together with the reduction in tax rate to 21%, make it unlikely we will ultimately be able to fully claim the Fiscal 2018 foreign taxes paid in future years. In addition, the Company generated net operating losses of \$0.2 million which it does not expect to be able to utilize in the future. As such, we have taken a valuation allowance for foreign tax credits not utilized for 2018 income tax purposes and net operating losses not expected to be utilized in the future, the net negative effect of which is a \$2.8 million addition to income tax expense.

In Fiscal 2017, we reflected a net \$5.8 million non-cash tax benefit through income from continuing operations for the re-measurement impact related to the changes in tax laws included in the Act. The primary driver of this re-measurement was the result of the reduction in the corporate tax rate from 35% to 21% which resulted in our recognizing, based on the rates at which they are expected to reverse in the future, a \$10.0 million non-cash tax benefit through income from continuing operations for the re-measurement of our deferred tax assets and liabilities. This amount was partially offset by our recording a valuation allowance of \$1.3 million related to prior year Foreign Tax Credits that we have determined are no longer more likely than not to be used as the tax rate in the jurisdiction where these Foreign Tax Credits is generated is higher than the 21% corporate tax rate. In addition, the impact of the prepaid registry fee deduction, more fully described below, together with the reduction in the tax rate to 21% made it unlikely we would be able to claim the Fiscal 2017 foreign taxes paid in future years and as such opted to utilize the foreign taxes paid as a deduction for 2017 income tax purposes, the net negative effect of which was a \$2.9 million addition to income tax expense.

We had approximately \$nil of total gross unrecognized tax benefit as of December 31, 2018 compared to \$15,000 as of December 31, 2017.

A reconciliation of the federal statutory income tax rate to our effective tax rate is set forth in “Note 9 – Income Taxes” of the Notes to the Consolidated Financial Statements included in Part II, Item 8 of this Annual Report.

OTHER COMPREHENSIVE INCOME (LOSS)

To mitigate the impact of the change in fair value of our foreign exchange contracts on our financial results, in October 2012 we begun applying hedge accounting for the majority of the contracts we need to meet our Canadian dollar requirements on a prospective basis. The impact of the fair value adjustment on outstanding hedged contracts for Fiscal 2018 was a net loss in other comprehensive income of \$0.8 million compared to a net loss of \$0.1 million for Fiscal 2017.

The following table presents other comprehensive income for the periods presented:

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,	
	2018	2017
Other comprehensive income (loss)	\$ (810)	\$ (100)
Decrease over prior period	\$ (710)	
Decrease - percentage	710%	
Percentage of net revenues	0%	0%

The impact of the fair value adjustments on outstanding hedged contracts during 2018 was a loss in OCI of \$1.0 million as compared to a gain of \$0.5 million during 2017. The decrease in OCI is associated with the fact that at December 31, 2018, the Company had \$36.5 million outstanding hedged forward contracts, as compared to Fiscal 2017 the Company had nil outstanding hedged forward contracts.

The net amount reclassified to earnings during 2018 was a gain of \$0.2 million compared to a loss of \$0.6 million during 2017.

Liquidity and capital resources

As of December 31, 2019, our cash and cash equivalents balance increased \$7.8 million when compared to December 31, 2018. Our principal uses of cash were \$28.5 million for the Acquisition of Ascio Technologies, Inc. ("Ascio"), \$8.1 million in loan repayments, \$1.1 million of other costs, including tax payment associated with stock option exercises, \$5.0 million in stock repurchases, continued investment in property and equipment of \$44.1 million and \$3.6 million acquisition of customer relationships. These uses of cash were offset by proceeds from the exercise of stock options of \$0.4 million, advances of \$57.4 million from our 2019 Amended Credit Facility (defined below) to fund Fiber to the Home program ("FTTH") and cash provided by operating activities of \$40.4 million. On January 1, 2020, the Company paid cash of \$9.0 million related to the acquisition of Cedar Holdings Group. See "Note 20 - Subsequent Events" for more detail.

Amended 2019 Credit Facility

On June 14, 2019, the Company and its wholly-owned subsidiaries, Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Delaware) Inc. and Tucows (Emerald), LLC, entered into an Amended and Restated Senior Secured Credit Agreement with Royal Bank of Canada ("RBC"), as administrative agent, and lenders party thereto (collectively with RBC, the "Lenders") under which the Company has access to an aggregate of up to \$240 million in funds, inclusive of a \$60 million accordion facility.

On November 27, 2019, the Company entered into Amending Agreement No. 1 to the Amended and Restated Senior Secured Credit Agreement (collectively with the Amended and Restated Senior Secured Credit Agreement, the "Amended 2019 Credit Facility") to amend certain defined terms in connection with the Cedar acquisition.

In connection with the Amended 2019 Credit Facility, the Company incurred an additional \$0.3 million of fees paid to lenders and \$0.2 million of legal fees related to the debt issuance. Of these fees, \$0.4 million are debt issuance costs, which have been reflected as a reduction to the carrying amount of the loan payable and will be amortized over the term of the credit facility agreement and \$0.1 million have been recorded in General and administrative expenses.

The obligations of the Company under the Amended 2019 Credit Agreement are secured by a first priority lien on substantially all of the personal property and assets of the Company and has a four-year term.

2017 Amended Credit Facility

Prior to entering into the Amended 2019 Credit Facility, the Company had entered into a secured Credit Agreement (as amended, the "2017 Amended Credit Facility") on January 20, 2017 with Bank of Montreal ("BMO"), RBC and Bank of Nova Scotia (collectively, the "Previous Lenders") under which the Company had access to an aggregate of up to \$140 million in funds.

On March 18, 2019, the Company entered into the Second Amendment to the 2017 Credit Facility to provide the Previous Lenders' consent for the acquisition of Ascio, advance the acquisition funding and to reallocate borrowing limits between loan facilities. We incurred costs associated with the Second Amendment to the 2017 Credit Facility of \$0.2 million, which were recorded as debt issuance costs.

The obligations of the Company under the 2017 Amended Credit Facility were secured by a first priority lien on substantially all of the personal property and assets of the Company and had a four-year term.

Other Credit Facilities

Prior to the Company entering into the Amended 2019 Credit Facility and the 2017 Amended Credit Facility, the Company had credit agreements (collectively the “Prior Credit Facilities”) with BMO, which provided the Company with continued access to a treasury risk management facility and a credit card facility. All remaining credit facilities under the Prior Credit Facilities have been terminated.

The treasury risk management facility under the Prior Credit Facilities provides for a \$3.5 million settlement risk line to assist the Company with hedging Canadian dollar exposure through foreign exchange forward contracts and/or currency options. Under the terms of the Prior Credit Facilities, the Company may enter into such agreements at market rates with terms not to exceed 18 months. As of December 31, 2019, the Company held contracts in the amount of \$30.5 million to trade U.S. dollars in exchange for Canadian dollars.

Cash Flow from Operating Activities

Year ended December 31, 2019

Net cash inflows from operating activities were \$40.4 million, an increase of 9% when compared to the prior year. Net income, after adjusting for non-cash charges, during Fiscal 2019 was \$38.4 million, an increase of 8% when compared to the prior year. Net income included non-cash charges and recoveries of \$23.0 million such as depreciation, amortization, impairment of indefinite life intangible asset, excess tax benefits on stock-based compensation, stock-based compensation, the provision for unrealized losses on currency forward contracts and a recovery for deferred tax. This generation of cash from net income was further increased by a working capital change of \$2.0 million. We generated \$13.3 million from movements in inventory, prepaid registration costs, prepaid expenses and deposits, accrued liabilities and customer deposits. These positive contributions were offset by cash use of \$11.3 million to invest in accounts receivable, deferred revenue, income taxes recoverable, accounts payable, and accreditation fees.

Year ended December 31, 2018

Net cash inflows from operating activities were \$37.2 million, an increase of 17% when compared to the prior year. Net income, after adjusting for non-cash charges, during Fiscal 2018 was \$35.4 million, an increase of 18% when compared to the prior year. Net income included non-cash charges and recoveries of \$18.3 million such as depreciation, amortization, impairment of indefinite life intangible asset, excess tax benefits on stock-based compensation, stock-based compensation, the provision for unrealized losses on currency forward contracts and a recovery for deferred tax. This generation of cash from net income was further increased by our increasing working capital of \$1.8 million. We generated \$24.9 million from movements in accounts receivables, deferred registration costs, accounts payable and income taxes recoverable. These positive contributions were offset by cash use of \$23.1 million to invest in deferred revenue, accreditation fees, inventory, prepaid expenses and deposits, customer deposits and accrued liabilities.

Year ended December 31, 2017

Net cash inflows from operating activities were \$31.9 million, an increase of 42% when compared to the prior year. Net income, after adjusting for non-cash charges, during Fiscal 2017 was \$30.0 million, an increase of 43% when compared to the prior year. Net income included non-cash charges and recoveries of \$7.7 million such as depreciation, amortization, impairment of indefinite life intangible asset, excess tax benefits on stock-based compensation, stock-based compensation, the provision for unrealized losses on currency forward contracts and a recovery for deferred tax. This generation of cash from net income was further increased by our increasing working capital of \$1.9 million. We generated \$11.1 million from movements in accounts receivables, deferred revenue, deferred registration costs income taxes recoverable and customer deposits. These positive contributions were offset by cash use of \$9.2 million to invest in accounts payables, accreditation fees, inventory, prepaid expenses and deposits and accrued liabilities.

Cash Flow from Financing Activities***Year ended December 31, 2019***

Net cash inflows from financing activities during Fiscal 2019 totaled \$43.5 million as compared to cash outflows of \$12.9 million during Fiscal 2018. Net cash inflows of \$57.4 million resulting from draws on the 2019 Amended Credit Facility to fund the FTTH capital expenditures, the acquisition of Ascio and general working capital requirements. These cash inflows were partially offset by outflows of \$8.1 million of principal repayments relating to our 2019 Credit Amended Credit Facility, \$5.0 million in stock repurchases, \$0.6 million of loan costs and \$0.2 million outflow from the net impact of exercise of stock options.

Year ended December 31, 2018

Net cash outflows from financing activities during Fiscal 2018 totaled \$12.9 million as compared to cash inflows of \$65.2 million during Fiscal 2017. Net cash inflows of \$7.0 million resulting from draws on the 2017 Amended Credit Facility to fund the FTTH capital expenditures and general working capital requirements. These cash inflows were partially offset by outflows of \$19.6 million of principal repayments relating to our 2017 Credit Amended Credit Facility, \$0.3 million outflow from the net impact of exercise of stock options.

Year ended December 31, 2017

Net cash inflows from financing activities during Fiscal 2017 totaled \$65.2 million as compared to cash outflows of \$0.7 million during Fiscal 2016. Net cash inflows of \$87.0 million resulting from draws on the 2017 Amended Credit Facility to fund the acquisition of eNom and to fund FTTH capital expenditures. These cash inflows were partially offset by outflows of \$20.0 million of principal repayments relating to our 2017 Credit Amended Credit Facility, \$1.2 million outflow from the net impact of exercise of stock options and \$0.6 million of debt issuance costs.

Cash Flow from Investing Activities***Year ended December 31, 2019***

Investing activities during the Fiscal 2019 used net cash of \$76.1 million as compared to using \$29.7 million during Fiscal 2018.

Cash outflows of \$28.5 million related to the acquisition of Ascio Technologies, Inc., \$3.6 million related to the acquisition of intangible assets, of which \$3.5 million related to the acquisition of mobile subscribers of the FreedomPop and Unreal MVNO brands, and \$44.1 million of cash outflows was invested in property and equipment, primarily to support the continued expansion of our fiber footprint. The Company continues to invest in our existing Ting Towns of Charlottesville, VA, Holly Springs, NC and Westminster, MD as well ramping construction in Sandpoint, ID, Centennial, CO, and Fuquay Varina, NC, as we seek to extend both our current network and expand to new towns. We expect our capital expenditures on building and expanding our fiber network to continue to increase significantly during Fiscal 2019.

Year ended December 31, 2018

Investing activities during the Fiscal 2018 used net cash of \$29.7 million as compared to using \$94.1 million during Fiscal 2017.

In the second half of Fiscal 2018, the Company purchased customer relationships related to hosting and mobile services for \$0.6 million.

On February 14, 2018, the Company acquired the remaining 10% interest in Ting Virginia, LLC. for a consideration of \$1.2 million. The consideration was funded through cash flow from operations. See Note 3(a) of the Notes to the Consolidated Financial Statements included in this report.

In addition, the Company invested \$27.9 million in property and equipment, primarily to support the continued expansion of our fiber footprint. The Company continues to invest in our Ting towns of Charlottesville, VA, Holly Springs, NC and Westminster, MD. We expect our capital expenditures on building and expanding our fiber network to remain significant during Fiscal 2019, including construction of new networks in the greater Raleigh-Durham area.

Year ended December 31, 2017

Investing activities during the Fiscal 2017 used net cash of \$94.1 million as compared to using \$14.4 million during Fiscal 2016.

On January 20, 2017, the Company entered into a Stock Purchase Agreement (the "Purchase Agreement") with its indirect wholly owned subsidiary, Tucows (Emerald), LLC, Rightside Group, Ltd., and Rightside Operating Co., pursuant to which Tucows (Emerald), LLC purchased from Rightside Operating Co. all of the issued and outstanding capital stock of eNom, a domain name registrar business. The purchase price was \$76.2 million, net of cash of \$1.6 million and purchase price adjustments of \$5.7 million relating primarily to a working capital deficit. In 2017, the Company incurred acquisition related expenditures of \$0.3 million in connection with this acquisition. The purchase price and the majority of the related acquisition costs were financed through borrowings under Facility D of the 2017 Amended Credit Agreement. On June 13, 2017, the parties entered into an amendment to the Purchase Agreement, which, among other things, amended certain definitions contained in the Purchase Agreement.

On February 1, 2017, the Company acquired an additional 20% interest in Ting Virginia, LLC. for a consideration of \$2.0 million. The consideration was funded through cash flow from operations. For additional details, see "Note 3(a) – Acquisitions" to the Consolidated Financial Statements included in this report.

In the second half of Fiscal 2017, the Company purchased customer relationships related to shared hosting and domain services for \$0.3 million.

On September 19, 2017, the Company acquired the consumer related assets of Otono Networks Inc. for consideration of \$2.6 million and assumed working capital liabilities of \$1.4 million. The intangible assets acquired relate to customer relationships and are being amortized on a straight-line basis over a period of seven years.

In addition, the Company invested \$12.9 million in property and equipment, primarily to support the continued expansion of our fiber footprint. The Company continues to invest in our Ting towns of Charlottesville, VA, Holly Springs, NC and Westminster, MD. We expect our capital expenditures on building and expanding our fiber network to increase significantly during Fiscal 2018, including construction ramping in Sandpoint, ID and Centennial, CO, as we seek to extend both our current network and expand to new towns.

We may need additional funds or seek other financing arrangements to facilitate more rapid expansion, develop new or enhance existing products or services, respond to competitive pressures or acquire or invest in complementary businesses, technologies, services or products. We may also evaluate potential acquisitions of other businesses, products and technologies. We currently have no commitments or agreements regarding the acquisition of other businesses. If additional financing is required, we may need additional equity or debt financing and any additional financing may be dilutive to existing investors. We may not be able to raise funds on acceptable terms, or at all.

Off Balance Sheet Arrangements

We did not have any off-balance sheet arrangements as of December 31, 2019.

Contractual Obligations

For the purpose of the contractual obligations table below, contractual obligations for purchases of goods or services are defined as agreements that are enforceable and legally binding and that specify all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. The expected timing of payment of the obligations discussed below is estimated based on information available to us as of December 31, 2019. Timing of payments and actual amounts paid may be different depending on the time of receipt of goods or services or changes to agreed-upon amounts for some obligations. The following table summarizes our contractual obligations at December 31, 2019 (Dollar amounts in thousands of US dollars):

Contractual Obligations for the year ending December 31,	Contractual Lease Obligations ⁽¹⁾	Debt Obligations	Purchase Obligations ⁽²⁾	Total Obligations
2020	\$ 2,248	\$ -	\$ 29,153	\$ 31,401
2021	1,824	-	12,638	14,462
2022	1,745	-	12,264	14,009
2023	1,708	114,400	13,584	129,692
2024	1,420	-	19,074	20,494
Thereafter	5,584	-	5,250	10,834
	<u>\$ 14,529</u>	<u>\$ 114,400</u>	<u>\$ 91,963</u>	<u>\$ 220,892</u>

⁽¹⁾ Contractual lease obligations include \$0.9 million in lease payments related to Fiber IRU contracts that have not yet commenced in Fiscal 2019.

⁽²⁾ Purchase obligations include all other legally binding service contracts for mobile telephone services and other operational agreements to be delivered during Fiscal 2020 and subsequent years. Note, Purchase Obligations do not include interest payments on the Company's credit facilities.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We develop products in Canada and sell these services in North America and Europe. Our sales are primarily made in U.S. dollars, while a major portion of expenses are incurred in Canadian dollars. Our financial results could be affected by factors such as changes in foreign currency exchange rates or weak economic conditions in foreign markets. Our interest income is sensitive to changes in the general level of Canadian and U.S. interest rates, particularly since the majority of our investments are in short-term instruments. Based on the nature of our short-term investments, we have concluded that there is no material interest rate risk exposure as of December 31, 2019. We are also subject to market risk exposure related to changes in interest rates under our 2019 Amended Credit Facility. We do not expect that any changes in interest rates will be material; however, fluctuations in interest rates are beyond our control. We will continue to monitor and assess the risks associated with interest expense exposure and may take additional actions in the future to mitigate these risks.

Although our functional currency is the U.S. dollar, a substantial portion of our fixed expenses are incurred in Canadian dollars. Our policy with respect to foreign currency exposure is to manage financial exposure to certain foreign exchange fluctuations with the objective of neutralizing some of the impact of foreign currency exchange movements. Exchange rates are, however, subject to significant and rapid fluctuations, and therefore we cannot predict the prospective impact of exchange rate fluctuations on our business, results of operations and financial condition. Accordingly, we have entered into foreign exchange forward contracts to mitigate the exchange rate risk on portions of our Canadian dollar exposure.

As of December 31, 2019, we had the following outstanding foreign exchange forward contracts to trade U.S. dollars in exchange for Canada dollars:

Maturity date (Dollar amounts in thousands of U.S. dollars)	Notional amount of U.S. dollars	Weighted average exchange rate of U.S. dollars	Fair value
January - March 2020	10,729	1.3296	259
April - June 2020	9,654	1.3296	232
July - September 2020	5,300	1.3296	127
October - December 2020	4,803	1.3296	113
	<u>\$ 30,486</u>	<u>1.3296</u>	<u>\$ 731</u>

As of December 31, 2019, the Company had \$30.5 million of outstanding foreign exchange forward contracts which will convert to CDN \$40.5 million. Of these contracts, \$26.1 million met the requirements for hedge accounting.

As of December 31, 2018, the Company had \$40.5 million of outstanding foreign exchange forward contracts which will convert to CDN \$53.3 million. Of these contracts, \$36.5 million met the requirements for hedge accounting.

We have performed a sensitivity analysis model for foreign exchange exposure over the year ended December 31, 2019. The analysis used a modeling technique that compares the U.S. dollar equivalent of all expenses incurred in Canadian dollars, at the actual exchange rate, to a hypothetical 10% adverse movement in the foreign currency exchange rates against the U.S. dollar, with all other variables held constant. Foreign currency exchange rates used were based on the market rates in effect during the year ended December 31, 2019. The sensitivity analysis indicated that a hypothetical 10% adverse movement in foreign currency exchange rates would result in a decrease in pre-tax net income for the year ended December 31, 2019 of approximately \$3.7 million. There can be no assurances that the above projected exchange rate decrease will materialize. Fluctuations of exchange rates are beyond our control. We will continue to monitor and assess the risk associated with these exposures and may take additional actions in the future to hedge or mitigate these risks.

Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist principally of cash equivalents, marketable securities, foreign exchange contracts and accounts receivable. Our cash, cash equivalents and short-term investments are in high-quality securities placed with major banks and financial institutions whom we have evaluated as highly creditworthy and commercial paper. Similarly, we enter into our foreign exchange contracts with major banks and financial institutions. With respect to accounts receivable, we perform ongoing evaluations of our customers, generally granting uncollateralized credit terms to our customers, and maintaining an allowance for doubtful accounts based on historical experience and our expectation of future losses.

Interest rate risk

Our exposure to interest rate fluctuations relate primarily to our 2019 Amended Credit Facility.

As of December 31, 2019, we had an outstanding balance of \$114.4 million on the 2019 Amended Credit Facility. The 2019 Amended Credit Facility bears a base interest rate based on borrowing elections by the Company and the Company's total Funded Debt to EBITDA plus LIBOR. As of December 31, 2019, an adverse change of one percent on the interest rate would have the effect of increasing our annual interest payment on 2019 Amended Credit Facility by approximately \$1.1 million, assuming that the loan balance as of December 31, 2019 is outstanding for the entire period.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Our consolidated financial statements and supplementary data required by this item are attached to this Annual Report on Form 10-K beginning on page F-1.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) of the Securities Exchange Act of 1934 (the “Exchange Act”), management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated, as of the end of the period covered by this report, the effectiveness of our disclosure controls and procedures as defined in Exchange Act Rule 13a-15(e). Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their control objectives. Based on the evaluation of our disclosure controls and procedures as of the end of the period covered by this annual report, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2019 our disclosure controls and procedures were effective at the reasonable assurance level.

Management’s Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). Our 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 and includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America
- Provide reasonable assurance that our receipts and expenditures are being made only in accordance with authorization of our management and directors; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, such as resource constraints, human error, lack of knowledge or awareness and the possibility of intentional circumvention of these controls, internal control over financial reporting may not prevent or detect misstatements. Furthermore, the design of any control system is based, in part, upon assumptions about the likelihood of future events, for which assumptions may ultimately prove to be incorrect. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

Management, including our Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of our internal control over financial reporting as of December 31, 2019. In making this assessment, our management used the criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Our management has excluded from our evaluation the Internal Controls over Financial Reporting (“ICFR”) of Ascio, which we acquired on March 18, 2019 as discussed in “Note 3 – Acquisitions” of the Notes to the Consolidated Financial Statements included elsewhere in this Annual Report on Form 10-K. Total revenues subject to Ascio’s ICFR represented 5% of our consolidated total revenues for the fiscal year ended December 31, 2019. Total assets subject to Ascio ICFR represented approximately 10% of our consolidated total assets as of December 31, 2019.

Based on the results of our evaluation, management has determined that our internal control over financial reporting was effective as of December 31, 2019.

KPMG LLP, our independent registered public accounting firm, has audited our consolidated financial statements and expressed an unqualified opinion thereon. KPMG has issued an attestation report on the effectiveness of our internal control over financial reporting as of December 31, 2019. These reports are set forth at the beginning of Part II, Item 8 of this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes made in our internal controls over financial reporting occurred during Fiscal 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

Mr. Burnham, a member of our Board, is a member of Union Square Ventures, LLC (“USV LLC”) and entered into a fee compensation agreement with USV LLC on December 1, 2017, under which Mr. Burnham agreed to hold the Company’s stock option grants to him in his individual capacity, and upon the exercise of such options, Mr. Burnham will transfer to USV LLC the shares acquired in the option exercise or, with the consent of USV LLC, a cash payment equal to the fair market value of such shares. In connection with such option exercise and transfer, USV LLC will extend to Mr. Burnham an interest-free loan in an amount equal to the exercise price of the option, and any transfer of acquired shares or cash payment will, to the extent not in excess of the amount of the loan (if any), first be deemed as repayment of the loan.

On January 1, 2020, the Company closed its previously disclosed acquisition of Cedar Holdings Group, Incorporated (“Cedar”), a fiber Internet provider business based in Durango, Colorado. The purchase price was \$14.1 million, less an estimated purchase price adjustment of approximately \$0.1 million relating to a working capital deficit and assessment of the fair value of contingent consideration, for net purchase consideration of \$14.0 million. The cash consideration due at closing of \$9.0 million was financed by an advance on the 2019 Amended Credit Facility. The Company also issued 32,374 of Tucows Inc. shares (\$2 million) with a two-year restriction period at closing. Included in the agreement is contingent consideration totaling up to \$4.0 million is expected to be paid on the 24th and 36th month anniversaries of the closing of the transaction dependent upon certain milestones as defined in the definitive transaction agreement. The fair value of the contingent consideration was determined to be \$3.1 million using a discount rate of 11.3%. Cedar is a telecommunications provider serving multiple markets in the Western Slope of Colorado and northwestern New Mexico. Cedar has focused the last several years on building fiber to enterprise, anchor institution, and residential customers.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Allen Karp

Chairman of the Board since September 2012 and Director since October 2005

Mr. Karp, 79, was with Cineplex Odeon Corporation in various positions from 1986 to 2005, retiring as Chairman and Chief Executive Officer in 2002 and as Chairman Emeritus in 2005. From 1966 to 1986, he practiced law at the law firm of Goodman and Carr LLP, where he was named partner in 1970. Mr. Karp was until recently a Director of Brookfield Real Estate Services Inc., where he also served on the Audit Committee and as the Chair of the Corporate Governance Committee. From 2004 to 2014, Mr. Karp was Chairman of the Board of Directors of IBI Group Inc., as well as Chairman of the Nominating, Governance and Compensation Committee. Mr. Karp is a past director of the Toronto International Film Festival Group, where he served as Chairman of the Board from 1999 to 2007 and served as Chairman of its Corporate Governance Committee from 2007 to 2012. Additionally, Mr. Karp has previously served as director of several other public corporations.

Mr. Karp has extensive executive leadership skills, long-standing senior management experience, a strong ethics and compliance focus and audit committee experience. These skills and qualifications, in addition to his recent service on the boards of directors of other public companies, enable him to bring valuable perspectives to our Board, particularly with respect to corporate governance matters, and qualify him to be a director of Tucows.

Rawleigh H. Ralls

Director since May 2009

Mr. Ralls, 57, was a founding partner of Lacuna, LLC, an investment management company focused on both public and private companies, which he formed in October 2006. Prior thereto, from 1999 to 2006, he was Chairman of Netidentity.com, an Internet email and web hosting company, where he led corporate strategy and development until the firm's sale in 2006. Mr. Ralls currently serves on the Board of Directors of a number of private companies.

Mr. Ralls has a wealth of industry experience, most notably the experience that he gained through his leadership of Netidentity.com. In addition, Mr. Ralls contributes a unique perspective to the Board's discussions and considerations based on the two decades of investing and portfolio management experience. All of these attributes qualify Mr. Ralls to be a director of Tucows.

Erez Gissin

Director since August 2001

Mr. Gissin, 61, has served since 2010 as a managing partner in Helios Energy Investment, a renewable energy investment fund. From 2005 to 2010, Mr. Gissin served as the Chief Executive Officer of BCID Ltd., an investment company focusing on infrastructure development projects in China. From 2000 to 2005, Mr. Gissin served as the Chief Executive Officer of IP Planet Networks Ltd., an Israeli satellite communication operator providing Internet backbone connectivity and solutions to Internet Service Providers. From 1995 to 2000, Mr. Gissin was Vice President, Business Development of Eurocom Communications Ltd., a holding company that controls several telecommunications services, equipment and Internet companies in Israel.

Mr. Gissin has a strong background in the internet communications industry and has gained significant institutional knowledge in his long tenure as one of our directors. Mr. Gissin also has significant leadership experience as the Chief Executive Officer of BCID Ltd. and IP Planet Networks Ltd. and has extensive financial acumen derived from his years of executive experience. All of these qualities qualify Mr. Gissin to be a director of Tucows.

Elliot Noss

Director since August 2001

Mr. Noss, 57, is our President and Chief Executive Officer and has served in such capacity since the completion of our merger with Tucows Delaware in August 2001. From May 1999 until completion of the merger in August 2001, Mr. Noss served as President and Chief Executive Officer of Tucows Delaware. Before that, from April 1997 to May 1999, Mr. Noss served as Vice President of Corporate Services of Tucows Interactive Ltd., which was acquired by Tucows Delaware in May 1999.

Mr. Noss's lengthy service as our Chief Executive Officer has provided him with extensive knowledge of, and experience with, Tucows' operations, strategy and financial position. In addition, Mr. Noss has widespread knowledge of the internet and software industry generally that, coupled with his operational expertise, qualifies him to be a director of Tucows.

Jeffrey Schwartz

Director since June 2005

Mr. Schwartz, 57, has served as a director of Dorel Industries since 1987 and as Executive Vice President and Chief Financial Officer since 2003. Mr. Schwartz is a graduate of McGill University in Montreal and has a degree in the field of business administration.

Mr. Schwartz has a significant amount of public-company financial expertise, particularly in his executive experience as the chief financial officer of Dorel Industries, Inc. This executive experience, along with Mr. Schwartz's service as one of our Audit Committee members (and as Chairman of our Audit Committee since 2005), qualifies him to be a director of Tucows.

Robin Chase

Director since October 2014

Robin Chase, 61, is a transportation entrepreneur. She is co-founder and former CEO of Zipcar, founded in 2000, the world's leading carsharing network; as well as co-founder of Veniam, founded in 2012, a network company that moves terabytes of data between vehicles and the cloud. She has recently co-founded her first nonprofit, NUMO, a global alliance to channel the opportunities presented by new urban mobility technologies to build cities that are sustainable and just. Her recent book is *Peers Inc: How People and Platforms are Inventing the Collaborative Economy and Reinventing Capitalism*.

In addition to Ms. Chase's position as a member of the Tucows Board, she sits on the boards of World Resources Institute and Future Planet Capital, and serves on the Dutch multinational DSM's Sustainability Advisory Board. In the past, she served on the boards of Veniam and the Massachusetts Department of Transportation, the French National Digital Agency, the National Advisory Council for Innovation & Entrepreneurship for the US Department of Commerce, the Intelligent Transportation Systems Program Advisory Committee for the US Department of Transportation, the OECD's International Transport Forum Advisory Board, the Massachusetts Governor's Transportation Transition Working Group, and Boston Mayor's Wireless Task Force.

Ms. Chase lectures widely, has been frequently featured in the major media, and has received many awards in the areas of innovation, design, and environment, including the prestigious Urban Land Institute's Nicols Prize as Urban Visionary, Time 100 Most Influential People, Fast Company Fast 50 Innovators, and BusinessWeek Top 10 Designers. Robin graduated from Wellesley College and MIT's Sloan School of Management, was a Harvard University Loeb Fellow, and received an honorary Doctorate of Design from the Illinois Institute of Technology.

Ms. Chase's experience operating companies at the chief executive officer level along with her numerous experiences on these boards and councils qualify her to be a director of Tucows.

Brad Burnham

Director since January 2017

Brad Burnham, 64, is the co-founder and a current Partner of Union Square Ventures (“USV”), founded in 2003, an early stage venture capital firm in New York. USV has invested in more than 75 Internet services, including, Twitter, Inc., Tumblr, Inc., Etsy, Inc., Indeed, Inc., Zynga Inc., and Foursquare Labs, Inc. Prior to USV, Mr. Burnham was a partner at AT&T Ventures, the venture capital arm of AT&T. AT&T Ventures invested in consumer facing Internet services like Audible, telecommunications technology companies such as Argon, Xedia, and Juniper Networks, and Competitive Local Exchange Carriers (CLECs) such as Knology, and Data Local Exchange Carriers (“DLECs”) such as Covad. Prior to joining AT&T Ventures, Mr. Burnham was the founder and CEO of Echo Logic, a software tools company spun out of Bell Laboratories. Earlier in his career, Brad held a number of management positions in sales, marketing and business development at AT&T Computer Systems. He began his career as a sales representative at New York Telephone. Mr. Burnham also currently serves on the boards of directors of several non-public organizations.

Mr. Burnham has extensive experience in investing in and serving on the boards of numerous internet service companies which qualify him to be a director of Tucows.

Our directors are elected annually and serve until the election or appointment and qualification of their successors or their earlier death, resignation or removal.

Executive Officers

The required information regarding our executive officers is set forth in Part I hereof under the caption “Executive Officers and Key Employees of the Registrant” and is incorporated herein by reference.

Governance Principles

The governance principles of our Board of Directors (“Board”) include the charters of our Audit Committee and our Corporate Governance, Nominating and Compensation Committee. Our governing principles also include our Code of Business Conduct and Ethics which includes specifics for our senior officers, including our Chief Executive Officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. Each of these documents can be obtained without charge from our Internet web site at tucows.com. Amendments and waivers of our ethics policy for our senior officers will either be posted on our website or filed with the SEC on a Current Report on Form 8-K.

Mr. Karp serves as lead independent director. Our Board currently consists of seven directors, all of whom, except for Elliot Noss, are “independent” within the meaning of the independence requirements prescribed by the listing standards of the NASDAQ Capital Market. The Board believes that this structure, which provides an overwhelming majority of independent directors, coupled with the Board meeting in executive session without any management directors or non-independent directors present, is an appropriate structure for Tucows’ Board. We believe that this structure provides appropriate and independent oversight by the Board. The Board regularly consults with our Chief Executive Officer, who is also a director, and our Corporate Governance, Nominating and Compensation Committee to review the various types of risk that affect Tucows and the strategies to mitigate such risks. The Board believes that this structure has been effective.

Meetings

Our Board met seven times during Fiscal 2019. Our Board also took action by unanimous written consent on six occasions during Fiscal 2019. Each director attended at least 75% of the total number of meetings of the Board during Fiscal 2019.

Executive Sessions of Independent Directors

A majority of the independent directors meet quarterly in executive sessions without members of our management present. Mr. Karp is responsible for chairing the executive sessions.

Policy Regarding Attendance

Directors are expected, but are not required, to attend board meetings, meetings of committees on which they serve, and shareholder meetings, and to spend the time needed and meet as frequently as necessary to discharge their responsibilities properly. Elliot Noss attended our 2019 annual meeting of shareholders in person and the Board of Directors were available by teleconference.

Committees

Our Board has two committees, an audit committee established in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended, and a corporate governance, nominating and compensation committee. Our committees generally meet in connection with regularly scheduled quarterly and annual meetings of the Board, with additional meetings held as often as its members deem necessary to perform its responsibilities. From time to time, depending on the circumstances, the Board may form a new committee or disband a current committee.

The Audit Committee currently consists of Mr. Schwartz (Chair), Mr. Karp and Mr. Gissin, all of whom are independent directors as prescribed by the listing standards of the NASDAQ Capital Market.

The Audit Committee held five meetings during Fiscal 2019. The Audit Committee also took action by unanimous written consent on one occasion during Fiscal 2019. Each member of the Audit Committee attended at least 75% of the total number of meetings of the committee during Fiscal 2019. The Audit Committee's purposes are to:

- Provide oversight of the Company's accounting and financial reporting processes and the audit of the Company's financial statements;
- Assist the Board in oversight of (i) the integrity of the Company's financial statements, (ii) the Company's compliance with legal and regulatory requirements, (iii) the qualifications, independence and performance of the Company's independent registered public accounting firm, and (iv) the Company's internal accounting and financial controls;
- Provide to the Board such information and materials as it may deem necessary to make the Board aware of significant financial matters that require the attention of the Board; and
- Oversee the management of risks associated with the Company's financial reporting, accounting and auditing matters.

Each of the members of our Audit Committee is an independent director and satisfies the independence standards as prescribed by the listing standards of the NASDAQ Capital Market and Rule 10A-3 under the Exchange Act and is able to read and understand fundamental financial statements including balance sheets, income statements and cash flow statements. Additionally, the Board has determined that Mr. Schwartz qualifies as an "audit committee financial expert" as defined under Item 407(d)(5) of Regulation S-K. The Board has adopted a written charter for the Audit Committee, which the Audit Committee has reviewed and determined to be in compliance with the rules prescribed by the listing standards of the NASDAQ Capital Market and which is available at tucows.com.

The Corporate Governance, Nominating and Compensation Committee currently consists of Mr. Karp (Chair), Mr. Schwartz, Ms. Chase and Mr. Ralls. Each member of our Corporate Governance, Nominating and Compensation Committee is an independent director as defined in the listing standards of the NASDAQ Capital Market and also satisfies the applicable compensation committee member independence standards as prescribed by the listing standards of the NASDAQ Capital Market and Rule 10C-1 under the Exchange Act.

The *Corporate Governance, Nominating and Compensation Committee* held seven meetings during Fiscal 2019. The Corporate Governance, Nominating and Compensation Committee took action by unanimous written consent on two occasions during Fiscal 2019. Each member of the Corporate Governance, Nominating and Compensation Committee attended at least 75% of the total number of meetings of the committee during Fiscal 2019. The Corporate Governance, Nominating and Compensation Committee's purposes are to:

- Identify individuals qualified to become board members, consistent with criteria approved by the Board.
- Select, or recommend that the Board select, the director nominees for election at each annual meeting of stockholders.
- Oversee the evaluation of the Board and management.
- Review and approve corporate goals and objectives relevant to the Company's Chief Executive Officer ("CEO") compensation, evaluate the CEO's performance in light of those goals and objectives, and, either as a committee or together with the other independent directors (as directed by the Board), determine and approve the CEO's compensation level based on this evaluation.

- Review and approve non-CEO Executive compensation including incentive compensation and equity-based compensation.
- Provide oversight of the Company's compensation policies and plans and benefits programs, and overall compensation philosophy.
- Administer the Company's equity compensation plans for its executive officers and employees and the granting of equity awards pursuant to such plans or outside of such plans; and
- Cause to be prepared the report of the Corporate Governance, Nominating and Compensation required by the rules and regulations of the Securities and Exchange Commission (the "SEC").

The Corporate Governance, Nominating and Compensation Committee may delegate authority to one or more members of this committee or one or more members of management when appropriate, but no such delegation is allowed if the authority is required by law, regulation or listing standard to be exercised by the Corporate Governance, Nominating and Compensation Committee as a whole. The Board has adopted a written charter for the Corporate Governance, Nominating and Compensation Committee, which the Corporate Governance, Nominating and Compensation Committee has reviewed and determined to be in compliance with the rules prescribed by the listing standards of the NASDAQ Capital Market and which is available at tucows.com.

Our executive officers do not play a formal role in determining their compensation. However, Jessica Johansson, our Chief People Officer, reviews (i) information the Company purchased from PayScale Surveys and (ii) published trends for the year from a variety of public sources, and, after consulting with Mr. Noss, our Chief Executive Officer, provides consolidated information outlining management's recommendation regarding executive officer compensation based on title to the Corporate Governance, Nominating and Compensation Committee. The Corporate Governance, Nominating and Compensation Committee then reviews and discusses the information provided with our CEO and Chief People Officer and then determines the total compensation for each named executive officer, as it deems appropriate.

Board Leadership Structure and Responsibilities

Our Board of Directors oversees management's performance on behalf of our shareholders. Our Board of Directors' primary responsibilities are to (1) monitor management's performance to assess whether we are operating in an effective, efficient and ethical manner to create value for our shareholders, (2) periodically review our long-range plans, business initiatives, capital projects and budget matters and (3) approve compensation for our President and Chief Executive Officer who, with senior management, manages our day-to-day operations.

Our Board and its committees meet throughout the year on a set schedule, and also hold special meetings and act by written consent from time to time as appropriate. The independent directors meet without management present at regularly scheduled executive sessions at each quarterly Board meeting and some special Board meetings. Our Board has delegated certain responsibilities and authority to its Audit Committee and Corporate Governance, Nominating and Compensation Committee. The Audit Committee periodically discusses with management the Company's policies and guidelines regarding risk assessment and risk management, as well as the Company's major financial risk exposures and the steps that management has taken to monitor and control such exposures. The Audit Committee also reviews, evaluates and recommends changes to the Company's financial reporting policies and procedures. The Corporate Governance, Nominating and Compensation Committee reviews and evaluates the risks underlying the Company's compensation policies and plans and recommends changes to these policies and plans accordingly. Our Board believes that risk oversight actions taken by our Board and its committees are appropriate and effective at this time.

We believe it is beneficial to separate the roles of Chief Executive Officer and Chairman to facilitate their differing roles in the leadership of our company. The role of the Chairman includes setting the agenda for, and presiding over, all meetings of our Board of Directors, including executive sessions of independent directors, providing input regarding information sent to our Board of Directors, serving as liaison between the Chief Executive Officer and the independent directors and providing advice and assistance to the Chief Executive Officer. The Chairman is also a key participant in establishing performance objectives and overseeing the process for the annual evaluation of our Chief Executive Officer's performance. In addition, under our Bylaws, our Chairman has the authority to call special meetings of our Board of Directors and shareholders. In contrast, our Chief Executive Officer is responsible for handling our day-to-day management and direction, serving as a leader to the management team and formulating corporate strategy.

Currently our Chairman is Mr. Karp, while Mr. Noss serves as our Chief Executive Officer. Mr. Karp is an independent director. Mr. Karp has extensive executive leadership skills, long-standing senior management and board experience, a strong ethics and compliance focus and audit committee experience.

We believe that this leadership structure for our Board provides us with the most effective level of oversight over the Company's business operations while at the same time enhancing our Board's ability to oversee our enterprise-wide approach to risk management and corporate governance and best serves the interests of our shareholders. It allows for a balanced corporate vision and strategy, which is necessary to address the challenges and opportunities we face at this time and demonstrates our commitment to good corporate governance. In addition, it allows for appropriate oversight of the Company by our Board, fosters appropriate accountability of management and provides a clear delineation of responsibilities for each position.

Role of the Board in Risk Oversight

One of our Board's key functions is providing oversight of our risk management process. Our Board does not have a standing risk management committee, but rather administers this oversight function directly through our Board as a whole, as well as through Board of Directors standing committees that address risks inherent in their respective areas of oversight. In particular, our Audit Committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, our Corporate Governance, Nominating and Compensation Committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking, monitors our major legal compliance risk exposures and our program for promoting and monitoring compliance with applicable legal and regulatory requirements, and our Board is responsible for monitoring and assessing strategic risk exposure and other risks not covered by our committees.

The full Board (or the appropriate committee in the case of risks that are under the purview of a particular committee) receives reports on the risks we face from our Chief Executive Officer or other members of management to enable us to understand our risk identification, risk management and risk mitigation strategies. When a committee receives the report, the chairman of the relevant committee reports on the discussion to the full Board during that committee's reports portion of the next Board meeting. However, it is the responsibility of the committee chairs to report findings regarding material risk exposures to our Board as quickly as possible.

Director Nomination

Our Corporate Governance, Nominating and Compensation Committee is responsible for identifying potential nominees to our Board. In considering candidates for nomination, our Corporate Governance, Nominating and Compensation Committee seeks individuals who evidence strength of character, mature judgment, career specialization, relevant technical skills or financial acumen, diversity of viewpoint and industry knowledge. As set forth in the charter of our Corporate Governance, Nominating and Compensation Committee, our Board endeavors to have directors who collectively possess a broad range of skills, expertise, industry and other knowledge and business and other experience useful to the effective oversight of our business. In addition, our Board also seeks members from diverse backgrounds so that our Board consists of members with a broad spectrum of experience and expertise and with a reputation for integrity. In determining whether to nominate a current director for re-election, our Corporate Governance, Nominating and Compensation Committee will take into account these same criteria as well as the director's past performance, including his or her participation in and contributions to the activities of the Board.

Our Corporate Governance, Nominating and Compensation Committee will evaluate and consider recommendations for director candidates from shareholders using the same criteria described above. As set forth in the charter of the Corporate Governance, Nominating and Compensation Committee, recommendations submitted by the Company's shareholders shall be submitted, along with the following to the attention of the Chairperson of the Corporate Governance, Nominating and Compensation Committee at 96 Mowat Avenue, Toronto, Ontario M6K 3M1 Canada at least 120 days before the first anniversary of the date on which we first mailed our proxy materials for our prior year's annual meeting of shareholders:

- the name and address of the recommending shareholder;
- the candidate's name and the information about the individual that would be required to be included in a proxy statement under the rules of the SEC;
- information about the relationship between the candidate and the recommending shareholder;
- the consent of the candidate to serve as a director; and
- proof of the number of shares of our common stock that the recommending shareholder owns and the length of time the shares have been owned.

Communications with our Board of Directors

A Tucows' shareholder who wishes to communicate with our Board may send correspondence to the attention of our Secretary at 96 Mowat Avenue, Toronto, Ontario M6K 3M1 Canada. The Secretary will submit the shareholder's correspondence to the Chairman of the Board, the Chairman of the appropriate committee, or the appropriate individual director, as applicable.

Director Compensation

Under the terms of our 2006 Amended and Restated Equity Compensation Plan (the "2006 Plan"), we make automatic formula grants of nonqualified stock options to our non-employee directors and members of committees of our Board as described below. All stock-based compensation for our non-employee directors is governed by our 2006 Plan or its predecessor, our 1996 Equity Compensation Plan (the "1996 Plan"). All options granted under the automatic formula grants vest after one year, have an exercise price equal to the fair market value per common share as determined by the per share price as of the close of business on the date of grant and have a five-year term. Options are granted to directors under the 2006 Plan as follows:

- on the date a non-employee director becomes a director, he or she is granted options to purchase 4,375 shares of our common stock;
- on the date a director becomes a member of the Audit Committee, he or she is granted options to purchase 3,750 shares of our common stock;
- on the date a director becomes a member of the Corporate Governance, Nominating and Compensation Committee, he or she is granted options to purchase 2,500 shares of our common stock; and
- on each date on which we hold our annual meeting of shareholders, each non-employee director in office immediately before and after the annual election of directors receives an automatic grant of options to purchase 3,750 shares of our common stock.

Directors who are employees receive no additional or special compensation for serving as directors.

All annual fees are paid to our directors in quarterly installments.

In November 2017, the Board approved a new fee structure for 2018 that simplified the Director compensation structure with annual fees and eliminates per meeting attendance fees. Commencing with Fiscal 2018, each date on which we hold our annual meeting of shareholders, each non-employee director in office immediately before and after the annual election of directors receives an automatic grant of options to purchase shares of our common stock. The initial grant was set at 3,750 options based on a \$60 per share price with the actual grant each year to be determined based on the share price 30 days prior to the annual election of directors.

Each non-employee member of the Board will receive \$30,000 annually, the Chairman of the Board will additionally receive \$15,000; each Chair of the Audit Committee and Corporate Governance, Nomination and Compensation Committee will additionally receive \$7,500; and each member of the Audit Committee and Corporate Governance, Nomination and Compensation Committee will additionally receive \$12,000.

We also purchase directors and officers liability insurance for the benefit of our directors and officers as a group in the amount of \$30 million. We also reimburse our directors for their reasonable out-of-pocket expenses incurred in attending meetings of our Board or its committees.

The table below shows all compensation paid to each of our non-employee directors during 2019. Each of the directors listed below served for the entire year.

Name (a)	Fees earned or paid in cash (\$) (b)		Option awards (\$) ⁽¹⁾ (d)		Total (\$) (h)
Allen Karp	\$	76,500	\$	54,038	\$ 130,538
Rawleigh Ralls		57,000		54,038	111,038
Erez Gissin		42,000		54,038	96,038
Robin Chase		42,000		54,038	96,038
Jeffrey Schwartz		61,500		54,038	115,538
Brad Burnham		30,000		54,038	84,038
	\$	309,000	\$	324,228	\$ 633,228

(1) On September 9, 2019 under the 2006 Plan, our non-employee directors were awarded these automatic formula option grants. Under the 2006 Plan, these options will vest one year after the grant date and carry an exercise price of \$53.93. All these options remained outstanding as of December 31, 2019 and have a five-year term. The aggregate grant date fair value of the option grants was calculated in accordance with the Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 718 and based on the Black-Scholes option-pricing model and used the same assumptions that are set forth in “Note 14 – Stock Option Plans” of the Notes to the Consolidated Financial Statements including Part II, Item 8 of this Annual Report.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act, requires our directors and executive officers and persons who own more than ten percent of a registered class of our equity securities to file with the SEC reports of ownership and reports of changes in ownership of our common stock and our other equity securities. These persons are required by SEC regulation to furnish us with copies of all Section 16(a) reports they file.

We believe that, under the SEC's rules and based solely upon our review of the copies of the Forms 3, 4 and 5 furnished to us, or written representations from certain reporting persons, any such reports have been filed in a timely manner.

Stock ownership of management

We encourage stock ownership by our directors, officers and employees to align their interests with the interests of shareholders. Under Section 16(a) of the Exchange Act, directors, officers and certain beneficial owners of the Company's equity securities are required to file reports of their transactions in the Company's equity securities with the SEC on specified due dates.

ITEM 11. EXECUTIVE COMPENSATION**COMPENSATION DISCUSSION AND ANALYSIS****Philosophy**

We recognize that our success depends to a great degree on the integrity, knowledge, imagination, skill, diversity and teamwork of our employees. To this end, attracting and retaining the level of executive talent we need to be successful in accomplishing our mission of providing simple useful services that help people unlock the power of the Internet is a key objective of our executive compensation program. Our executive compensation program is designed to ensure we have the talent we need to maintain our current high-performance standards and grow our business for the future. As such, we aim to provide competitive compensation packages for all our key positions, including our Named Executive Officers ("NEOs") that are guided by market rates and tailored to account for the specific needs and responsibilities of the particular position as well as the performance and unique qualifications of the individual employee. For Fiscal 2018, our NEO's included Messrs. Noss, Singh, Woroch, Liem and Fausett.

This Compensation Discussion and Analysis ("CD&A") provides comprehensive information about our executive compensation program for our Fiscal 2019 NEOs, who are listed below, and provides context for the decisions underlying the compensation reported in the executive compensation tables in this Annual Report. Our NEOs are:

Elliot Noss	President and Chief Executive Officer ("CEO")
Davinder Singh	Chief Financial Officer ("CFO")
David Woroch	Executive Vice-President, Domains ("EVP, Domains")
Hanno Liem	Chief Technology Officer ("CTO")
Bret Fausett	Chief Legal Officer & General Counsel ("General Counsel")

Our philosophy is to provide a mix of compensation that motivates our executives to achieve our short and long- term performance goals in a market-competitive and fiscally responsible way, which in turn will create value for our shareholders. We achieve our objectives by designing our executive compensation program so that a substantial amount of our NEOs' compensation is performance-based to ensure the actual compensation paid to our executives is appropriately aligned with our Company's performance and shareholder long-term interests. In addition, we also link individual compensation to Company performance by virtue of the stock options granted by the Company. More specifically, our executive compensation programs are designed to:

- provide an appropriate mix of fixed and variable compensation to attract, retain and motivate key executives;
- provide a substantial portion of our executive compensation that is performance-based, on a company or service basis, to support creation of long-term shareholder value, Adjusted EBITDA for Compensation (as defined below) growth and operational efficiency without encouraging excessive risk taking;
- target compensation at the 50th percentile of market levels, as measured by PayScale Surveys; and
- promote internal equity by offering comparable pay to executives whom we expect to make roughly equivalent contributions, while differentiating executives' compensation arrangements when appropriate.

Overview of Pay Elements and Linkage to Compensation Philosophy and Objectives

We believe the following elements of our compensation program help us to realize our compensation philosophy and objectives:

Pay Element	Characteristics	Compensation Philosophy and Objectives	Factors Considered to Determine Awards
Salary	Annual fixed cash compensation	Provides a competitive and stable component of income to our executives	• Job responsibilities • Experience • Individual contributions • Future potential • Internal pay equity • Effect on other elements of compensation and benefits including target bonus amounts
Short-Term Incentive Bonus	Annual variable cash compensation based on the achievement of pre- established annual performance measures based on Adjusted EBITDA for Compensation	Provides competitive short- term incentive opportunities for our executives to earn annual cash bonuses based on performance objectives that, if attained, can reasonably be expected to (i) promote our business and strategic objectives and (ii) correspond to those paid to similarly-situated and comparably skilled executives at peer companies	• Company performance measures • Service performance measures
Stock Options Grants	Annual long-term equity awards that vest over four years	Provides variable compensation that helps to retain executives and ensures our executives' interests are aligned with those of shareholders to grow long-term value	• Job responsibilities • Individual contributions • Future potential • Value of vested and unvested outstanding equity awards • Internal pay equity

The weight of each of these components has to date not been determined by any particular formula, although our overall mix of total compensation has historically emphasized retention value. The specific mix of components has been and will continue to be within the discretion and business judgment of our Board and the Corporate Governance, Nominating and Compensation Committee, which has placed greater emphasis on considerations specific to the individual holding a particular executive position rather than on general market data.

Role of Shareholder Say-on-Pay Votes

We provide our shareholders with the opportunity to cast a triennial advisory vote on executive compensation, or a Say-on-Pay proposal. At our annual meeting of stockholders held on September 5, 2017, 98% of the votes cast on the Say-on-Pay proposal at that meeting were voted in favor of the compensation of our NEOs, as described in the proxy statement for the 2017 annual meeting. Accordingly, the Corporate Governance, Nominating and Compensation Committee believes that this affirms stockholder support for our executive compensation policies and practices, and no material changes have been made to such policies and practices as a result of our Say-on-Pay proposal and voting results in September 2017.

At the 2014 Annual Meeting, a majority of our stockholders approved, as recommended by our Board, a proposal for our stockholders to be provided with the opportunity to cast a non-binding advisory vote on compensation of our NEOs every three years. Our Board believed that this frequency would be appropriate as a triennial vote would provide the Company with sufficient time to engage with stockholders to understand and respond to the “say-on-pay” vote results and to put in place any changes to the Company’s compensation program as a result of such discussions, if necessary. The next stockholder advisory (non-binding) vote on executive compensation will be held at our upcoming 2020 Annual Meeting.

Determining Total Compensation

Role of Compensation Consultant and Use of Market Data

Our Corporate Governance, Nominating and Compensation Committee (the “Committee”) is authorized to retain the services of one or more executive compensation advisors, as it deems appropriate, in connection with the establishment and maintenance of our executive compensation programs and related policies. The Committee engaged Integrated HR & Compensation Solutions (“ICS”) to provide compensation advisory services to advise the Committee on its current executive compensation program and make recommendations for any changes needed in order for executive compensation to be at the median of market data.

ICS worked with our Chief People Officer to (i) establish executive compensation benchmarking points, (ii) establish appropriate market-based compensation ranges for executive employees, (iii) provide advice and recommendations related to our long term incentive programs (“LTIPs”) and short term incentive programs (“STIPs”), (iv) analyze and compare to prevalent market practices for comparable roles our total compensation mix (i.e. base salary, LTIPs and STIPs) for our executives and (v) provide a software tool to assist the Company in its executive compensation planning efforts.

In establishing market comparators for the executive team, ICS consulted market data as provided by Mercer’s Benchmark Database compensation survey and the most recent publicly filed compensation disclosures of companies of comparable size and scope.

In electing to engage ICS, the Committee took into consideration all factors relevant to the Consultant’s independence and concluded that no conflict of interest existed.

Base Salary

With respect to each NEO, in determining total compensation, the Corporate Governance, Nominating and Compensation Committee considers the Company’s compensation philosophy as outlined above, comparative market data and specific factors relative to each NEO’s responsibilities and performance. We do not specifically benchmark compensation for our NEOs in terms of picking a particular percentile relative to other people with similar titles at peer group companies. We believe that many subjective factors unique to each NEO’s responsibilities and performance are not adequately reflected or otherwise accounted for in a percentile-based compensation determination.

In addition, in determining the appropriate level of total compensation for our NEOs, the Corporate Governance, Nominating and Compensation Committee (i) reviews and considers the performance of each NEO, and (ii) considers, for each NEO, the estimated amount of total compensation:

- we would be willing to pay to retain that person;
- we would have to pay to replace the person; and
- the individual could otherwise command in the employment marketplace.

Our Chief People Officer reviews comparative data derived from market research and publicly available information for each of the NEOs and then recommends compensation levels for all employees to our CEO. The CEO then, after consultation with the Vice President, Human Resources, makes recommendations to the Corporate Governance, Nominating and Compensation Committee regarding total compensation for each NEO. The Corporate Governance, Nominating and Compensation Committee reviews and discusses the information and then determines the total compensation for each NEO, as it deems appropriate.

The CEO’s total compensation is determined by the Corporate Governance, Nominating and Compensation Committee outside the presence of the CEO. The Committee’s decision regarding total compensation for the CEO is based on the philosophy outlined above and includes a review of comparative data and consideration of the accomplishments of the CEO in developing the business strategy for the Company, the performance of the Company relative to this strategy and his ability to attract and retain senior management. In establishing the CEO’s total compensation, the Corporate Governance, Nominating and Compensation Committee is also mindful of the prior results of the shareholder’s Advisory Vote on Executive Compensation.

We provide a base salary to our NEOs to compensate them for services rendered on a day-to-day basis during the year and to provide sufficient fixed cash compensation to allow them to focus on their ongoing responsibilities. The base salaries of all executive officers are reviewed annually and adjusted when necessary to reflect individual roles and performance as well as market conditions.

In connection with the Corporate Governance, Nominating and Compensation Committee’s annual review process, each of our NEOs were awarded standard merit increases effective January 1, 2020.

Annual Cash Incentive Bonuses

We use annual cash incentive bonuses to communicate specific goals that are of primary importance during the coming year and motivate our senior officers and NEOs to achieve these goals. Each year, we assess if our corporate financial and strategic objectives are optimally aligned with our management incentive compensation plan to motivate and reward our senior executives, including our NEOs, to attain specific short-term performance objectives that, in turn, further our long-term business objectives. These objectives are based upon corporate or service-related targets, rather than individual objectives. In setting target payout levels under our management incentive compensation plan, our Corporate Governance, Nominating and Compensation Committee considers historical payouts, the total cost to the company should performance objectives be achieved and our retention needs.

The Corporate Governance, Nominating and Compensation Committee determines the initial level of funding for the annual incentive bonus pools during the annual budgeting process and approves provisional quarterly payments, computed on a pro-rata basis, based on quarterly minimum year-to-date targets for our senior officers, including NEOs, taking into account the Company's actual performance on a year-to-date basis. To ensure that our annual target remains the primary consideration, any quarterly payments are subject to a discretionary holdback percentage, which has historically been set at 25% but may be adjusted each quarter should circumstances warrant it. To mitigate the risk of overpayment of incentive bonuses based on a quarterly performance, a 25% holdback of quarterly payments is maintained. The Corporate Governance, Nominating and Compensation Committee retains the right to interpret, rescind, prescribe, amend or suspend payment under our management incentive compensation plan at any time. Changes made by the Corporate Governance, Nominating and Compensation Committee will however only be on a prospective basis so will not impact any quarterly rights our NEO's and senior officers may have up to the date of the change.

The performance goals under our management incentive compensation plan consists of two components; namely, an incentive bonus and an overachievement bonus, each with established thresholds and maximum achievement levels.

For the incentive bonus component, achievement of established targets for each NEO will equate to 100% of the bonus being paid. Where 75% of an established target is achieved ("floor level") this will result in 50% of the bonus being paid. Below the floor level no bonus is payable. In those cases where achievement is between the floor level and the established target, straight-line interpolation is applied from the established target levels.

To further incent our senior management and NEOs to promote our business and strategic objectives; to the extent that the Company's actual performance exceeds the Company's Adjusted EBITDA for compensation goals ("overachievement target"), the Compensation Committee sets aside 30% of the overachievement target in an overachievement pool to reward our senior management, employees and NEOs. At the discretion of the Corporate Governance, Nominating and Compensation Committee, approximately 40% of the overachievement pool has been allocated to the NEOs and is shared equally among them.

Incentive Bonus program

The table below summarizes the 2019 and 2020 incentive bonus opportunities for our NEOs.

Named Officer	Target incentive Bonus Opportunity ⁽¹⁾		Basis for Target incentive Bonus
	2020	2019	
Elliot Noss	\$ 161,437	\$ 154,735	100% Corporate Adjusted EBITDA for Compensation ⁽²⁾
Davinder Singh	\$ 41,383	\$ 39,665	100% Corporate Adjusted EBITDA for Compensation ⁽²⁾
Bret Fausett	\$ 63,000	\$ 63,000	100% Corporate Adjusted EBITDA for Compensation ⁽²⁾
Hanno Liem	\$ 45,917	\$ 44,011	100% Corporate Adjusted EBITDA for Compensation ⁽²⁾
David Woroch	\$ 105,815	\$ 101,422	100% Domain Services targets

- (1) All dollar amounts below are shown U.S. dollars. Amounts payable in Canadian dollars for 2019 have been converted into U.S. dollars based upon the exchange rate of 1.3067 Canadian dollars for each U.S. dollar, the Oanda exchange rate as at December 31, 2019. Amounts that were payable in Canadian dollars during the 2018 fiscal year have been converted into U.S. dollars based upon the exchange rate of 1.3633 Canadian dollars for each U.S. dollar, which represents the Oanda exchange rate for 2018 as at December 31, 2018.
- (2) Adjusted EBITDA for Compensation is a non-GAAP measure and excludes depreciation, amortization of intangibles, income tax provision, interest expense, interest income, stock-based compensation, asset impairment, net deferred revenue, which comprises the change in deferred revenue, net of prepaid domain name registry and other Internet services fees, to reflect the material amount of cash we collect and pay for domain registrations and other Internet services at the time of activation, gains and losses from unrealized foreign currency transactions and infrequently occurring items. Gains and losses from unrealized foreign currency transactions removes the unrealized effect of the change in the mark-to-market values on outstanding unhedged foreign currency contracts, as well as the unrealized effect from the translation of monetary accounts denominated in non-U.S. dollars to U.S. dollars and infrequently occurring items. Under relevant SEC rule, we are not required to present reconciliation of Adjusted EBITDA for Compensation to GAAP financial measures if Adjusted EBITDA for Compensation is presented in connection with disclosure of target levels in the CD&A.

Our Corporate Governance, Nominating and Compensation Committee met in February 2020 and determined the achievement of the financial objectives applicable under the management incentive compensation plan for 2019 had been not been fully achieved. As the Company did not meet its Adjusted EBITDA for Compensation targets for the fiscal year ended December 31, 2019, the Corporate Governance, Nominating and Compensation Committee assessed that 70% of the incentive bonuses for all our NEO's was payable. With the exception of Mr. Woroch, who earned 88% of his targeted bonus, all other bonuses were assessed at 70% of target.

In connection with the Corporate Governance, Nominating and Compensation Committee's annual review process, the Committee also approved a new set of performance goals under our management incentive compensation plan for Fiscal 2019 and decided not to increase the incentive bonus target opportunity for our NEOs.

Overachievement Bonus Program

The Overachievement Bonus Program is designed to further incent our employees, senior management and NEOs to exceed the Company's Adjusted EBITDA for compensation goals. In assessing our overall performance for Fiscal 2019, the Corporate Governance, Nominating and Compensation Committee deemed that no overachievement bonus should be payable for Fiscal 2019.

Equity-Based Awards

We believe that equity-based awards encourage our NEOs to focus on the long-term performance of our business. Our Board grants equity awards to executives and other employees in order to enable them to participate in the long-term appreciation of our stock price. Additionally, we believe our equity awards provide an important retention tool for our NEOs, as they are subject to multi-year vesting. To date, we have not adopted stock ownership guidelines for our NEOs.

Historically, we have granted equity-based awards in the form of stock options, including options granted at the commencement of employment and additional awards each year. The size of the initial option grant made to each NEO upon joining our company is primarily based on competitive conditions applicable to the NEO's specific position. For subsequent equity grants to our NEOs, our Corporate Governance, Nominating and Compensation Committee receives input from our CEO and Vice President, Human Resources.

In connection with its annual review process, the Corporate Governance, Nominating and Compensation Committee approved, effective May 28, 2019, the following stock option awards to our NEOs. These stock options vest in equal installments on each of the first four anniversaries of the grant date, generally subject to the NEO's continued employment with us. No grants have yet been awarded for Fiscal 2020.

Name	Number of stock options	Aggregate Grant Date Fair Value (US Dollars)
Elliot Noss	4,500	\$ 95,760
Davinder Singh	2,250	\$ 47,880
Bret Fausett	2,250	\$ 47,880
Hanno Liem	2,250	\$ 47,880
David Woroch	2,250	\$ 47,880

During Fiscal 2019 options exercised and vested for our named executive officers were as follows:

Name	Options exercised during Fiscal 2019	Options vested during Fiscal 2019
Elliot Noss	8,125	6,125
Davinder Singh	-	2,313
Bret Fausett	-	2,781
Hanno Liem	-	1,438
David Woroch	13,750	3,063

Severance and Change of Control Benefits

Our Board believes that it is necessary to offer senior members of our executive team severance benefits to ensure that they remain focused on executing our strategic plans, including in the event of a proposed or actual acquisition. We have entered into employment agreements with our NEOs to provide them with additional severance benefits upon an involuntary termination of employment under specified circumstances prior to and following a change of control. The terms of these agreements are described below in "Potential Payments on Termination or Change in Control."

Perquisites

We do not provide any significant perquisites or other personal benefits to our NEOs.

Benefits

We provide the following benefits to our NEOs. We believe these benefits are typical of the companies with which we compete for employees:

- healthcare insurance;
- life insurance and accidental death and dismemberment insurance;
- long term disability insurance;
- a registered retirement savings matching program;
- a healthcare spending account;
- a car allowance;
- an annual medical; and
- an employee assistance program.

Certain Corporate Governance Considerations

We currently do not require our executive officers to own a particular number of shares of our common stock. The Corporate Governance, Nominating and Compensation Committee is satisfied that stock and option holdings among our executive officers are sufficient at this time to provide motivation and to align their interests with those of our stockholders. However, we prohibit all directors and employees from hedging their economic interest in the Company securities that they hold.

Tax Considerations

We do not provide any tax gross-ups to our executive officers or directors.

In designing our compensation programs, the Corporate Governance, Nominating and Compensation Committee considers the financial accounting and tax consequences to Tucows as well as the tax consequences to our employees. In determining the aggregate number and mix of equity grants in any fiscal year, the Corporate Governance, Nominating and Compensation Committee and management consider the size and share-based compensation expense of the outstanding and new equity awards. Section 162(m) of the Code generally disallows a tax deduction to public corporations for compensation greater than \$1 million paid for any fiscal year to the corporation's Chief Executive Officer and the three other most highly compensated executive officers as of the end of any fiscal year, other than the Chief Financial Officer. However, certain types of performance-based compensation are excluded from the \$1 million deduction limit if specific requirements are met.

The Committee considers the impact of Section 162(m) when designing our Executive Compensation Program and structured our Executive Bonus Plan, stock plans and performance share programs so that a number of awards may be granted under these plans and programs in a manner that complies with the requirements imposed by Section 162(m). Tax deductibility is not the primary factor used by the Committee in setting compensation, however, and corporate objectives may not necessarily align with the requirements for full deductibility under Section 162(m). We believe it is important to preserve flexibility in administering compensation programs as corporate objectives may not always be consistent with the requirements for full deductibility. While our Corporate Governance, Nominating and Compensation Committee has not adopted a formal policy regarding tax deductibility of compensation paid to our NEOs, our Corporate Governance, Nominating and Compensation Committee may exercise discretion to pay non-deductible compensation if following the requirements of Section 162(m) would not be in the interests of our shareholders.

Compensation Risk Assessment

The Corporate Governance, Nominating and Compensation Committee oversaw the performance of a risk assessment of our Executive Compensation Program to ascertain any potential material risks that may be created by this program. Because performance-based incentives are used in our executive compensation program, it is important to ensure that these incentives do not result in our NEOs taking unnecessary or excessive risks or any other actions that may conflict with our long-term interests. The Corporate Governance, Nominating and Compensation Committee considered the following attributes of our Executive Compensation Program:

- the balance between short- and long-term incentives;
- use of qualitative as well as quantitative performance factors in determining compensation payouts, including minimum and maximum performance thresholds, funding that is based on actual results measured against pre-approved financial and operational goals and metrics that are clearly defined;
- incentive compensation that includes a stock component where value is best realized through long-term appreciation of stockholder value; and
- incentive compensation components that are paid or vest over an extended period.

The Corporate Governance, Nominating and Compensation Committee focuses primarily on the compensation of our NEOs because risk-related decisions depend predominantly on their judgment. The Corporate Governance, Nominating and Compensation Committee believes that risks arising from our policies and practices for compensation of other employees are not reasonably likely to have a material adverse effect on us.

Compensation Committee Report

The Corporate Governance, Nominating and Compensation Committee has reviewed and discussed the foregoing CD&A with management and, based on such review and discussions, the Corporate Governance, Nominating and Compensation Committee has recommended to the Board that the CD&A be included in this Annual Report.

Submitted by the following members of the Corporate Governance, Nominating and Compensation Committee:

Allen Karp, Chair
Rawleigh Ralls
Jeffrey Schwartz
Robin Chase

Summary Compensation Table

The following Summary Compensation table provides a summary of the compensation earned by our NEOs, including our Chief Executive Officer, our Chief Financial Officer, and our next three most highly compensated executive officers for services rendered in all capacities during 2019. Specific aspects of this compensation are dealt with in further detail in the tables that follow. All dollar amounts below are shown in U.S. dollars. If necessary, amounts that were paid in Canadian dollars during Fiscal 2019 were converted into U.S. dollars based upon the exchange rate of 1.3273 Canadian dollars for each U.S. dollar, which represents the average Oanda exchange rate for 2019.

Name and Principal Position	Year	Salary (\$)	Bonus ⁽¹⁾ (\$)	Stock Awards (\$)	Option Awards ⁽²⁾ (\$)	All Other Compensation ⁽³⁾ (\$)	Total (\$)
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
<i>Elliot Noss</i>	2019	\$ 321,932	\$ 111,252	\$ —	\$ 95,760	\$ 7,911	\$ 536,855
<i>President and Chief Executive Officer</i>	2018	320,587	141,359	—	105,930	8,111	575,987
	2017	319,797	123,853	—	-	8,091	451,741
<i>Davinder Singh⁽⁴⁾</i>	2019	205,643	28,519	—	47,880	6,781	288,823
<i>Chief Financial Officer</i>	2018	229,915	34,254	—	52,965	6,953	324,087
	2017	170,687	31,748	—	42,240	6,935	251,610
<i>Bret Fausett⁽⁵⁾</i>	2019	254,846	44,100	—	47,880	-	346,826
<i>Chief Legal Officer</i>	2018	250,000	51,660	—	26,483	—	328,143
	2017	81,571	38,845	—	196,300	—	316,716
<i>Hanno Liem⁽⁶⁾</i>	2019	178,483	31,643	—	47,880	1,130	259,136
<i>Chief Technology Officer</i>	2018	174,372	38,007	—	195,150	1,159	408,688
<i>David Woroch</i>	2019	216,453	91,673	—	47,880	6,781	362,787
<i>Executive Vice President, Domains</i>	2018	215,473	99,041	—	52,965	6,953	374,432
	2017	208,677	106,549	—	—	6,935	322,161

(1) Represents bonus earned under our incentive programs during the fiscal years ended December 31, 2019, 2018 and 2017 and bonus earned under our overachievement bonus programs during the fiscal year ended December 31, 2017.

Of the 2019 amount, the following amounts were paid in February 2020:

Elliot Noss	\$ 54,037
Davinder Singh	\$ 13,852
Bret Fausett	\$ 21,420
Hanno Liem	\$ 15,370
David Woroch	\$ 42,450

Of the 2018 amount, the following amounts were paid in February 2019:

Elliot Noss	\$ 58,461
Davinder Singh	\$ 14,986
Bret Fausett	\$ 22,601
Hanno Liem	\$ 16,628
David Woroch	\$ 41,790

Of the 2017 amount, the following amounts were paid in February 2018:

Elliot Noss	\$	55,347
Davinder Singh	\$	14,187
David Woroch	\$	49,012

(2) Represents the aggregate grant date fair value of such awards, calculated in accordance with FASB ASC 718. Please see “Note 14 – Stock Option Plans” of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report, for a discussion of the assumptions underlying these calculations.

(3) Amounts reported in this column are comprised of the following items:

	Year	Additional Health Spending Credits (\$)	Car Allowance (\$)	All Other Compensation (\$)
<i>Elliot Noss</i>	2019	\$ 1,130	\$ 6,781	\$ 7,911
	2018	1,159	6,952	8,111
	2017	1,156	6,935	8,091
<i>Davinder Singh</i>	2019	1,130	5,651	6,781
	2018	1,159	5,794	6,953
	2017	1,156	5,779	6,935
<i>Bret Fausett</i>	2019	—	—	—
	2018	—	—	—
	2017	—	—	—
<i>Hanno Liem</i>	2019	1,130	—	1,130
	2018	1,159	—	1,159
<i>David Woroch</i>	2019	1,130	5,651	6,781
	2018	1,159	5,794	6,953
	2017	1,156	5,779	6,935

(4) Mr. Singh was appointed to his position as CFO effective April 1, 2017.

(5) Mr. Fausett joined the Company in October 2017.

(6) Mr. Liem joined the Company in January 2018.

Executive Pay Ratio

In August 2015 pursuant to a mandate of the Dodd-Frank Wall Street Reform and Consumer Protection Act, the SEC adopted a rule requiring annual disclosure of the ratio of the median employee's annual total compensation to the total annual compensation of the principal executive officer ("PEO"). The Company's PEO is Mr. Noss. The annual total compensation for fiscal year 2019 for our PEO was \$527,319, and for the median employee was \$36,836. The resulting ratio of our PEO's pay to the pay of our median employee for fiscal year 2019 is 14 to 1.

The measurement was prepared as of December 31, 2019 based on active employees as at that date and total compensation for the annual period then ended. The Company utilized tax records to determine the total annual compensation based on gross employment income for each individual Form W-2 or equivalent for our international subsidiaries. Gross employment income includes salaries, bonus, company medical benefits, car allowance and benefits from exercise of stock-options. We determined the compensation of our median employee (i) by calculating the annual total compensation described above for each of our employees, (ii) ranking the annual total compensation of all employees except for the PEO from lowest to highest and (iii) determining the Median Employee. The Median Employee's Fiscal 2019 compensation was then determined in a manner consistent with the Summary Compensation Table above and compared to the PEO to derive the ratio.

Grants of Plan-Based Awards

The following table sets forth information concerning plan-based awards granted to our NEOs in 2019:

Name	Grant date	All other option awards: Number of shares underlying options	Exercise or base price of option awards	Grant date fair value of option awards ⁽¹⁾
Elliot Noss	5/28/2019	4,500	\$ 62.12	\$ 95,760
Davinder Singh	5/28/2019	2,250	\$ 62.12	\$ 47,880
Bret Fausett	5/28/2019	2,250	\$ 62.12	\$ 47,880
Hanno Liem	5/28/2019	2,250	\$ 62.12	\$ 47,880
David Woroch	5/28/2019	2,250	\$ 62.12	\$ 47,880

(1) Represents the grant date fair value of such awards, calculated in accordance with FASB ASC 718. Please see "Note 14 – Stock Option Plans" of Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report, for a discussion of the assumptions underlying these calculations.

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth information concerning stock options held by the named executive officers as of December 31, 2019:

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date
<i>Elliot Noss</i>	6,250	—	10.16	11/10/2020
	10,000	—	19.41	12/31/2021
	7,500	2,500	21.10	12/31/2022
	1,125	3,375	64.10	6/4/2025
	—	4,500	62.12	5/27/2026
	<u>24,875</u>	<u>10,375</u>		
<i>Davinder Singh</i>	2,000	—	19.95	2/11/2023
	3,750	1,250	19.95	2/11/2023
	1,000	1,000	55.65	7/23/2024
	562	1,688	64.10	6/4/2025
	—	2,250	62.12	5/27/2026
	<u>7,312</u>	<u>6,188</u>		
<i>Bret Fausett</i>	5,000	5,000	53.20	9/4/2024
	281	844	64.10	6/4/2025
	—	2,250	62.12	5/27/2026
	<u>5,281</u>	<u>8,094</u>		
<i>Hanno Liem</i>	5,000	—	58.65	1/7/2025
	1,250	3,750	58.65	1/7/2025
	187	563	64.10	6/4/2025
	—	2,250	62.12	5/27/2026
	<u>6,437</u>	<u>6,563</u>		
<i>David Woroch</i>	6,250	—	10.16	11/10/2020
	5,000	—	19.41	12/31/2021
	3,750	1,250	21.10	12/31/2022
	562	1,688	64.10	6/4/2025
	—	2,250	62.12	5/27/2026
	<u>15,562</u>	<u>5,188</u>		

The stock options grants listed in the above table were issued under our 2006 Plan.

Under the 2006 Plan, these options primarily vest over a period of four years and have a 7-year term. These options are not exercisable for one year after the grant. Thereafter they become exercisable at the rate of 25% per annum, becoming fully exercisable after the fourth year.

Director Compensation

The required information regarding our director compensation is set forth in Part III, Item 10 “Directors, Executive Officers and Corporate Governance” of this Annual Report and is incorporated herein by reference.

Potential Payments on Termination or Change in Control

We have certain agreements that require us to provide compensation to our NEO in the event of a termination of employment or a change in control of Tucows. These agreements are summarized following the table below and do not include any payment for termination for cause. The tables below show estimated compensation payable to each NEO upon various triggering events. Actual amounts can only be determined upon the triggering event.

Elliot Noss ⁽¹⁾

	2019	Termination without Cause (Dollar amounts in U.S. dollars)	Change in Control (Dollar amounts in U.S. dollars)
Compensation			
Base Salary/Severance ⁽²⁾		\$ 643,863	\$ 2,643,863
Bonus Plan ⁽³⁾		317,863	317,863
Acceleration of Unvested Equity Awards ⁽⁴⁾		101,700	101,700
Benefits ⁽⁵⁾			
Car Allowance		13,562	13,562
Healthcare Flexible Spending Account		2,260	2,260
		<u>\$ 1,079,248</u>	<u>\$ 3,079,248</u>

Davinder Singh ⁽¹⁾

	2019	Termination without Cause (Dollar amounts in U.S. dollars)	Change in Control (Dollar amounts in U.S. dollars)
Compensation			
Base Salary/Severance ⁽²⁾		\$ 154,232	\$ —
Bonus Plan ⁽³⁾		30,555	—
Acceleration of Unvested Equity Awards ⁽⁴⁾		55,353	—
Benefits ⁽⁵⁾			
Car Allowance		4,238	—
Healthcare Flexible Spending Account		848	—
		<u>\$ 245,226</u>	<u>\$ —</u>

Bret Fausett ⁽¹⁾

	2019	Termination without Cause (Dollar amounts in U.S. dollars)	Change in Control (Dollar amounts in U.S. dollars)
Compensation			
Base Salary/Severance ⁽²⁾		\$ 171,667	\$ —
Bonus Plan ⁽³⁾		42,000	—
Acceleration of Unvested Equity Awards ⁽⁴⁾		21,450	—
Benefits ⁽⁵⁾			
Car Allowance		—	—
Healthcare Flexible Spending Account		—	—
		<u>\$ 235,117</u>	<u>\$ —</u>

Hanno Liem ⁽¹⁾

	2019	Termination without Cause (Dollar amounts in U.S. dollars)	Change in Control (Dollar amounts in U.S. dollars)
Compensation			
Base Salary/Severance ⁽²⁾		\$ 104,115	\$ —
Bonus Plan ⁽³⁾		26,369	—
Acceleration of Unvested Equity Awards ⁽⁴⁾		3,913	—
Benefits ⁽⁵⁾			
Car Allowance		—	—
Healthcare Flexible Spending Account		659	—
		<u>\$ 135,056</u>	<u>\$ —</u>

David Woroch ⁽¹⁾

	2019	Termination without Cause (Dollar amounts in U.S. dollars)	Change in Control (Dollar amounts in U.S. dollars)
Compensation			
Base Salary/Severance ⁽²⁾		\$ 432,909	\$ 432,909
Bonus Plan ⁽³⁾		208,346	208,346
Acceleration of Unvested Equity Awards ⁽⁴⁾		50,850	50,850
Benefits ⁽⁵⁾			
Car Allowance		11,302	11,302
Healthcare Flexible Spending Account		2,260	2,260
		<u>\$ 705,667</u>	<u>\$ 705,667</u>

(1) For the purpose of the table we assumed an annual base salary at the executive's level as of December 31, 2019

(2) Severance for Mr. Noss is compensation for one year plus one-month additional compensation for each completed year of service. Total compensation is capped at 24 months. For Messrs. Singh, Fausett, Liem and Woroch, severance compensation is for six months plus one-month additional compensation for each completed year of service. Total compensation is capped at 24 months.

(3) For the purpose of the table we assumed that the annual incentive bonus target as of December 31, 2019 had been achieved and that no overachievement bonus or special bonuses would be payable.

(4) For purposes of the above table, we have assumed that if we terminate Mr. Noss without cause all his unvested options vest automatically and that for Messrs. Singh, Fausett, Liem and Woroch, their options continue to vest through any severance period. On a change in control we have assumed that all unvested options for Mr. Noss vest automatically and that for Messrs. Singh, Fausett, Liem and Woroch, their options continue to vest through and until the end of any severance period. Amounts disclosed in this table equal the closing market value of our common stock as of December 31, 2019, minus the exercise price, multiplied by the number of unvested shares of our common stock that would vest. The closing market value of our common stock on December 31, 2019 was \$61.78.

(5) Pay for unused vacation, extended health, matching registered retirement savings plan benefit, life insurance and accidental death and dismemberment insurance are standard programs offered to all employees and are therefore not reported.

Employment Agreements—Termination

Employment contracts are currently in place for each of the NEOs. These employment contracts detail the severance payments that will be provided on termination of employment and the consequent obligations of non-competition and non-solicitation.

The following details the cash severance payment that will be paid to each of the named executive officers in the event of termination without cause or termination for good reason.

Upon termination without cause, Messrs. Woroch, Singh, Liem and Fausett are each entitled to a severance payment in the amount of six months' compensation plus one months' compensation for each additional completed year of service. Severance payments can be made in equal monthly installments. Messrs. Woroch, Singh, Liem and Fausett are each bound by a standard non-competition covenant for a period of twelve months following their termination.

Mr. Noss's employment agreements is subject to early termination by us due to:

- the death or disability of the executive;
- for "cause;" or
- without "cause."

If we terminate Mr. Noss without "cause," he is entitled to receive 12 months of compensation plus one month of compensation for each year of service, to a maximum of 24 months of compensation.

For purposes of the employment agreements, "cause" is defined to mean the executive's conviction (or plea of guilty or nolo contendere) for committing an act of fraud, embezzlement, theft or other act constituting a felony or willful failure or an executive's refusal to perform the duties and responsibilities of his position, which failure or refusal is not cured within 30 days of receiving a written notice thereof from our Board.

Employment Agreements—Change in Control

Under his employment agreements, Mr. Noss is also entitled to the change in control benefits described in the following paragraph if:

- the executive resigns with or without "good reason" within the 30-day period immediately following the date that is six months after the effective date of the "change in control;" or
- within 18 months after a "change in control" and executive's employment is terminated either:
 - without "cause;" or
 - by resignation for "good reason."

If an executive's employment is terminated following a change in control under the circumstances described in the preceding paragraph, the executive is entitled to receive a lump sum payment based upon the fair market value of the Company on the effective date of the "change in control" as determined by our Board in the exercise of good faith and reasonable judgment taking into account, among other things, the nature of the "change in control" and the amount and type of consideration, if any, paid in connection with the "change in control." Depending on the fair market value of the company, the lump sum payments range from \$375,000 to \$2 million for Mr. Noss. In addition to the lump sum payments, all stock options held by Mr. Noss will be immediately and fully vested and exercisable as of the date of termination.

A “change in control” is generally defined as:

- the acquisition of 50% or more of our common stock;
- a change in the majority of our Board unless approved by the incumbent directors (other than as a result of a contested election); and
- certain reorganizations, mergers, consolidations, liquidations or dissolutions, unless certain requirements are met regarding continuing ownership of our outstanding common stock.

“Good reason” is defined to include the occurrence of one or more of the following:

- the executive’s position, management responsibilities or working conditions are diminished from those in effect immediately prior to the change in control, or he is assigned duties inconsistent with his position;
- the executive is required to be based at a location in excess of 30 miles from his principal job location or office immediately prior to the change in control;
- the executive’s base compensation is reduced, or the executive’s compensation and benefits taken as a whole are materially reduced, from those in effect immediately prior to the change in control; or
- we fail to obtain a satisfactory agreement from any successor to assume and agree to perform our obligations to the executive under his employment agreement.

Compensation Committee Interlocks and Insider Participation

The members of the Corporate Governance, Nominating and Compensation Committee of our Board during 2019 were Messrs. Karp (Chair), Schwartz and Ralls and Ms. Chase. To ensure that our compensation policies are administered in an objective manner, our Corporate Governance, Nominating and Compensation Committee is comprised entirely of independent directors. None of the members of our Corporate Governance, Nominating and Compensation Committee has ever been an officer or employee of the Company or its subsidiaries. None of our executive officers serves as a member of the Board or compensation committee of any entity that has one or more executive officers on our Board or Corporate Governance, Nominating and Compensation Committee.

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

The following table sets forth the beneficial ownership of our common stock, as of March 2, 2020, by each of our directors and NEOs, as well as by all of our directors and executive officers as a group. The information on beneficial ownership in the table and related footnotes is based upon data furnished to us by, or on behalf of, the persons referred to in the table. Unless otherwise indicated in the footnotes to the table, each person named has sole voting power and sole investment power with respect to the shares included in the table.

Name	Beneficial Ownership of Common Stock			
	Common Stock Beneficially Owned Excluding Options	Stock Options Exercisable within 60 Days of March 2, 2020	Total Common Stock Beneficially Owned	Percent of Class ⁽¹⁾
Elliot Noss	739,803 ⁽²⁾	27,375	767,178	7.2%
Davinder Singh	0	8,562	8,562	*
Bret Fausett	0	5,281	5,281	0.0%
Hanno Liem	0	0	0	*
David Woroch	124,856 ⁽³⁾	16,812	141,668	1.3%
Allen Karp	15,142 ⁽⁴⁾	15,000	30,142	*
Rawleigh Ralls	2,261	7,500	9,761	*
Robin Chase	4,375	17,500	21,875	*
Erez Gissin	10,387	15,000	25,387	*
Jeffrey Schwartz	8,625	15,000	23,625	*
Brad Burnham	353,982 ⁽⁵⁾	11,875 ⁽⁶⁾	365,857	3.4%
All directors and executive officers as a group (15 persons)	1,300,601	187,261	1,487,862	13.8%

* Less than 1%.

(1) Based on 10,621,338 shares outstanding as of March 2, 2020, and stock options exercisable within 60 days of March 2, 2020.

(2) Includes an aggregate of 120,670 shares of common stock that are held in Mr. Noss's RRSP accounts. Includes an aggregate of 1,639 shares of common stock that are held in Mr. Noss's TFSA account. Includes 43,127 shares of common stock that are held in Mr. Noss's former spouses name, over which he has voting power only, pursuant to a separation agreement of 2013. Includes an aggregate of 6,206 shares of common stock that are held in trust for Mr. Noss's children. Includes 514,951 shares of Common Stock that are subject to a loan and pledge arrangement entered into by Mr. Noss in order to satisfy the required Canadian taxes and exercise price due in connection with the exercise of expiring options.

(3) Includes 54,984 shares of common stock that are held in Mr. Woroch's RRSP account and 10,750 shares of common stock held in his wife's RRSP account.

(4) Includes 3,000 shares of common stock that are held directly by Mr. Karp's wife.

(5) Includes 26,112 shares held directly by Mr. Burnham, and 327,870 shares held by USV Opportunity Investors 2014, L.P. ("USV Opportunity 2014"). USV Opportunity 2014 GP, LLC ("USV Opportunity 2014 GP") is the general partner of USV Opportunity 2014 and, as such, has the power to vote and dispose of the 327,870 shares held by USV Opportunity 2014. Mr. Burnham is a manager of USV Opportunity 2014 GP and, as such, may be deemed to share voting and dispositive power over the 327,870 shares held by USV Opportunity 2014. Mr. Burnham disclaims beneficial ownership of the shares owned by USV Opportunity 2014 except to the extent of his pecuniary interest therein.

(6) On December 1, 2017, Mr. Burnham, a member of Union Square Ventures, LLC ("USV LLC"), entered into a fee compensation agreement with USV LLC, under which Mr. Burnham agreed to hold the Company's stock option grants to him in his individual capacity, and upon the exercise of such options, Mr. Burnham will transfer to USV LLC the shares acquired in the option exercise or, with the consent of USV LLC, a cash payment equal to the fair market value of such shares. In connection with such option exercise and transfer, USV LLC will extend to Mr. Burnham an interest-free loan in an amount equal to the exercise price of the option, and any transfer of acquired shares or cash payment will, to the extent not in excess of the amount of the loan (if any), first be deemed as repayment of the loan.

Share Ownership of Certain Beneficial Owners

The following table sets forth information with respect to each shareholder known to us to be the beneficial owner of more than 5% of our outstanding common stock as of March 2, 2020 except for Mr. Noss, whose beneficial ownership of shares is described in the table above.

Name and Address of Beneficial Owner	Beneficial Ownership of Common Stock	
	Number of Shares Beneficially Owned	Percent of Class ⁽¹⁾
Investmentaktiengesellschaft fuer langfristige Investoren TGV Ruengsdorfer Str. 2e 53173 Bonn, Germany	1,605,127 ⁽²⁾	15.1%
CLS Investments, LLC 17605 Wright St Omaha, NE 68130	544,000 ⁽³⁾	5.1%

(1) Based on 10,621,338 shares outstanding as of March 2, 2020.

(2) Investmentaktiengesellschaft fuer langfristige Investoren TGV had sole dispositive power and sole voting power over 1,605,127 shares of common stock. This information is based solely on a review of a Schedule 13G filed with the SEC on January 16, 2020 by Investmentaktiengesellschaft fuer langfristige Investoren TGV.

(3) CLS Investments, LLC had shared voting power over 64,000 shares of common stock and sole dispositive power over 544,000 shares of common stock. This information is based solely on a review of a Schedule 13G filed with the SEC on June 14, 2019 by CLS Investments, LLC.

Equity Compensation Plan Information

The following table provides information for our equity compensation plans as of December 31, 2019:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (#)	Weighted average exercise price of outstanding options, warrants and rights (\$)	Number of securities remaining available for future issuance under the plan (excluding securities reflected in the first column) (#)
Equity compensation plans approved by security holders:			
2006 Equity Compensation Plan	754,497	\$ 49.94	209,169
Equity compensation plans not approved by security holders	—	—	—
Total	754,497	\$ 49.94	209,169

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

Review, Approval or Ratification of Transactions with Related Persons

The Audit Committee of the Board is responsible for reviewing and, if appropriate, approving all related party transactions between us and any officer or director that would potentially require disclosure pursuant to the Audit Committee charter. As of the date of this Annual Report on Form 10-K, we expect that any transactions in which related persons have a direct or indirect interest will be presented to the Audit Committee for review and approval. While neither the Audit Committee nor the board have adopted a written policy regarding related party transactions, the Audit Committee makes inquiries to our management and our auditors when reviewing such transactions. Neither we nor the audit committee are aware of any transaction that was required to be reported with the SEC where such policies and procedures either did not require review or were not followed.

Director Independence

Our Board has determined that each of Messrs. Karp, Ralls, Gissin, Schwarz and Burnham and Ms. Chase are independent directors, as prescribed by the listing standards of the NASDAQ Capital Market. In this Annual Report, each of these six directors are referred to individually as an “independent director” and collectively as the “independent directors”. In addition, our Board has determined that each member of our Audit Committee satisfies the applicable audit committee independence standards as prescribed by the listing standards of the NASDAQ Capital Market and Rule 10A-3 under the Exchange Act, and that each member of our Corporate Governance, Nomination and Compensation Committee satisfies the applicable compensation committee member independence standards as prescribed by the listing standards of the NASDAQ Capital Market and Rule 10C-1 under the Exchange Act.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

A summary of the fees of KPMG LLP for the years ended December 31, 2019 and 2018 are set forth below:

	2019 Fees	2018 Fees
Audit Fees ⁽¹⁾	\$ 566,000	\$ 515,000
Audit-Related Fees ⁽²⁾	-	-
Tax Fees ⁽³⁾	91,000	70,000
All Other Fees	-	-
Total Fees	\$ 657,000	\$ 585,000

- (1) Consists of fees and expenses for (a) the annual audits of our consolidated financial statements and the accompanying attestation report regarding our ICFR contained in our Annual Report on Form 10-K, (b) the review of quarterly financial information included in our Quarterly Reports on Form 10-Q, and (c) audit services related to mergers and acquisitions.
- (2) Consists of fees and expenses for assurance and related services, such as the review of non-periodic filings with the SEC.
- (3) Consists of fees and expenses for tax compliance and advisory services.

Audit Committee pre-approval of audit and permissible non-audit services of independent auditors.

The Audit Committee has adopted a pre-approval policy that provides guidelines for the audit, audit-related, tax and other non-audit services that may be provided to us by our independent auditors. Under this policy, the Audit Committee pre-approves all audit and certain permissible accounting and non-audit services performed by the independent auditors. These permissible services are set forth on an attachment to the policy that is updated at least annually and may include audit services, audit-related services, tax services and other services. For audit services, the independent auditor provides the audit committee with an audit plan including proposed fees in advance of the annual audit. The Audit Committee approves the plan and fees for the audit.

With respect to non-audit and accounting services of our independent auditors that are not pre-approved under the policy, the employee making the request must submit the request to our Chief Financial Officer. The request must include a description of the services, the estimated fee, a statement that the services are not prohibited services under the policy and the reason why the employee is requesting our independent auditors to perform the services. If the aggregate fees for such services are estimated to be less than or equal to \$50,000, our Chief Financial Officer will submit the request to the chairman of the audit committee for consideration and approval, and the engagement may commence upon the approval of the chairman. The chairman is required to inform the full Audit Committee of the services at its next meeting. If the aggregate fees for such services are estimated to be greater than \$50,000, our Chief Financial Officer will submit the request to the full Audit Committee for consideration and approval, generally at its next meeting or special meeting called for the purpose of approving such services. The engagement may only commence upon the approval of full Audit Committee.

PART IV
ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

The following documents are filed as part of this Annual Report on Form 10-K:

1. Financial Statements. The financial statements listed in the accompanying index to consolidated financial statements are filed as part of this Annual Report on Form 10-K.
2. Financial Statement Schedules. Schedules are not submitted because they are not required or are not applicable, or the required information is shown in the consolidated financial statements or notes thereto.
3. Exhibits. The Exhibits listed below are filed or incorporated by reference as part of this Annual Report on Form 10-K. Where so indicated by footnote, exhibits which were previously filed are incorporated by reference. For exhibits incorporated by reference, the location of the exhibit in the previous filing is indicated in the footnotes below.

Exhibit No.	Description
2.1	Stock Purchase Agreement, dated as of January 20, 2017, by and among Tucows Inc., Tucows (Emerald), LLC, Rightside Group, Ltd., Rightside Operating Co. and eNom, Incorporated (Incorporated by reference to Exhibit 2.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on January 23, 2017).
2.2	First Amendment, dated as of June 13, 2017, to Stock Purchase Agreement, dated as of January 20, 2017, by and among Tucows Inc., Tucows (Emerald), LLC, Rightside Group, Ltd., Rightside Operating Co. and eNom, Incorporated (Incorporated by reference to Exhibit 2.3 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on June 15, 2017, 2017).
2.3	Asset Purchase Agreement, dated as of March 18, 2019, by and among Tucows Inc., Ting Fiber, Inc., NetNames European Holdings ApS, NetNames GmbH, CSC Administrative Services Limited UK, Corporation Service Company and Ascio Technologies, Inc. (Incorporated by reference to Exhibit 2.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on March 20, 2019).
3.1.1	Fourth Amended and Restated Articles of Incorporation of Tucows Inc. (Incorporated by reference to Exhibit 3.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on November 29, 2007).
3.1.2	Articles of Amendment to Fourth Amended and Restated Articles of Incorporation of Tucows Inc. (Incorporated by reference to Exhibit 3.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on January 3, 2014).
3.2	Second Amended and Restated Bylaws of Tucows Inc. (Incorporated by reference to Exhibit 3.2 filed with Tucows' Annual Report on Form 10-K for the year ended December 31, 2006, as filed with the SEC on March 29, 2007).
3.3	Amendment No. 1 to Second Amended and Restated Bylaws of Tucows Inc. (Incorporated by Reference to Exhibit 3.3 filed with Tucows' Quarterly Report on Form 10-Q for the quarter ended June 30, 2012).
4.1#	Description of Securities of the Registrant.
10.1*	2006 Equity Compensation Plan, as amended and restated effective as of September 8, 2015 (Incorporated by reference to Exhibit 99(d)(1) filed with Tucows' Schedule TO, as filed with the SEC on September 17, 2010).
10.2*	Employment Agreement, dated as of January 22, 2003, between Tucows.com Co. and Elliot Noss (Incorporated by reference to Exhibit 10.3 filed with Tucows' Annual Report on Form 10-K for the year ended December 31, 2002, as filed with the SEC on March 28, 2003).

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Exhibit No.	Description
10.3	Lease between 707932 Ontario Limited and Tucows International Corporation, dated as of December 10, 1999 (Incorporated by reference to exhibit number 10.9 filed with Tucows' Annual Report on Form 10-K for the year ended December 31, 2001, as filed with the SEC on April 1, 2002).
10.4	Lease extension between 707932 Ontario Limited and Tucows Inc. and Tucows.com Co., dated as of September 18, 2004 (Incorporated by reference to Exhibit 10.8 filed with Tucows' Annual Report on Form 10-K for the year ended December 31, 2004, as filed with the SEC on March 24, 2005).
10.5#	Lease extension between 707932 Ontario Limited and Tucows (Delaware) Inc. and Tucows.com Co., dated as of January 1, 2019
10.6*	Description of Tucows Fiscal 2004 At Risk Compensation Plan (Incorporated by reference to Exhibit 10.9 filed with Tucows' Annual Report on Form 10-K for the year ended December 31, 2004, as filed with the SEC on March 24, 2005).
10.7	Credit Agreement, dated as of August 18, 2016, by and among Tucows.com Co., Ting Fiber, Inc., Ting Inc., as Borrowers, Tucows Inc., as Guarantor, and Bank of Montreal and Royal Bank of Canada, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on August 19, 2016).
10.8	First Amended and Restated Credit Agreement, dated as of January 20, 2017, by and amount Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Emerald) LLC, as Borrowers, Tucows Inc., as Guarantor, and Bank of Montreal, Royal Bank of Canada and Bank of Nova Scotia, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on January 23, 2017).
10.9	First Amendment, dated as of June 6, 2017 to the Amended and Restated Credit Agreement, dated as of January 20, 2017, by and amount Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Emerald) LLC, as Borrowers, Tucows Inc., as Guarantor, and Bank of Montreal, Royal Bank of Canada and Bank of Nova Scotia, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on June 9, 2017).
10.10	Interim Amendment, dated as of December 5, 2017, to the Amended and Restated Credit Agreement, dated as of January 20, 2017, by and amount Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Emerald) LLC, as Borrowers, Tucows Inc., as Guarantor, and Bank of Montreal, Royal Bank of Canada and Bank of Nova Scotia, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on December 8, 2017).

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Exhibit No.	Description
10.11	Second Interim Amendment, dated as of January 24, 2018, to the First Amended and Restated Credit Agreement, dated as of January 20, 2017, by and among Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Delaware), Inc., Tucows (Emerald) LLC, as Borrowers, Tucows Inc., as Guarantor, and Bank of Montreal, Royal Bank of Canada and Bank of Nova Scotia, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on January 24, 2018).
10.12	Second Amendment to First Amended and Restated Credit Agreement, dated as of March 18, 2019, by and among Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Delaware) Inc. and Tucows (Emerald), LLC, as Borrowers, Tucows Inc., as Guarantor, Bank of Montreal, as Administrative Agent, and Bank of Montreal, Royal Bank of Canada and The Bank of Nova Scotia, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on March 20, 2019).
10.13	Amended and Restated Senior Secured Credit Agreement, dated as of June 14, 2019, by and among Tucows.com Co., Ting Fiber, Inc., Ting, Inc., Tucows (Delaware) Inc., Tucows (Emerald), LLC, as Borrowers, Tucows, Inc., as parent, Royal Bank of Canada, as Administrative Agent, and Royal Bank of Canada, Bank of Montreal, Bank of Nova Scotia, HSBC Bank Canada and Canadian Imperial Bank of Commerce, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on June 18, 2019).
10.14	Amending Agreement No. 1, dated as of November 27, 2019, to the Amended and Restated Senior Secured Credit Agreement, dated as of June 14, 2019 (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on December 4, 2019).
21.1#	Subsidiaries of Tucows Inc.
23.1#	Consent of KPMG LLP, Independent Registered Public Accounting Firm.
31.1#	Chief Executive Officer's Rule 13a-14(a)/15d-14(a) Certification.
31.2#	Chief Financial Officer's Rule 13a-14(a)/15d-14(a) Certification.
32.1†	Chief Executive Officer's Section 1350 Certification.
32.2†	Chief Financial Officer's Section 1350 Certification.
101.INS#	XBRL Instance
101.SCH#	XBRL Taxonomy Extension Schema
101.CAL#	XBRL Taxonomy Extension Calculation
101.DEF#	XBRL Taxonomy Extension Definition
101.LAB#	XBRL Taxonomy Extension Labels
101.PRE#	XBRL Taxonomy Extension Presentation
104	The cover page from this Annual Report on Form 10-K, formatted as Inline XBRL.
* Management or compensatory contract.	
#	Filed herewith.
†	Furnished herewith.

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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of Tucows Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Tucows Inc.'s and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

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, 2019 and 2018, 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, 2019, and the related notes (collectively, the consolidated financial statements), and our report dated March 4, 2020 expressed an unqualified opinion on those consolidated financial statements.

The Company acquired Ascio Technologies, Inc. ("Ascio") during 2019, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2019, Ascio's internal control over financial reporting associated with total assets of \$44 million and total revenues of \$17 million included in the consolidated financial statements of the Company as of and for the year ended December 31, 2019. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of Ascio.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting in Item 9A of the Form 10-K for the fiscal year-ended December 31, 2019. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit 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.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ KPMG LLP

Chartered Professional Accountants, Licensed Public Accountants

Vaughan, Canada

March 4, 2020

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of Tucows Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Tucows, Inc. and subsidiaries (the Company) as of December 31, 2019 and 2018, 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, 2019, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

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, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 4, 2020 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company adopted Accounting Standards Codification ("ASC") Topic 842, *Leases* ("ASC 842") on January 1, 2019 using the modified retrospective method by recognizing the cumulative effect of initially applying ASC 842 as an adjustment to the opening balance sheet as at January 1, 2019.

As discussed in Note 2 to the consolidated financial statements, the Company adopted Accounting Standards Codification ("ASC") Topic 606, *Revenue from Contracts with Customers* ("ASC 606") on January 1, 2018 using the modified retrospective method by recognizing the cumulative effect of initially applying ASC 606 as an adjustment to the opening balance sheet as at January 1, 2018.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated 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 consolidated 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 consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

Chartered Professional Accountants, Licensed Public Accountants

We have served as the Company's auditor since 2000.

Vaughan, Canada

March 4, 2020

Tucows Inc.

Consolidated Balance Sheets

(Dollar amounts in thousands of U.S. dollars)

	<u>December 31, 2019</u>	<u>December 31, 2018*</u>
Assets		
Current assets:		
Cash and cash equivalents	\$ 20,393	\$ 12,637
Accounts receivable, net of allowance for doubtful accounts of \$131 as of December 31, 2019 and \$132 as of December 31, 2018	14,564	10,837
Inventory	3,457	3,775
Prepaid expenses and deposits	13,478	15,472
Derivative instrument asset, current portion (note 7)	731	-
Prepaid domain name registry and ancillary services fees, current portion (note 11 (b))	91,252	87,782
Income taxes recoverable	1,800	1,423
Total current assets	<u>145,675</u>	<u>131,926</u>
Prepaid domain name registry and ancillary services fees, long-term portion (note 11 (b))	17,915	18,745
Property and equipment (note 4)	82,121	48,065
Right of use operating lease asset	11,335	-
Contract costs (note 11 (a))	1,400	1,390
Intangible assets (note 5)	57,654	49,395
Goodwill (note 5)	109,818	90,054
Total assets	<u>\$ 425,918</u>	<u>\$ 339,575</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 6,671	\$ 8,445
Accrued liabilities	9,373	5,899
Customer deposits	14,074	11,919
Derivative instrument liability (note 7)	-	1,276
Deferred rent, current portion	-	21
Operating lease liability, current portion (note 12)	1,413	-
Loan payable, current portion (note 8)	-	18,400
Deferred revenue, current portion (note 10)	123,101	116,734
Accreditation fees payable, current portion	952	985
Income taxes payable	1,324	1,668
Total current liabilities	<u>156,908</u>	<u>165,347</u>
Deferred revenue, long-term portion (note 10)	26,202	26,960
Accreditation fees payable, long-term portion	216	250
Deferred rent, long-term portion	-	116
Operating lease liability, long-term portion (note 12)	9,424	-
Loan payable, long-term portion (note 8)	113,503	46,201
Deferred tax liability (note 9)	25,471	20,925
Stockholders' equity (note 13)		
Preferred stock - no par value, 1,250,000 shares authorized; none issued and outstanding	-	-
Common stock - no par value, 250,000,000 shares authorized; 10,585,159 shares issued and outstanding as of December 31, 2019 and 10,627,988 shares issued and outstanding as of December 31, 2018	16,633	15,823
Additional paid-in capital	880	3,953
Retained earnings	76,208	60,810
Accumulated other comprehensive income (loss) (note 7)	473	(810)
Total stockholders' equity	<u>94,194</u>	<u>79,776</u>
Total liabilities and stockholders' equity	<u>\$ 425,918</u>	<u>\$ 339,575</u>
Commitments and contingencies (note 18)		
Subsequent events (note 20)		

*The Company has initially applied ASC 2016-02 (Topic 842) on January 1, 2019 using the modified retrospective method (note 2 (v)). Under this method, the comparative information is not restated.

See accompanying notes to consolidated financial statements

Tucows Inc.

Consolidated Statements of Comprehensive Income

(Dollar amounts in thousands of U.S. dollars, except per share amounts)

	Year ended December 31,		
	2019	2018*	2017*
Net revenues (note 10)	\$ 337,145	\$ 346,013	\$ 329,421
Cost of revenues (note 10)			
Cost of revenues	217,579	232,103	230,600
Network expenses	9,190	9,846	9,324
Depreciation of property and equipment (note 4)	8,475	5,298	3,142
Amortization of intangible assets (note 5)	1,124	1,996	1,834
Total cost of revenues	236,368	249,243	244,900
Gross profit	100,777	96,770	84,521
Expenses:			
Sales and marketing	34,270	33,063	29,423
Technical operations and development	9,717	8,748	7,258
General and administrative	17,880	17,710	13,594
Depreciation of property and equipment (note 4)	486	424	585
Loss on disposition of property and equipment	73	-	-
Amortization of intangible assets (note 5)	9,209	7,247	6,566
Impairment of indefinite life intangible assets (note 5)	-	-	111
Loss (gain) on currency forward contracts (note 7)	(198)	254	(98)
Total expenses	71,437	67,446	57,439
Income from operations	29,340	29,324	27,082
Other income (expenses):			
Interest expense, net	(4,769)	(3,687)	(3,567)
Other income, net (note 16)	-	518	560
Total other income (expenses)	(4,769)	(3,169)	(3,007)
Income before provision for income taxes	24,571	26,155	24,075
Provision for income taxes (note 9)	9,173	9,020	1,748
Net income before redeemable non-controlling interest	15,398	17,135	22,327
Redeemable non-controlling interest	-	(26)	(387)
Net income attributable to redeemable non-controlling interest	-	26	387
Net income for the period	15,398	17,135	22,327
Other comprehensive income, net of tax			
Unrealized income (loss) on hedging activities (note 7)	1,101	(1,022)	550
Net amount reclassified to earnings (note 7)	182	212	(650)
Other comprehensive income (loss) net of tax (expense) recovery of (\$411), \$259 and \$56 for the years ended December 31, 2019, 2018 and 2017 (note 7)	1,283	(810)	(100)
Comprehensive income, net of tax for the period	\$ 16,681	\$ 16,325	\$ 22,227
Basic earnings per common share (note 17)	\$ 1.45	\$ 1.62	\$ 2.12
Shares used in computing basic earnings per common share (note 17)	10,623,799	10,604,722	10,537,356
Diluted earnings per common share (note 17)	\$ 1.43	\$ 1.59	\$ 2.07
Shares used in computing diluted earnings per common share (note 17)	10,772,812	10,794,170	10,793,622

*The Company has initially applied ASC 2014-09 (Topic 606) on January 1, 2018 and ASC 2016-02 (Topic 842) on January 1, 2019 (note 2 (v)). Both accounting standards were adopted using the modified retrospective method, under this method the comparative periods were not restated.

See accompanying notes to consolidated financial statements

Tucows Inc.

Consolidated Statements of Stockholders' Equity

(Dollar amounts in thousands of U.S. dollars)

	Common stock		Additional	Retained	Accumulated	Total
	Number	Amount	paid in	earnings	other comprehensive	stockholders'
			capital		income (loss)	equity
Balances, December 31, 2016*	10,461,574	\$ 14,460	\$ 2,858	\$ 20,400	\$ 100	\$ 37,818
Exercise of stock options	172,759	908	(686)	-	-	222
Shares deducted from exercise of stock options for payment of withholding taxes and exercise consideration	(50,454)	-	(1,462)	-	-	(1,462)
Stock-based compensation (note 14)	-	-	1,457	-	-	1,457
Net income	-	-	-	22,327	-	22,327
Accretion of redeemable non-controlling interest in Ting Virginia, LLC.	-	-	-	(51)	-	(51)
Other comprehensive income (loss) (note 7)	-	-	-	-	(100)	(100)
Balances, December 31, 2017*	10,583,879	15,368	2,167	42,676	-	60,211
Adoption of Topic 606 (note 2(v))	-	-	-	1,063	-	1,063
Adjusted, January 1, 2018	10,583,879	15,368	2,167	43,739	-	61,274
Exercise of stock options	63,886	455	(343)	-	-	112
Shares deducted from exercise of stock options for payment of withholding taxes and exercise consideration	(19,777)	-	(445)	-	-	(445)
Stock-based compensation (note 14)	-	-	2,574	-	-	2,574
Net income	-	-	-	17,135	-	17,135
Accretion of redeemable non-controlling interest in Ting Virginia, LLC.	-	-	-	(64)	-	(64)
Other comprehensive income (loss) (note 7)	-	-	-	-	(810)	(810)
Balances, December 31, 2018*	10,627,988	15,823	3,953	60,810	(810)	79,776
Exercise of stock options	80,319	967	(572)	-	-	395
Shares deducted from exercise of stock options for payment of withholding taxes and exercise consideration	(21,332)	-	(548)	-	-	(548)
Repurchase and retirement of shares (note 13(a))	(101,816)	(157)	(4,829)	-	-	(4,986)
Stock-based compensation (note 14)	-	-	2,876	-	-	2,876
Net income	-	-	-	15,398	-	15,398
Other comprehensive income (loss) (note 7)	-	-	-	-	1,283	1,283
Balances, December 31, 2019**	10,585,159	\$ 16,633	\$ 880	\$ 76,208	\$ 473	\$ 94,194

*The Company has initially applied ASC 2014-09 (Topic 606) on January 1, 2018 and ASC 2016-02 (Topic 842) on January 1, 2019 (note 2(v)). Both accounting standards were adopted using the modified retrospective method, under this method the comparative periods were not restated.

See accompanying notes to consolidated financial statements

Tucows Inc.

Consolidated Statements of Cash Flows

(Dollar amounts in thousands of U.S. dollars)

	Year ended December 31,		
	2019	2018*	2017*
Cash provided by:			
Operating activities:			
Net income for the period	\$ 15,398	\$ 17,135	\$ 22,327
Items not involving cash:			
Depreciation of property and equipment	8,961	5,722	3,727
Loss on write off of property and equipment	142	-	17
Amortization of debt discount and issuance costs	297	281	273
Amortization of intangible assets	10,333	9,243	8,400
Net amortization contract costs	(10)	14	-
Impairment of indefinite life intangible asset	-	-	111
Deferred income taxes (recovery)	1,285	1,038	(3,337)
Excess tax benefits on share-based compensation expense	(634)	(697)	(2,796)
Amortization of deferred rent	-	(14)	6
Net Right of use operating assets/Operating lease liability	(32)	-	-
Loss on disposal of domain names	115	341	291
Other income	-	(429)	(515)
Loss (gain) on change in the fair value of forward contracts	(313)	207	17
Stock-based compensation	2,876	2,574	1,457
Change in non-cash operating working capital:			
Accounts receivable	(3,015)	1,539	1,010
Inventory	318	(831)	(1,733)
Prepaid expenses and deposits	2,904	(1,286)	(1,642)
Prepaid domain name registry and ancillary services fees	7,678	20,476	4,030
Income taxes recoverable	(89)	2,691	(426)
Accounts payable	(1,222)	171	(3,826)
Accrued liabilities	2,329	(513)	(1,275)
Customer deposits	27	(3,336)	1,085
Deferred revenue	(6,900)	(16,888)	4,933
Accreditation fees payable	(67)	(229)	(238)
Net cash provided by operating activities	40,381	37,209	31,896
Financing activities:			
Proceeds received on exercise of stock options	395	112	222
Payment of tax obligations resulting from net exercise of stock options	(548)	(445)	(1,462)
Repurchase of common stock	(4,986)	-	-
Proceeds received on loan payable	57,371	7,000	86,998
Repayment of loan payable	(8,130)	(19,596)	(19,976)
Payment of loan payable costs	(641)	(8)	(620)
Net cash (used in) provided by financing activities	43,461	(12,937)	65,162
Investing activities:			
Additions to property and equipment	(44,070)	(27,919)	(12,935)
Acquisition of a portion of the minority interest in Ting Virginia, LLC (note 3(a))	-	(1,200)	(2,000)
Acquisition of Enom Incorporated, net of cash (note 3(b))	-	-	(76,237)
Acquisition of Ascio Technologies, net of cash of \$1,437 (note 3(c))	(28,450)	-	-
Acquisition of intangible assets	(3,566)	(565)	(2,942)
Net cash used in investing activities	(76,086)	(29,684)	(94,114)
Increase (decrease) in cash and cash equivalents	7,756	(5,412)	2,944
Cash and cash equivalents, beginning of period	12,637	18,049	15,105
Cash and cash equivalents, end of period	\$ 20,393	\$ 12,637	\$ 18,049
Supplemental cash flow information:			
Interest paid	\$ 4,785	\$ 3,712	\$ 3,587
Income taxes paid, net	\$ 7,941	\$ 6,799	\$ 7,815
Supplementary disclosure of non-cash investing and financing activities:			
Property and equipment acquired during the period not yet paid for	\$ 548	\$ 1,462	\$ 214

*The Company has initially applied ASC 2014-09 (Topic 606) on January 1, 2018 and ASC 2016-02 (Topic 842) on January 1, 2019. Both accounting standards were adopted using the modified retrospective method, under this method the comparative periods were not restated.

See accompanying notes to consolidated financial statements

Tucows Inc.

Notes to Consolidated Financial Statements

(Dollar amounts in thousands of U.S. dollars, except per share amounts)

1. Organization of the Company:

Tucows Inc. (the “Company”) provides simple useful services that help people unlock the power of the Internet. The Company provides US consumers and small businesses with mobile phone services nationally and high-speed fixed Internet access in selected towns. The Company is also a global distributor of Internet services, including domain name registration, digital certificates, and email. It provides these services primarily through a global Internet-based distribution network of Internet Service Providers, web hosting companies and other providers of Internet services to end-users.

2. Significant Accounting Policies:

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and are stated in U.S. dollars, except where otherwise noted.

(a) Basis of presentation

These consolidated financial statements include the accounts of the Company and its subsidiaries. All significant intercompany balances and transactions have been eliminated on consolidation.

(b) Use of estimates

The preparation of the consolidated financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, management evaluates its estimates, including those related to amounts recognized for carrying values of revenues, bad debts, inventory obsolescence which requires estimates of sales forecasts and other marketplace considerations, internal use software which requires estimates of whether the costs incurred meet the criteria for capitalization based on the stage of the projects, goodwill and intangible assets which require estimates of future cash flows and discount rates, lease liability which requires estimates of incremental borrowing rate and the expectation of exercising lease renewal periods, income taxes, contingencies and litigation, and estimates of credit spreads for determination of the fair value of derivative instruments. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances at the time they are made. Under different assumptions or conditions, the actual results will differ, potentially materially, from those previously estimated. Many of the conditions impacting these assumptions and estimates are outside of the Company’s control.

(c) Cash and cash equivalents

All highly liquid investments, with an original term to maturity of three months or less are classified as cash and cash equivalents. Cash and cash equivalents are stated at cost which approximates market value.

(d) Inventory

Inventory primarily consists of mobile devices, mobile sim cards and related accessories, and Internet optical network terminals and are stated at the lower of cost or net realizable value. Cost is determined based on actual cost of the mobile device, accessory shipped or optical network terminals.

The net realizable value of inventory is analyzed on a regular basis. This analysis includes assessing obsolescence, sales forecasts, product life cycle, marketplace and other considerations. If assessments regarding the above factors adversely change, we may be required to write down the value of inventory.

(e) Property and equipment

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation is provided on a straight-line basis so as to depreciate the cost of depreciable assets over their estimated useful lives at the following rates:

Asset	Rate
Computer equipment	30%
Computer software	33 1/3 - 100%
Furniture and equipment	20%
Vehicles and tools	20%
Fiber network (years)	15
Customer equipment and installations (years)	3
Leasehold improvements	Over term of lease
Assets under construction	N/A
Capitalized internal use software (years)	3 - 7

The Company reviews the carrying values of its property and equipment for potential impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If the estimated undiscounted future cash flows expected to result from the use of the group of assets and their eventual disposition is less than their carrying amount, they are considered to be impaired. The amount of the impairment loss recognized is measured as the amount by which the carrying value of the asset exceeds the fair value of the asset, with fair value being determined based upon discounted cash flows or appraised values, depending on the nature of the assets.

Additions to the fiber network are recorded at cost, including all material, labor, vehicle and installation and construction costs and certain indirect costs associated with the construction of cable transmission and distribution facilities. While the Company's capitalization is based on specific activities, once capitalized, costs are tracked by fixed asset category at the fiber network level and not on a specific asset basis. For assets that are retired, the estimated historical cost and related accumulated depreciation is removed.

Additions to land are recorded at cost, and include any direct costs associated with the purchase, as well as any direct costs incurred to bring it to the condition necessary for its intended use, such as legal fees associated with the acquisition and the cost of permanent improvements. Land is not depreciated.

We capitalize costs for software to be used internally when we enter the application development stage. This occurs when we complete the preliminary project stage, management authorizes and commits to funding the project, and it is feasible that the project will be completed and the software will perform the intended function. We cease to capitalize costs related to a software project when it enters the post implementation and operation stage.

Costs capitalized during the application development stage consist of payroll and related costs for employees who are directly associated with, and who devote time directly to, a project to develop software for internal use. We do not capitalize any general and administrative or overhead costs or costs incurred during the application development stage related to training or data conversion costs. Costs related to upgrades and enhancements to internal-use software, if those upgrades and enhancements result in additional functionality, are capitalized. If upgrades and enhancements do not result in additional functionality, those costs are expensed as incurred.

The capitalized software development costs are generally to be amortized using the straight-line method over a 3 to 7-year period. In determining and reassessing the estimated useful life over which the cost incurred for the software should be amortized, we consider the effects of obsolescence, technology, competition and other economic factors.

(f) Derivative Financial Instruments

The Company uses derivative financial instruments to manage foreign currency exchange risk. The Company accounts for these instruments in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 815, "Derivatives and Hedging" ("Topic 815"), which requires that every derivative instrument be recorded on the balance sheet as either an asset or liability measured at its fair value as of the reporting date. Topic 815 also requires that changes in our derivative financial instruments' fair values be recognized in earnings, unless specific hedge accounting and documentation criteria are met (i.e. the instruments are accounted for as hedges). The Company recorded the effective portions of the gain or loss on derivative financial instruments that were designated as cash flow hedges in accumulated other comprehensive income in our accompanying Consolidated Balance Sheets.

For certain contracts, the Company has not complied with the documentation standards required for its forward foreign exchange contracts to be accounted for as hedges and has, therefore, accounted for such forward foreign exchange contracts at their fair values with the changes in fair value recorded in net income.

The fair value of the forward exchange contracts is determined using an estimated credit adjusted mark-to-market valuation which takes into consideration the Company's and the counterparty's credit risk. The valuation technique used to measure the fair values of the derivative instruments is a discounted cash flow technique, with all significant inputs derived from or corroborated by observable market data, as no quoted market prices exist for the derivative instruments. The discounted cash flow techniques use observable market inputs, such as foreign currency spot and forward rates.

(g) Goodwill and Other Intangible assets

Goodwill

Goodwill represents the excess of purchase price over the fair values assigned to the net assets acquired in business combinations. The Company does not amortize goodwill. Impairment testing for goodwill is performed annually in the fourth quarter of each year or more frequently if impairment indicators are present. Impairment testing is performed at the operating segment level. The Company has determined that it has two operating segments, Domain Services and Network Access services.

The Company performs a qualitative assessment to determine whether there are events or circumstances which would lead to a determination that it is more likely than not that goodwill has been impaired. If, after this qualitative assessment, the Company determines that it is not more likely than not that goodwill has been impaired, then no further quantitative testing is necessary. In performance of the qualitative test, an evaluation is made of the impact of various factors to the expected future cash flows attributable to its operating segments and to the assumed discount rate which would be used to present value those cash flows. Consideration is given to factors such as, macro-economic and industry and market conditions including the capital markets and the competitive environment amongst others. In the event that the qualitative tests indicate that there may be impairment, quantitative impairment testing is required.

If required to perform the quantitative test, the Company uses a discounted cash flow or income approach in which future expected cash flows at the operating segment level are converted to present value using factors that consider the timing and risk of the future cash flows. The estimate of cash flows used is prepared on an unleveraged debt-free basis. The discount rate reflects a market-derived weighted average cost of capital. The Company believes that this approach is appropriate because it provides a fair value estimate based upon the Company's expected long-term operating and cash flow performance for its operating segment. The projections are based upon the Company's best estimates of projected economic and market conditions over the related period including growth rates, estimates of future expected changes in operating margins and cash expenditures.

Other significant estimates and assumptions include terminal value growth rates, terminal value margin rates, future capital expenditures and changes in future working capital. If assumptions and estimates used to allocate the purchase price or used to assess impairment prove to be inaccurate, future asset impairment charges could be required.

Intangibles Assets Not Subject to Amortization

Intangible assets not subject to amortization consist of surname domain names and direct navigation domain names. While the domain names are renewed annually, through payment of a renewal fee to the applicable registry, the Company has the exclusive right to renew these names at its option. Renewals occur routinely and at a nominal cost. Moreover, the Company has determined that there are currently no legal, regulatory, contractual, economic or other factors that limit the useful life of these domain names on an aggregate basis and accordingly treat the portfolio of domain names as indefinite life intangible assets. The Company re-evaluates the useful life determination for domain names in the portfolio each year to determine whether events and circumstances continue to support an indefinite useful life.

The Company reviews individual domain names in the portfolio for potential impairment throughout the fiscal year in determining whether a particular name should be renewed. Impairment is recognized for names that are not renewed.

Intangible Assets Subject to Amortization

Intangible assets subject to amortization, consist of brand, customer relationships, technology and network rights and are amortized on a straight-line basis over their estimated useful lives as follows:

	(in years)
Technology	2
Brand	7
Customer relationships	3 - 7
Network rights	15

The Company continually evaluates whether events or circumstances have occurred that indicate the remaining estimated useful lives of its intangible assets subject to amortization may warrant revision or that the remaining balance of such assets may not be recoverable. The Company uses an estimate of the related undiscounted cash flows over the remaining life of the asset in measuring whether the asset is recoverable.

(h) Revenue recognition

See “Note 10 – Revenue” for a description of the Company’s Revenue recognition policy and a further description of the principal activities – separated by reportable segments – from which the Company generates its revenue.

(i) Deferred revenue

Deferred revenue primarily relates to the unearned portion of revenues received in advance related to the unexpired term of registration fees from domain name registrations and other domain related Internet services, on both a wholesale and retail basis, net of external commissions.

(j) Contract Costs

See “Note 11 – Costs to obtain and fulfill a contract” for a description of the Company’s Contract Cost recognition policy.

(k) Leases

See note 2(v) for the Company’s adoption of ASC 842 on January 1, 2019.

Under ASC 842, we determine if an arrangement is a lease at inception. Our lease agreements generally contain lease and non-lease components. Payments under our lease arrangements are primarily fixed. Non-lease components primarily include payments for maintenance and utilities. We combine fixed payments for non-lease components with lease payments and account for them together as a single lease component which increases the amount of our lease assets and liabilities.

Certain lease agreements contain variable payments, which are expensed as incurred and not included in the lease assets and liabilities. These amounts include payments affected by payments contingent the number of Ting internet subscribers connected to a leased fiber network, and payments for maintenance and utilities.

We have elected to consider leases with a term of 12 months or less as short-term, and as such have not been recognized on the balance sheet. We recognize lease expense for short-term leases on a straight-line basis over the lease term.

Lease assets and liabilities are recognized at the present value of the future lease payments at the lease commencement date. The interest rate used to determine the present value of the future lease payments is our incremental borrowing rate, because the interest rate implicit in our leases is not readily determinable. Our incremental borrowing rate is estimated to approximate the interest rate on a collateralized basis with similar terms and payments, and in economic environments where the leased asset is located. Our lease terms include periods under options to extend or terminate the lease when it is reasonably certain that we will exercise that option. We generally use the base, non-cancelable, lease term when determining the lease assets and liabilities. Lease assets also include any prepaid lease payments.

Operating lease assets and liabilities are included on our Consolidated Balance Sheet beginning January 1, 2019.

Operating lease expense is recognized on a straight-line basis over the lease term.

(l) Accreditation fees payable

In accordance with ICANN rules, the Company has elected to pay ICANN fees incurred on the registration of Generic Top-Level Domains on an annual basis. Accordingly, accreditation fees that relate to registrations completed prior to ICANN rendering a bill are accrued and reflected as accreditation fees payable.

(m) Prepaid domain name registry fees

Prepaid domain name registry and other Internet services fees represent amounts paid to registries, and country code domain name operators for updating and maintaining the registries, as well as to suppliers of other Internet services. Domain name registry and other Internet services fees are recognized on a straight-line basis over the life of the contracted registration term.

(n) Translation of foreign currency transactions

The Company's functional currency is the United States dollar. Monetary assets and liabilities of the Company and of its wholly owned subsidiaries that are denominated in foreign currencies are translated into United States dollars at the exchange rates prevailing at the balance sheet dates. Non-monetary assets and liabilities are translated at the historical exchange rates. Transactions included in operations are translated at the rate at the date of the transactions.

(o) Income taxes

Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss carry forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in net income in the year that includes the enactment date. A valuation allowance is recorded if it is not "more likely than not" that some portion of or all of a deferred tax asset will be realized.

The Company recognizes the impact of an uncertain income tax position at the largest amount that is more-likely-than-not to be sustained upon audit by the relevant taxing authority and includes consideration of interest and penalties. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. The liability for unrecognized tax benefits is classified as non-current unless the liability is expected to be settled in cash within 12 months of the reporting date.

(p) Stock-based compensation

Stock-based compensation expense recognized during the period is based on the value of the portion of stock-based payment awards that is ultimately expected to vest, reduced for estimated forfeitures.

(q) Earnings per common share

Basic earnings per common share has been calculated on the basis of net income for the year divided by the weighted average number of common shares outstanding during each year. Diluted earnings per share gives effect to all dilutive potential common shares outstanding at the end of the year assuming that they had been issued, converted or exercised at the later of the beginning of the year or their date of issuance. In computing diluted earnings per share, the treasury stock method is used to determine the number of shares assumed to be purchased from the conversion of common share equivalents or the proceeds of the exercise of options.

(r) Concentration of credit risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash equivalents, accounts receivable and forward foreign exchange contracts. Cash equivalents consist of deposits with major commercial banks, the maturities of which are three months or less from the date of purchase. With respect to accounts receivable, the Company performs periodic credit evaluations of the financial condition of its customers and typically does not require collateral from them. The counterparty to any forward foreign exchange contracts is a major commercial bank which management believes does not represent a significant credit risk. Management assesses the need for allowances for potential credit losses by considering the credit risk of specific customers, historical trends and other information.

(s) Fair value measurement

Fair value of financial assets and liabilities is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. The three-tier hierarchy for inputs used in measuring fair value, which prioritizes the inputs used in the methodologies of measuring fair value for assets and liabilities, is as follows:

- Level 1—Quoted prices in active markets for identical assets or liabilities
- Level 2—Observable inputs other than quoted prices in active markets for identical assets and liabilities
- Level 3—No observable pricing inputs in the market

Financial assets and financial liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurements. Our assessment of the significance of a particular input to the fair value measurements requires judgment, and may affect the valuation of the assets and liabilities being measured and their placement within the fair value hierarchy.

The fair value of cash and cash equivalents, accounts receivable, accounts payable, accreditation fees payable, customer deposits and accrued liabilities (level 2 measurements) approximate their carrying values due to the relatively short periods to maturity of the instruments.

The fair value of the derivative financial instruments is determined using an estimated credit-adjusted mark-to-market valuation (a level 2 measurement) which takes into consideration the Company and the counterparty credit risk.

(t) Investments

The Company accounts for investment in entities over which it has the ability to exert significant influence, but does not control and is not the primary beneficiary of, using the equity method of accounting. The Company includes the proportionate share of earnings (loss) of the equity method investees in Other Income in the Consolidated Statements of Comprehensive Income. The proportional shares of affiliate earnings or losses accounted for under the equity method of accounting were not material for all periods presented.

(u) Segment reporting

The Company operates in two operating segments, Domain Services and Network Access Services.

The Company's Domain Services revenues are attributed to the country in which the contract originates. Revenues from domain names issued under the OpenSRS brand from the Ontario, Canada location are attributed to Canada because it is impracticable to determine the country of the customer. Revenues from domain names issued under the eNom brand from the Washington state location are attributable to the United States because it is impracticable to determine the country of the customer. The Company's Network Access Services which consist primarily of mobile telephony services, and the provisioning of high speed Internet access and consulting services, are generated primarily through its business operations in the United States.

The Company's assets are primarily located in Canada, the United States and Europe.

(v) Recent Accounting Pronouncements

Recent Accounting Pronouncements Adopted

ASU 2016-02: Adoption of Leases (Topic 842)

The Company adopted ASU No. 2016-02, *Leases* (Topic 842) ("ASU 2016-02") as of January 1, 2019.

The Company has elected to apply ASU 2016-02 using the modified retrospective approach with the transition relief provided by ASC 2018-11, which allows the Company to use January 1, 2019 as the date of initial application. As a result, all comparative periods have not been restated and continue to be reported under Topic 840.

The Company elected the practical expedient to use hindsight when considering the likelihood that lessee options to extend or terminate a lease or purchase the underlying asset will be exercised, and in assessing the impairment of right-of-use assets.

The Company elected the practical expedient to separate non-lease components from the associated lease components for its existing datacenter, corporate offices and fiber-optic cable leases at transition.

As a result of adopting ASU 2016-02, the most significant effects were the recognition of a right-of-use ("ROU") asset and lease liability related to operating leases of approximately \$8.8 million and approximately \$8.3 million, respectively at January 1, 2019. The difference between the ROU asset and lease liability of \$0.5 million was due to the net reclassification of previously deferred rent and prepaid expenses of approximately \$0.1 million and approximately \$0.6 million, respectively to the ROU asset. There was no impact on opening retained earnings on adoption. The adoption of ASU 2016-02 did not have a significant impact on our consolidated statements of comprehensive income or our consolidated statements of cash flows.

ASU 2014-09: Adoption of Revenue from Contracts with Customers (Topic 606)

On January 1, 2018, the Company adopted ASU 2014-09 using the modified retrospective method by recognizing the cumulative effect of initially applying ASU 2014-09 as an adjustment to the opening balance of equity as at January 1, 2018. The results for reporting periods beginning after January 1, 2018 are presented under ASU 2014-09, while prior period amounts are not adjusted and continue to be reported in accordance with our historic accounting policy, under Accounting Standards Codification ("ASC") Topic 605, Revenue Recognition (ASC Topic 605). The adoption of ASU 2014-09 did not affect the Company's cash flows from operating, investing, or financing activities. Furthermore, the impact on timing of revenue recognition was not material as the treatment of revenue for services rendered over time is consistent under ASU 2014-09 and ASC Topic 605. The details of the significant changes and quantitative impact of the changes are set out below. For a more comprehensive description of how the Company recognizes revenue under the new revenue standard in accordance with its performance obligations, see Note 10 – Revenue for more information.

The Company previously recognized commission fees related to Ting Mobile, Ting Internet, eNom domain registration and eNom domain related value-added service contracts as selling expenses when they were incurred. Under ASU 2014-09, when these commission fees are deemed incremental and are expected to be recovered, the Company capitalizes as an asset such commission fees as costs of obtaining a contract. These commission fees are amortized into income consistently with the pattern of transfer of the good or service to which the asset relates. The amortization of deferred costs of acquisition are amortized into Sales and marketing expense. The estimation of the amortization period for the costs to obtain a contract requires judgement.

Under ASU 2014-09, the Company has applied the following practical expedients:

- a) When the amortization period for costs incurred to obtain a contract with a customer is less than one year, the Company has elected to apply a practical expedient to expense the costs as incurred; and
- b) For mobile and internet access services, where the performance obligation is part of contracts that have an original expected duration of one year or less (typically one month), the Company has elected to apply a practical expedient to not disclose revenues expected to be recognized in the future related performance obligations that are unsatisfied (or partially unsatisfied).

On January 1, 2018 as a result of adopting ASU 2014-09, the Company recorded a contract cost asset of \$1.4 million with a corresponding increase to opening retained earnings and deferred tax liability of \$1.1 million and \$0.3 million, respectively, due to the deferral of costs of obtaining contracts.

ASU 2017-12: Derivatives and Hedging (Topic 815)

In August 2017, the Financial Accounting Standards Board ("FASB") issued ASU No. 2017-12, *Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities* ("ASU 2017-12"), which better aligns an entity's risk management activities and financial reporting for hedging relationship through changes to both the designation and measurement guidance for qualifying hedging relationships and presentation of hedge results. The new standard expands and refines hedge accounting for both nonfinancial and financial risk components and aligns the recognition and presentation of the effects of the hedging instrument and hedged item in the financial statements. The Company adopted the targeted improvements to ASU 2017-12 on January 1, 2019 using a modified retrospective approach to existing hedging relationships. The new guidance did not have a material impact on our consolidated financial statements.

Recent Accounting Pronouncements Not Yet Adopted

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software* (Subtopic 350-40): Customer’s Accounting for Fees Paid in a Cloud Computing Arrangement (“ASU 2018-15”). ASU 2018-15 helps entities evaluate the accounting for fees paid by a customer in a cloud computing arrangement (hosting arrangement) by providing guidance on accounting for implementation costs when the cloud computing arrangement does not include a license and is accounted for as a service contract. The amendments in ASU 2018-15 require an entity (customer) in a hosting arrangement to assess which implementation costs to capitalize vs expense as it relates to a service contract. The amendments also require the entity (customer) to expense the capitalized implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement. ASU 2018-15 will be effective for the Company for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. The Company does not believe there will be a material impact as a result of adopting this standard.

3. Acquisitions:

(a) Blue Ridge Websoft

On February 27, 2015, Ting Fiber, Inc. ("Ting"), one of the Company's wholly owned subsidiaries, acquired a 70% ownership interest in Ting Virginia, LLC and its subsidiaries, Blue Ridge Websoft, LLC (doing business as Blue Ridge Internet Works), Fiber Roads, LLC and Navigator Network Services, LLC for consideration of approximately \$3.5 million.

On February 1, 2017, under the terms of a call option in the agreement, Ting acquired an additional 20% interest in Ting Virginia, LLC from the selling shareholders (the "Minority Shareholders") for consideration of \$2.0 million.

On February 13, 2018, the Company entered into an agreement with the Minority Shareholders pursuant to which the Minority Shareholders could immediately exercise their put option to sell their remaining 10% ownership interest in Ting Virginia, LLC for \$1.2 million to the Company. The put option was exercised on February 13, 2018 and the Company paid \$1.2 million for the remaining 10% ownership interest and Ting Virginia, LLC became a wholly-owned subsidiary of the Company.

(b) eNom, Incorporated

On January 20, 2017, the Company entered into a Stock Purchase Agreement with its indirect wholly owned subsidiary, Tucows (Emerald), LLC, Rightside Group, Ltd., and Rightside Operating Co., pursuant to which Tucows (Emerald), LLC purchased from Rightside Operating Co. all of the issued and outstanding capital stock of eNom, Incorporated, a domain name registrar business. The purchase price was \$77.8 million, which represented the agreed upon purchase of \$83.5 million less an amount of \$5.7 million related to the working capital deficiency acquired.

As required by ASC 805, Business Combinations, the Company has recorded deferred revenue at fair value at the acquisition date, which was determined by estimating the costs associated with customer support services and prepaid domain name registration fees to fulfill the contractual obligations over the remaining life of the contract at the acquisition date plus a normal profit margin.

The goodwill related to this acquisition is primarily attributable to synergies expected to arise from the acquisition and is not deductible for tax purposes.

In connection with this acquisition, the Company incurred total acquisition related costs of \$0.3 million included in General & Administrative expenses in the Consolidated Statements of Comprehensive Income for Fiscal 2017.

The amortization for the brands, technology and customer relationships are 7, 2 and 7 years, respectively.

The Company has prepared a final purchase price allocation of the assets acquired and the liabilities assumed of eNom based on management's best estimates of fair value. The final purchase price reflects the final appraisals, valuations and analyses of the fair value of the acquired assets and assumed liabilities.

The following table shows the final allocation of the purchase price for eNom to the acquired identifiable assets and liabilities assumed (*thousands of U.S. dollars*):

Goodwill	\$	69,048
Cash		1,594
Brand		12,400
Developed technology		3,900
Customer relationships		28,000
Prepaid domain registry fees		70,644
Other assets		10,171
Total assets		195,757
Deferred Revenue		(77,799)
Deferred Tax Liabilities		(24,223)
Other liabilities		(15,903)
Total liabilities		(117,925)
Consideration Paid	\$	77,832

(c) Ascio

On March 18, 2019, the Company entered into an Asset Purchase Agreement with its indirect wholly owned subsidiary, Ting Fiber, Inc., and NetNames European Holdings ApS, CSC Administrative Services Limited UK, and Corporation Service Company ("CSC"), pursuant to which Ting Fiber, Inc. purchased from CSC all of the equity of Ascio Technologies, Inc. ("Ascio"), a domain registrar business, and all of CSC's assets related to that business. The final purchase price was \$29.9 million, which represented the agreed upon purchase of \$29.44 million plus an amount of \$0.45 million related to the estimated working capital deficiency acquired.

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As required by ASC 805, Business Combinations, the Company has recorded deferred revenue at fair value at the acquisition date, which was determined by estimating the costs associated with customer support services and prepaid domain name registration fees to fulfill the contractual obligations over the remaining life of the contract at the acquisition date plus a normal profit margin.

Goodwill	\$	19,765
Cash		1,437
Brand		2,090
Developed technology		2,440
Customer relationships		10,610
Prepaid domain registry fees		10,318
Other assets		2,218
Total assets		48,878
Deferred Revenue		(12,510)
Deferred Tax Liabilities		(2,852)
Other liabilities		(3,630)
Total liabilities		(18,992)
Consideration Paid	\$	29,886

All definite life intangible assets acquired, including brand, developed technology and customer relationships will be amortized over 7 years.

The goodwill related this acquisition is primarily attributable to synergies expected to arise from the acquisition and is deductible for US tax purposes but non-deductible for Danish tax purposes.

In connection with this acquisition, the Company incurred total acquisition related costs of \$0.5 million of which \$0.3 million were included in General & Administrative expenses in the consolidated statements of operations and comprehensive income during Fiscal 2019.

The following table presents selected unaudited pro forma information for the Company assuming the acquisition of Ascio had occurred as of January 1, 2018. This pro forma information does not purport to represent what the Company's actual results would have been if the acquisition had occurred as of the date indicated or what results would be for any future periods.

	Unaudited	
	Twelve months ended December 31,	
	2019	2018
Net revenues	\$ 341,860	\$ 365,963
Net income	15,466	14,404
Basic earnings per common share	1.46	1.36
Diluted earnings per common share	\$ 1.44	\$ 1.33

The amount of revenue recognized since the acquisition date included in the consolidated statements of operations and comprehensive income statement for Fiscal 2019 is \$17.4 million.

The net income recognized since the acquisition date included in the consolidated statements of operations and comprehensive income for Fiscal 2019 are losses of \$1.7 million.

4. Property and Equipment:

Property and equipment consist of the following (Dollar amounts in thousands of U.S. dollars):

	December 31, 2019	December 31, 2018
Computer equipment	\$ 18,027	\$ 13,566
Computer software	2,336	1,496
Capitalized internal use software	1,270	-
Furniture and equipment	1,394	1,364
Vehicles and tools	2,656	2,323
Fiber network	40,645	30,215
Customer equipment and installations	8,586	4,939
Land	1,511	823
Assets under construction	30,352	10,030
Leasehold improvements	542	229
	107,319	64,985
Less:		
Accumulated depreciation	25,198	16,920
	\$ 82,121	\$ 48,065

Depreciation of property and equipment (Dollar amounts in thousands of U.S. dollars):

Year Ended December 31,	Year Ended December 31,	Year Ended December 31,
----------------------------	----------------------------	----------------------------

	2019	2018	2017
Depreciation of property and equipment	\$ 8,961	\$ 5,722	\$ 3,727

During the year ended December 31, 2019, property, plant and equipment with a net book value of \$0.1 million was written off. During the years ended December 31, 2018 and 2017, property, plant and equipment with a net book value of \$nil, and \$nil respectively were written off.

5. Goodwill and Other Intangible Assets

Goodwill

Goodwill represents the excess of the purchase price over the fair value of tangible and identifiable intangible assets acquired and liabilities assumed in our acquisitions.

The Company's Goodwill balance is \$109.8 million as of December 31, 2019 and \$90.1 million as of December 31, 2018. The Company's goodwill relates 98% (\$107.7 million) to its Domain Services operating segment and 2% (\$2.1 million) to its Network Access Services operating segment.

Goodwill is not amortized, but is subject to an annual impairment test. The Company performed an impairment analysis as outlined in "Note 2(g) – Significant Accounting Policies" and there were no indications of impairment for Fiscal 2019 and Fiscal 2018.

Other Intangible Assets:

Intangible assets consist of acquired brand, technology, customer relationships, surname domain names, direct navigation domain names and network rights. The Company considers its intangible assets consisting of surname domain names and direct navigation domain names as indefinite life intangible assets. The Company has the exclusive right to these domain names as long as the annual renewal fees are paid to the applicable registry. Renewals occur routinely and at a nominal cost. The indefinite life intangible assets are not amortized, but are subject to impairment assessments performed throughout the year. During Fiscal 2019, we assessed that certain domain names that were originally acquired in the June 2006 acquisition of Mailbank.com Inc. that were up for renewal, should not be renewed. During the years ended December 31, 2019 and December 31, 2018, domain names with a book value of \$nil, were not renewed and were recorded as an impairment of indefinite life intangible assets. During the year ended December 31, 2017 domain names, with a book value of \$0.1 million, were not renewed and were recorded as impairments of indefinite life intangible assets.

Intangible assets, comprising brand, technology, customer relationships and network rights are being amortized on a straight-line basis over periods of two to fifteen years.

On November 16, 2018, the Company acquired the right from The People's Operator USA, LLC ("TPO") to mass migrate TPO MVNO customers based in the United States, for consideration of \$0.4 million. These assets have been assigned to Customer Relationships and are being amortized over 3 years.

In the third quarter of 2019, the Company acquired the mobile customer base of FreedomPop and Unreal Mobile brands from STS Media Inc., operating on the Sprint network. The migration of these customers occurred over a 60-day period, ending in September 2019 with subscribers having the option to accept the Ting offering or cancel or port their service elsewhere. The final purchase price was \$3.5 million. These assets have been assigned to Customer Relationships and are being amortized over 3 years.

Acquired intangible assets consist of the following (Dollar amounts in thousands of U.S. dollars):

	Surname domain names	Direct navigation domain names	Brand	Customer relationships	Technology	Network rights	Total
Amortization period	indefinite life	indefinite life	7 years	3 - 7 years	2 - 7 years	15 years	
Balances, December 31, 2017	\$ 11,257	\$ 1,505	\$ 10,793	\$ 32,185	\$ 2,113	\$ 561	\$ 58,414
Acquisition of customer relationships	-	-	-	565	-	-	565
Additions to/(disposals from) domain portfolio, net	(81)	(260)	-	-	-	-	(341)
Amortization expense	-	-	(1,789)	(5,458)	(1,950)	(46)	(9,243)
Balances December 31, 2018	\$ 11,176	\$ 1,245	\$ 9,004	\$ 27,292	\$ 163	\$ 515	\$ 49,395
Ascio Technologies Inc. acquisition	-	-	2,090	10,610	2,440	-	15,140
FreedomPop acquisition	-	-	-	3,475	-	-	3,475
Acquisition of customer relationships	-	-	-	91	-	-	91
Additions to/(disposals from) domain portfolio, net	(12)	(102)	-	-	-	-	(114)
Amortization expense	-	-	(2,003)	(7,197)	(1,087)	(46)	(10,333)
Balances December 31, 2019	\$ 11,164	\$ 1,143	\$ 9,091	\$ 34,271	\$ 1,516	\$ 469	\$ 57,654

The following table shows the estimated amortization expense for each of the next 5 years, assuming no further additions to acquired intangible assets are made (Dollar amounts in thousands of U.S. dollars):

	Year ending December 31,
2020	\$ 9,416
2021	10,455
2022	10,455
2023	9,386
2024	2,796
Thereafter	2,839
Total	\$ 45,347

6. Fair Value Measurement:

For financial assets and liabilities recorded in our financial statements at fair value we utilize a valuation hierarchy for disclosure of the inputs to valuation used to measure fair value. This hierarchy prioritizes the inputs into three broad levels. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. Level 3 inputs are unobservable inputs based on the Company's own assumptions used to measure assets and liabilities at fair value. A financial asset or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

The following table provides a summary of the fair values of the Company's derivative instruments measured at fair value on a recurring basis as at December 31, 2019 (Dollar amounts in thousands of U.S. dollars):

	December 31, 2019			Assets (Liabilities) at Fair value
	Fair Value Measurement Using			
	Level 1	Level 2	Level 3	
Derivative instrument asset	\$ -	\$ 731	\$ -	\$ 731
Total Assets	\$ -	\$ 731	\$ -	\$ 731

The following table provides a summary of the fair values of the Company's derivative instruments measured at fair value on a recurring basis as at December 31, 2018 (Dollar amounts in thousands of U.S. dollars):

	December 31, 2018			Assets (Liabilities) at Fair value
	Fair Value Measurement Using			
	Level 1	Level 2	Level 3	
Derivative instrument liability	\$ -	\$ (1,276)	\$ -	\$ (1,276)
Total Liabilities	\$ -	\$ (1,276)	\$ -	\$ (1,276)

7. Derivative Instruments and Hedging Activities:

Foreign currency forward contracts

Since October 2012, the Company has employed a hedging program with a Canadian chartered bank to limit the potential foreign exchange fluctuations incurred on its future cash flows related to a portion of payroll, taxes, rent and payments to Canadian domain name registry suppliers that are denominated in Canadian dollars and are expected to be paid by its Canadian operating subsidiary. As part of its risk management strategy, the Company uses derivative instruments to hedge a portion of the foreign exchange risk associated with these costs. The Company does not use these forward contracts for trading or speculative purposes. These forward contracts typically mature between one and eighteen months.

The Company has designated certain of these transactions as cash flow hedges of forecasted transactions under ASC Topic 815. For certain contracts, as the critical terms of the hedging instrument, and of the entire hedged forecasted transaction, are the same, in accordance with ASC Topic 815, the Company has been able to conclude that changes in fair value and cash flows attributable to the risk of being hedged are expected to completely offset at inception and on an ongoing basis. Accordingly, unrealized gains or losses on the effective portion of these contracts have been included within other comprehensive income. The fair value of the contracts, as of December 31, 2019 and 2018, is recorded as derivative instrument assets or liabilities. For certain contracts where the hedged transactions are no longer probable to occur, the loss on the associated forward contract is recognized in earnings.

As of December 31, 2019, the notional amount of forward contracts that the Company held to sell U.S. dollars in exchange for Canadian dollars was \$30.5 million, of which \$26.1 million met the requirements of ASC Topic 815 and were designated as hedges.

As of December 31, 2018 the notional amount of forward contracts that the Company held to sell U.S. dollars in exchange for Canadian dollars was \$40.5 million, of which \$36.5 million met the requirements of ASC Topic 815 and were designated as hedges.

As of December 31, 2019, we had the following outstanding forward contracts to trade U.S. dollars in exchange for Canadian dollars:

Maturity date (Dollar amounts in thousands of U.S. dollars)	Notional amount of U.S. dollars	Weighted average exchange rate of U.S. dollars	Fair value
January - March 2020	10,729	1.3296	259
April - June 2020	9,654	1.3296	232
July - September 2020	5,300	1.3296	127
October - December 2020	4,803	1.3296	113
	<u>\$ 30,486</u>	<u>1.3296</u>	<u>\$ 731</u>

Fair value of derivative instruments and effect of derivative instruments on financial performance

The effect of these derivative instruments on our consolidated financial statements as of, and for the year ended December 31, 2019 and 2018, were as follows (amounts presented do not include any income tax effects).

Fair value of derivative instruments in the consolidated balance sheets (see "Note 6 – Fair Value Measurement")

Derivatives (Dollar amounts in thousands of U.S. dollars)	Balance Sheet Location	As of December 31, 2019 Fair Value Asset	As of December 31, 2018 Fair Value Liability
Foreign Currency forward contracts designated as cash flow hedges (net)	Derivative instruments	\$ 626	\$ (1,069)
Foreign Currency forward contracts not designated as cash flow hedges (net)	Derivative instruments	105	(207)
Total foreign currency forward contracts (net)	Derivative instruments	\$ 731	\$ (1,276)

Movement in AOCI balance for the year ended December 31, 2019 (Dollar amounts in thousands of U.S. dollars)

	Gains and losses on cash flow hedges	Tax impact	Total AOCI
Opening AOCI balance - December 31, 2018	\$ (1,069)	\$ 259	\$ (810)
Other comprehensive income (loss) before reclassifications	1,454	(353)	1,101
Amount reclassified from AOCI	240	(58)	182
Other comprehensive income (loss) for the year ended December 31, 2019	1,694	(411)	1,283
Ending AOCI Balance - December 31, 2019	\$ 625	\$ (152)	\$ 473

Movement in AOCI balance for the year ended December 31, 2018 (Dollar amounts in thousands of U.S. dollars)

	Gains and losses on cash flow hedges	Tax impact	Total AOCI
Opening AOCI balance - December 31, 2017	\$ -	\$ -	\$ -
Other comprehensive income (loss) before reclassifications	(1,350)	328	(1,022)
Amount reclassified from AOCI	281	(69)	212
Other comprehensive income (loss) for the year ended December 31, 2018	(1,069)	259	(810)
Ending AOCI Balance - December 31, 2018	\$ (1,069)	\$ 259	\$ (810)

Movement in AOCI balance for the year ended December 31, 2017 (Dollar amounts in thousands of U.S. dollars)

	Gains and losses on cash flow hedges	Tax impact	Total AOCI
Opening AOCI balance - December 31, 2016	\$ 156	\$ (56)	\$ 100
Other comprehensive income (loss) before reclassifications	863	(313)	550
Amount reclassified from AOCI	(1,019)	369	(650)
Other comprehensive income (loss) for the year ended December 31, 2017	(156)	56	(100)
Ending AOCI Balance - December 31, 2017	\$ -	\$ -	\$ -

Effects of derivative instruments on income and other comprehensive income (OCI) (Dollar amounts in thousands of U.S. dollars)

Derivatives in Cash Flow Hedging Relationship	Amount of Gain or (Loss) Recognized in OCI, net of tax, on Derivative	Location of Gain or (Loss) Reclassified from AOCI into Income	Amount of Gain or (Loss) Reclassified from AOCI into Income
		Operating expenses	\$ (197)
Foreign currency forward contracts for the year ended December 31, 2019	\$ 1,283	Cost of revenues	\$ (43)
		Operating expenses	\$ (245)
Foreign currency forward contracts for the year ended December 31, 2018	\$ (810)	Cost of revenues	\$ (36)
		Operating expenses	\$ 879
Foreign currency forward contracts for the year ended December 31, 2017	\$ (100)	Cost of revenues	\$ 140

We have entered into certain forward exchange contracts that do not comply with the requirements of hedge accounting to meet a portion of our future Canadian dollar requirements through December 2019. During Fiscal 2019, the Company recorded a net gain of \$0.3 million on the change in fair value of outstanding contracts as well as a \$0.1 million realized loss on matured contracts. In Fiscal 2018 the Company recorded a net loss of \$0.2 million for the change in fair value of outstanding contracts and a loss of less than \$0.1 million of settlements of contracts not designated as hedges. For the year ended December 31, 2017, the Company recorded a gain of \$0.1 million on matured contracts, with no contracts outstanding at December 31, 2017.

8. Loan Payable:

Amended 2019 Credit Facility

On June 14, 2019, the Company and its wholly-owned subsidiaries, Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Delaware) Inc. and Tucows (Emerald), LLC entered into an Amended and Restated Senior Secured Credit Agreement (the “Amended 2019 Credit Facility”) with Royal Bank (“RBC”), as administrative agent, and lenders party thereto (collectively with RBC, the “Lenders”) under which the Company has access to an aggregate of up to \$240 million in funds, which consists of \$180 million guaranteed credit facility and a \$60 million accordion facility. The Amended 2019 Credit Facility replaced the Company’s 2017 Amended Credit Facility.

In connection with the Amended 2019 Credit Facility, the Company incurred \$0.3 million of fees paid to the Lenders and \$0.2 million of legal fees related to the debt issuance. Of these fees, \$0.4 million are debt issuance costs, which have been reflected as a reduction to the carrying amount of the loan payable and will be amortized over the term of the credit facility agreement and \$0.1 million have been recorded in General and administrative expenses.

The obligations of the Company under the Amended 2019 Credit Agreement are secured by a first priority lien on substantially all of the personal property and assets of the Company and has a four-year term, maturing on June 13, 2023.

2017 Amended Credit Facility

Prior to entering into the Amended 2019 Credit Facility, the Company had entered into a secured Credit Agreement (as amended, the “2017 Amended Credit Facility”) on January 20, 2017 with Bank of Montreal (“BMO”), RBC and Bank of Nova Scotia (collectively, the “Previous Lenders”) under which the Company had access to an aggregate of up to \$140 million in funds.

On March 18, 2019, the Company entered into the Second Amendment to the 2017 Credit Facility to provide the Previous Lenders’ consent for the acquisition of Ascio (discussed in “Note 3 (c) – Acquisitions”), advance the acquisition funding and to reallocate borrowing limits between loan facilities. We incurred costs associated with the Second Amendment to the 2017 Credit Facility of \$0.2 million, which were recorded as debt issuance costs.

The obligations of the Company under the 2017 Amended Credit Facility were secured by a first priority lien on substantially all of the personal property and assets of the Company and had a four-year term.

Credit Facility Terms

The Amended 2019 Credit Facility is revolving with interest only payments with no scheduled repayments during the term.

The Amended 2019 Credit Facility contains customary representations and warranties, affirmative and negative covenants, and events of default. The Amended 2019 Credit Facility requires that the Company to comply with the following financial covenants: (i) at all times, a Total Funded Debt to Adjusted EBITDA Ratio (as defined in the Amended 2019 Credit Agreement) of 3.50:1; and (ii) with respect to each fiscal quarter, an Interest Coverage Ratio (as defined in the Amended 2019 Credit Agreement) of not less than 3.00:1. Further, the Company's maximum annual Capital Expenditures cannot exceed 110% of the forecasted capital expenditures of its annual business plan. In addition, share repurchases require the Lenders' consent if the Company's Total Funded Debt to Adjusted EBITDA ratio exceeds 2.00:1. As at and for the period ending December 31, 2019, the Company was in compliance with these covenants and as at and for the period ending December 31, 2018, the Company was in compliance with the covenants under the 2017 Amended Credit Facility.

Borrowings under the Amended 2019 Credit Facility will accrue interest and standby fees based on the Company's Total Funded Debt to Adjusted EBITDA ratio and the availment type as follows:

Availment type or fee	If Total Funded Debt to EBITDA is:			
	Less than 1.00	Greater than or equal to 1.00 and less than 2.00	Greater than or equal to 2.00 and less than 2.50	Greater than or equal to 2.50
Canadian dollar borrowings based on Bankers' Acceptance or U.S. dollar borrowings based on LIBOR (Margin)	1.50%	1.85%	2.35%	2.85%
Canadian or U.S. dollar borrowings based on Prime Rate or U.S. dollar borrowings based on Base Rate (Margin)	0.25%	0.60%	1.10%	1.60%
Standby fees	0.30%	0.37%	0.47%	0.57%

The following table summarizes the Company's borrowings under the credit facilities (Dollar amounts in thousands of U.S. dollars):

	December 31, 2019	December 31, 2018
Revolver	114,400	-
Facility A	-	1,000
Facility B	-	6,000
Facility C	-	3,232
Facility D	-	54,924
Less: unamortized debt discount and issuance costs	(897)	(555)
Total loan payable	113,503	64,601
Less: loan payable, current portion	-	(18,400)
Loan payable, long-term portion	113,503	46,201

The following table summarizes our scheduled principal repayments as of December 31, 2019 (Dollar amounts in thousands of U.S. dollars):

2020	-
2021	-
2022	-
2023	114,400
	<u>\$ 114,400</u>

Other Credit Facilities

Prior to the Company entering into the Amended 2019 Credit Facility and the 2017 Amended Credit Facility, the Company had credit agreements (collectively the "Prior Credit Facilities") with BMO, which provided the Company with access to a treasury risk management facility and a credit card facility. All remaining credit facilities under the Prior Credit Facilities have been terminated.

9. Income Taxes:

The provision for income taxes differs from the amount computed by applying the statutory federal income tax rate of 21% for the years ended December 31, 2019 and December 31, 2018 and 35% for the year ended December 31, 2017, to income before provision for income taxes as a result of the following (Dollar amounts in thousands of U.S. dollars):

	Year ended December 31,		
	2019	2018	2017
Income for the year before provision for income taxes	\$ 24,571	\$ 26,155	\$ 24,075
Computed federal tax expense	5,160	5,492	8,185
Increase (reduction) in income tax expense resulting from:			
State income taxes	526	846	657
Effect of the decrease in Federal tax rate on deferred taxes	-	-	(10,036)
Change in Valuation allowance	5,277	2,811	1,276
Non-creditable Foreign Tax	515	-	2,903
Excess tax benefits on share-based compensation expense	(634)	(697)	(2,796)
Permanent differences	(103)	159	1,636
Effect of deferred tax in foreign branch	(840)	-	-
Others	(728)	409	(77)
Provision for income taxes	\$ 9,173	\$ 9,020	\$ 1,748

On December 22, 2017, the U.S. Government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the Tax Act). The Tax Act makes broad and complex changes to the U.S. tax code, including, but not limited to: (1) reducing the U.S. federal corporate tax rate from 35% to 21%; (2) changing rules related to uses and limitations of net operating loss carry forwards created in tax years beginning after December 31, 2017; (3) bonus depreciation allows for full expensing of qualified property; (4) creating a new limitation on deductible interest expense; (5) eliminating the corporate alternative minimum tax; and (6) new tax rules related to foreign operations.

In Fiscal 2019, the Company was able to utilize the bonus depreciation with respect to its continued investment in the Ting Internet business. The impact of this, together with the reduction in tax rate to 21%, make it unlikely we will ultimately be able to fully claim the Fiscal 2019 foreign taxes paid in future years. In addition, the Company generated net operating losses of \$0.3 million which it does not expect to be able to utilize in the future. As such, we have taken a valuation allowance on foreign tax credits not utilized for 2019 income tax purposes and net operating losses not expected to be utilized in the future, the net negative effect of which is a \$5.3 million addition to income tax expense.

In Fiscal 2018, the Company was able to utilize the bonus depreciation with respect to its continued investment in the Ting Internet business. The impact of this, together with the reduction in tax rate to 21%, make it unlikely we will ultimately be able to fully claim the Fiscal 2018 foreign taxes paid in future years. In addition, the Company generated net operating losses of \$0.2 million which it does not expect to be able to utilize in the future. As such, we have taken a valuation allowance on foreign tax credits not utilized for 2018 income tax purposes and net operating losses not expected to be utilized in the future, the net negative effect of which is a \$2.8 million addition to income tax expense.

In Fiscal 2017, we reflected a net \$5.8 million non-cash tax benefit through income from continuing operations for the re-measurement impact related to the changes in tax laws included in the Tax Act. The primary driver of this re-measurement was the result of the reduction in the corporate tax rate from 35% to 21% which resulted in our recognizing, based on the rates at which they are expected to reverse in the future, a \$10.0 million non-cash tax benefit through income from continuing operations for the re-measurement of our deferred tax assets and liabilities. This amount was partially offset by our recording a valuation allowance of \$1.3 million related to prior year Foreign Tax Credits that we have determined are no longer more likely than not to be used as the tax rate in the jurisdiction where these Foreign Tax Credits were generated is higher than the 21% corporate tax rate. In addition, the impact of the prepaid registry fee deduction, more fully described below, together with the reduction in the tax rate to 21% made it unlikely we would be able to claim the Fiscal 2017 foreign taxes paid in future years and as such opted to utilize the foreign taxes paid as a deduction for 2017 income tax purposes, the net negative effect of which was a \$2.9 million addition to income tax expense.

On December 22, 2017, the SEC issued guidance to address the application of GAAP in situations when a registrant does not have the necessary information available, prepared or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. The completion of our 2017 income tax returns, future guidance and additional information and interpretations with the respect to the Tax Act resulted in insignificant adjustments related to provisional impact estimates from Fiscal 2017.

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and liabilities as of December 31, 2019, and 2018 are presented below (Dollar amounts in thousands of U.S. dollars):

	<u>December 31, 2019</u>	<u>December 31, 2018</u>
Deferred tax assets (liabilities):		
Deferred tax assets:		
Deferred revenue	\$ 6,301	\$ 6,497
Foreign tax credits and general business credits	9,004	3,864
Net operating losses	1,341	1,892
Accruals, including foreign exchange and other	1,490	1,955
Sub-total Deferred tax assets	18,136	14,208
Valuation allowance	(9,365)	(4,087)
Total deferred tax assets	<u>\$ 8,771</u>	<u>\$ 10,121</u>
Deferred tax liabilities:		
Prepaid registry fees and expenses	\$ (16,237)	\$ (15,950)
Amortization	(6,925)	(5,871)
Limited life intangible assets	(5,958)	(6,115)
Indefinite life intangible assets	(3,110)	(3,110)
Foreign branch deferred tax liability	(2,012)	-
Total deferred tax liability	<u>\$ (34,242)</u>	<u>\$ (31,046)</u>
Net deferred tax asset (liability)	<u>\$ (25,471)</u>	<u>\$ (20,925)</u>

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the years in which those temporary differences become deductible. Management considers projected future taxable income, uncertainties related to the industry in which the Company operates, and tax planning strategies in making this assessment.

We believe it is more likely than not that our remaining deferred tax assets, net of the valuation allowance, will be realized based on current income tax laws, including those modified by the Tax Act, and expectations of future taxable income stemming from forecasted profits from ongoing operations and from the reversal of existing deferred tax liabilities.

The Company had nil total gross unrecognized tax benefits as of both December 31, 2019 and December 31, 2018. The Company had \$15 (in thousands of U.S. dollars) total gross unrecognized tax benefits as of December 31, 2017.

The Company recognizes accrued interest and penalties related to unrecognized tax benefits in tax expense. The Company did not have any interest and penalties accrued as of December 31, 2019, and December 31, 2018.

The following is a reconciliation of Tucows' change in uncertain tax position (Dollar amounts in thousands of U.S. dollars):

	<u>December 31, 2019</u>	<u>December 31, 2018</u>
Total Gross Unrecognized Tax Benefits		
Balance, beginning of year	\$ -	\$ 15
Change in uncertain tax benefits	-	(15)
Balance, end of year	<u>\$ -</u>	<u>\$ -</u>

In connection with the eNom acquisition in 2017, we acquired deferred tax liabilities primarily composed of prepaid registry fees. As a result, we aligned our tax methodology pertaining to the deductibility of prepaid registry fees for our other subsidiaries. In the first quarter of 2019, we determined that we were in technical violation with respect to the administrative application of the accounting method change relating to the deductibility of prepaid registry fees for these additional subsidiaries. In February 2019, the Company filed an application for relief ("9100 Relief") to correct the issue. In November 2019, the Company was granted 9100 Relief and was given 30 days to file the appropriate forms based on prescribed instructions. The Company filed the forms in December and now awaits the final IRS response and acceptance of the change in accounting method. Management is of the view that it is more likely than not that the IRS will accept the 9100 Relief and filing of the prescribed forms. As such, no additional tax uncertainties or related interest or penalties have been recorded as at December 31, 2019.

10. Revenue:

Significant accounting policy

The Company's revenues are derived from (a) the provisioning of mobile and fiber Internet services; and from (b) domain name registration contracts, other domain related value-added services, domain sale contracts, and other advertising revenue. Amounts received in advance of meeting the revenue recognition criteria described below are recorded as deferred revenue. All products are generally sold without the right of return or refund.

Revenue is measured based on consideration specified in a contract with a customer and excludes any sales incentives and amounts collected on behalf of third parties. The Company recognizes revenue when it satisfies a performance obligation by transferring control over a product or service to a customer.

Nature of goods and services

The following is a description of principal activities – separated by reportable segments – from which the Company generates its revenue. For more detailed information about reportable segments. See note 19 – Segment reporting for more information.

(a) Network Access Services

The Company generates Network Access Services revenues primarily through the provisioning of mobile services ("Ting Mobile"). Other sources of revenue include the provisioning of fixed high-speed Internet access ("Ting Internet") as well as billing solutions to Internet Service Providers ("ISPs").

Ting Mobile wireless usage contracts grant customers access to standard talk, text and data mobile services. Ting Mobile contracts are billed based on the actual amount of monthly services utilized by each customer during their billing cycle and charged to customers on a postpaid basis. Voice minutes, text messages and megabytes of data are each billed separately based on a tiered pricing program. The Company recognizes revenue for Ting Mobile usage based on the actual amount of monthly services utilized by each customer.

Ting Internet contracts provide customers Internet access at their home or business through the installation and use of our fiber optic network. Ting Internet contracts are generally prepaid and grant customers with unlimited bandwidth based on a fixed price per month basis. Because consideration is collected before the service period, revenue is initially deferred and recognized as the Company performs its obligation to provide Internet access. Though the Company does not consider the installation of fixed Internet access to be a distinct performance obligation, the fees related to installation are immaterial and therefore revenue is recognized as billed.

Both Ting Mobile and Ting Internet access services are primarily contracted through the Ting website, for one month at a time and contain no commitment to renew the contract following each customer's monthly billing cycle. The Company's billing cycle for all Ting Mobile and Ting Internet customers is computed based on the customer's activation date. In order to recognize revenue as the Company satisfies its obligations, we compute the amount of revenues earned but not billed from the end of each billing cycle to the end of each reporting period. In addition, revenues associated with the sale of wireless devices and accessories and Internet hardware to subscribers are recognized when title and risk of loss is transferred to the subscriber and shipment has occurred. Incentive marketing credits given to customers are recorded as a reduction of revenue.

Our Roam Mobility brands also offers standard talk, text and data mobile services. Roam customers prepay for their usage through the Roam Mobility website. When prepayments are received the amount is deferred, and subsequently recognized as the Company satisfies its obligation to provide mobile services. In addition, revenues associated with the sale of SIM cards are recognized when title and risk of loss is transferred to the subscriber and shipment has occurred. Incentive marketing credits given to customers are recorded as a reduction of revenue.

In those cases, where payment is not received at the time of sale, revenue is not recognized at contract inception unless the collection of the related accounts receivable is reasonably assured. The Company records costs that reflect expected refunds, rebates and credit card charge-backs as a reduction of revenues at the time of the sale based on historical experiences and current expectations.

(b) Domain Services

Domain registration contracts, which can be purchased for terms of one to ten years, provide our resellers and retail registrant customers with the exclusive right to a personalized internet address from which to build an online presence. The Company enters into domain registration contracts in connection with each new, renewed and transferred-in domain registration. At the inception of the contract, the Company charges and collects the registration fee for the entire registration period. Though fees are collected upfront, revenue from domain registrations are recognized rateably over the registration period as domain registration contracts contain a 'right to access' license of IP, which is a distinct performance obligation measured over time. The registration period begins once the Company has confirmed that the requested domain name has been appropriately recorded in the registry under contractual performance standards.

Domain related value-added services like digital certifications, WHOIS privacy, website hosting and hosted email provide our resellers and retail registrant customers with tools and additional functionality to be used in conjunction with domain registrations. All domain related value-added services are considered distinct performance obligations which transfer the promised service to the customer over the contracted term. Fees charged to customers for domain related value-added services are collected at the inception of the contract, and revenue is recognized on a straight-line basis over the contracted term, consistent with the satisfaction of the performance obligations.

The Company is an ICANN accredited registrar. Thus, the Company is the primary obligor with our reseller and retail registrant customers and is responsible for the fulfillment of our registrar services to those parties. As a result, the Company reports revenue in the amount of the fees we receive directly from our reseller and retail registrant customers. Our reseller customers maintain the primary obligor relationship with their retail customers, establish pricing and retain credit risk to those customers. Accordingly, the Company does not recognize any revenue related to transactions between our reseller customers and their ultimate retail customers.

The Company also sells the rights to the Company's portfolio domains or names acquired through the Company's domain expiry stream. Revenue generated from sale of domain name contracts, containing a distinct performance obligation to transfer the domain name rights under the Company's control, is generally recognized once the rights have been transferred and payment has been received in full.

Advertising revenue is derived through domain parking monetization, whereby the Company contracts with third-party Internet advertising publishers to direct web traffic from the Company's domain expiry stream domains and Internet portfolio domains to advertising websites. Compensation from Internet advertising publishers is calculated variably on a cost-per-action basis based on the number of advertising links that have been visited in a given month. Given that the variable consideration is calculated and paid on a monthly basis, no estimation of variable consideration is required.

Disaggregation of Revenue

The following is a summary of the Company's revenue earned from each significant revenue stream (Dollar amounts in thousands of U.S. dollars):

	2019	2018*	2017
Network Access Services:			
Mobile Services	\$ 84,657	\$ 89,340	\$ 83,885
Other Services	11,006	7,984	5,567
Total Network Access Services	95,663	97,324	89,452
Domain Services:			
Wholesale			
Domain Services	182,957	189,434	183,731
Value Added Services	18,922	17,756	17,832
Total Wholesale	201,879	207,190	201,563
Retail	34,786	34,524	31,649
Portfolio	4,817	6,975	6,757
Total Domain Services	241,482	248,689	239,969
	<u>\$ 337,145</u>	<u>\$ 346,013</u>	<u>\$ 329,421</u>

(*)As a result of the bulk transfers of 2.89 million domain names to Namecheap throughout 2018, recognized revenue for the year ended December 31, 2018 includes \$16.9 million, related to previously deferred revenue, a portion of which would have otherwise been recognized after December 31, 2018.

During the years ended December 31, 2019, December 31, 2018 and December 31, 2017 no customer accounted for more than 10% of total revenue and no customer accounted for more than 10% of accounts receivable.

The following is a summary of the Company's cost of revenue from each significant revenue stream (Dollar amounts in thousands of U.S. dollars):

	2019	2018*	2017
Network Access Services:			
Mobile Services	\$ 44,415	\$ 46,061	\$ 45,335
Other Services	3,928	3,994	3,305
Total Network Access Services	48,343	50,055	48,640
Domain Services:			
Wholesale			
Domain Services	148,530	160,216	161,013
Value Added Services	2,986	3,154	2,450
Total Wholesale	151,516	163,370	163,463
Retail			
Portfolio	17,093	17,725	17,346
Total Domain Services	169,236	182,048	181,960
Network Expenses:			
Network, other costs	9,190	9,846	9,324
Network, depreciation and amortization costs	9,599	7,294	4,976
	18,789	17,140	14,300
	\$ 236,368	\$ 249,243	\$ 244,900

(*)As a result of the bulk transfers of 2.89 million domain names to Namecheap throughout 2018, recognized Cost of revenue for the year ended December 31, 2018 includes \$16.8 million, related to previously deferred prepaid registry fees, a portion of which would have otherwise been recognized after December 31, 2018.

Contract Balances

The following table provides information about contract liabilities (deferred revenue) from contracts with customers. The Company accounts for contract assets and liabilities on a contract-by-contract basis, with each contract presented as either a net contract asset or a net contract liability accordingly.

Given that Company's long-term contracts with customers are billed in advance of service, the Company's contract liabilities relate to amounts recorded as deferred revenues. The Company does not have material streams of contracted revenue that have not been billed.

Deferred revenue primarily relates to the portion of the transaction price received in advance related to the unexpired term of domain name registrations and other domain related value-added services, on both a wholesale and retail basis, net of external commissions.

The opening balance of deferred revenue was \$143.7 million as of January 1, 2019. Significant changes in deferred revenue were as follows (Dollar amounts in thousands of U.S. dollars):

	Year ended December 31, 2019
Balance, beginning of period	\$ 143,694
Acquired in a business combination ¹	12,510
Deferred revenue	232,647
Recognized revenue	(239,548)
Balance, end of period	\$ 149,303

⁽¹⁾The Company acquired Ascio on March 18, 2019. As part of the transition, the Company acquired active domain name contracts for terms ranging from 1 - 10 years, for which the registration fees have already been collected from customers. As required by ASC 805, Business Combinations, the Company has recorded deferred revenue at fair value at the acquisition date, which was determined by estimating the costs associated with customer support services and prepaid domain name registration fees to fulfill the contractual obligations over the remaining life of the contract at the acquisition date plus a normal profit margin.

Remaining Performance Obligations:

As the Company fulfills its performance obligations, the following table includes revenues expected to be recognized in the future related performance obligations that are unsatisfied (or partially unsatisfied) as at December 31, 2019 (Dollar amounts in thousands of U.S. dollars):

For mobile and internet access services, where the performance obligation is part of contracts that have an original expected duration of one year or less (typically one month), the Company has elected to apply a practical expedient to not disclose revenues expected to be recognized in the future related performance obligations that are unsatisfied (or partially unsatisfied) (Dollar amounts in thousands of US dollars).

	Year ended December 31, 2019
2020	\$ 121,921
2021	12,886
2022	5,456
2023	3,389
2024	2,090
Thereafter	3,098
Total	<u>\$ 148,840</u>

11. Costs to obtain and fulfill a contract

(a) Deferred costs of acquisition

We recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the period of benefit of those costs to be longer than one year and those costs are expected to be recoverable under the term of the contract. We have identified certain sales incentive programs that meet the requirements to be capitalized, and therefore, capitalized them as contract costs in the amount of \$1.4 million at December 31, 2019.

Capitalized contract acquisition costs are amortized into operating expense based on the transfer of goods or services to which the assets relate which typically range from two – ten years. For the year ended December 31, 2019, the Company capitalized \$0.9 million and also amortized \$0.9 million of contract costs, respectively. There was no impairment loss recognized in relation to the costs capitalized during the year ended December 31, 2019. The breakdown of the movement in the contract costs balance for the year ended December 31, 2019 is as follows (Dollar amounts in thousands of U.S. dollars):

	Year ended December 31, 2019
Balance, beginning of period	\$ 1,390
Capitalization of costs	924
Amortization of costs	(914)
Balance, end of period	<u>\$ 1,400</u>

When the amortization period for costs incurred to obtain a contract with a customer is less than one year, we have elected to apply a practical expedient to expense the costs as incurred. These costs include our internal sales compensation program and certain partner sales incentive programs.

(b) Deferred costs of fulfillment

Deferred costs to fulfill contracts generally consist of domain registration costs which have been paid to a domain registry, and are capitalized as Prepaid domain name registry and ancillary services fees. These costs are deferred and amortized over the life of the domain which generally ranges from one to ten years. For the year ended December 31, 2019, the Company capitalized \$161.4 million and also amortized \$169.1 million of contract costs. We also acquired \$10.3 million of prepaid domain name registry and ancillary service fees in the Ascio acquisition, which took place on March 18, 2019. There was no impairment loss recognized in relation to the costs capitalized during the year ended December 31, 2019. Amortization expense is primarily included in cost of revenue. The breakdown of the movement in the prepaid domain name registry and ancillary services fees balance for the year ended December 31, 2019 is as follows (Dollar amounts in thousands of U.S. dollars).

	Year ended December 31, 2019
Balance, beginning of period	\$ 106,527
Acquired in a business combination ¹	10,318
Deferral of costs	161,385
Recognized costs	(169,063)
Balance, end of period	<u>\$ 109,167</u>

¹The Company acquired Ascio on March 18, 2019. As part of the transition, the Company acquired active domain name contracts with a terms ranging from 1 - 10 years, for which fees to suppliers were paid in advance.

12. Leases

We lease datacenters, corporate offices and fiber-optic cables under operating leases. The Company does not have any leases classified as finance leases.

Our leases have remaining lease terms of 1 year to 19 years, some of which may include options to extend the leases for up to 5 years, and some of which may include options to terminate the leases within 1 year.

The components of lease expense were as follows (Dollar amounts in thousands of U.S. dollars):

	For the twelve months ended December 31, 2019
Operating Lease Cost (leases with a total term greater than 12 months)	\$ 3,057
Short-term Lease Cost (leases with a total term of 12 months or less)	1,040
Variable Lease Cost	657
Total Lease Cost	<u>\$ 4,754</u>

Lease Cost is presented in general and administrative expenses and network expenses within our consolidated statements of operations and comprehensive income.

Information related to leases was as follows (Dollar amounts in thousands of U.S. dollars):

	For the twelve months ended December 31, 2019
<i>Supplemental cashflow information:</i>	
Operating Lease - Operating Cash Flows (Fixed Payments)	\$ 3,130
Operating Lease - Operating Cash Flows (Liability Reduction)	\$ 2,665
New ROU Assets - Operating Leases	\$ 5,392

	December 31, 2019	(Transition) January 1, 2019
<i>Supplemental balance sheet information related to leases:</i>		
Weighted Average Discount Rate	5.20%	5.04%
Weighted Average Remaining Lease Term	8.62 yrs	5.62 yrs

Maturity of lease liability as of December 31, 2019 (Dollar amounts in thousands of U.S. dollars):

	December 31, 2019
2020	\$ 1,910
2021	1,783
2022	1,704
2023	1,667
2024	1,380
Thereafter	5,162
Total future lease payments	<u>13,606</u>
Less interest	2,769
Total	<u>\$ 10,837</u>

Operating lease payments include payments under the non-cancellable term and approximately \$0.6 million related to options to extend lease terms that are reasonably certain of being exercised.

As of December 31, 2019, we have entered into lease agreements for total payments of \$0.9 million that have not yet commenced, and therefore are not included in the lease liability.

13. Common Shares

The Company's authorized common share capital is 250 million shares of common stock without nominal or par value. On December 31, 2019, there were 10,585,159 shares of common stock outstanding (2018: 10,627,988).

Repurchase of common shares:

(a) Normal Course Issuer Bids:

On February 12, 2020, the Company announced that its Board of Directors ("Board") has approved a stock buyback program to repurchase up to \$40 million of its common stock in the open market. The \$40 million buyback program commenced on February 13, 2020 and is expected to terminate on February 13, 2021. Please see "Note 20 – Subsequent Events" for more information on the 2020 stock buyback program.

On February 13, 2019, the Company announced that its Board of Directors ("Board") has approved a stock buyback program to repurchase up to \$40 million of its common stock in the open market. The \$40 million buyback program commenced on February 14, 2019 and terminated on February 12, 2020. The Company repurchased 101,816 shares under this program, for a total of \$5.0 million.

On February 14, 2018, the Company announced that its Board approved a stock buyback program to repurchase up to \$40 million of its common stock in the open market. The \$40 million buyback program commenced on February 14, 2018 and terminated on February 13, 2019. No repurchases were made under this program.

On March 1, 2017, the Company announced that its Board had approved a stock buyback program to repurchase of up to \$40 million of the Company's common stock in the open market. The \$40 million buyback program commenced on March 1, 2017 and terminated on February 14, 2018. No repurchases were made under this program.

(b) Net Exercise of Stock Options

Our current equity-based compensation plans include provisions that allow for the "net exercise" of stock options by all plan participants. In a net exercise, any required payroll taxes, federal withholding taxes and exercise price of the shares due from the option holder can be paid for by having the option holder tender back to the Company a number of shares at fair value equal to the amounts due. These transactions are accounted for by the Company as a purchase and retirement of shares and are included in the table on the following page as common stock received in connection with share-based compensation.

The following table summarizes our share repurchase activity for the periods covered below (Dollar amounts in thousands of US dollars, except for share data):

	Year Ended December 31,		
	2019	2018	2017
Common stock repurchased on the open market or through tender offer			
Number of shares	101,816	-	-
Aggregate market value of shares (in thousands)	\$ 4,986	\$ -	\$ -
Average price per share	\$ 48.97	\$ -	\$ -
Common stock received in connection with share-based compensation			
Number of shares	21,332	19,777	50,454
Aggregate market value of shares (in thousands)	\$ 1,510	\$ 1,138	\$ 2,602
Average price per share	\$ 70.77	\$ 57.56	\$ 51.58

14. Stock Option Plans:

The Company's 1996 Stock Option Plan (the "1996 Plan") was established for the benefit of the employees, officers, directors and certain consultants of the Company. The maximum number of common shares which may be set aside for issuance under the 1996 Plan was 2,787,500 shares, provided that the Board of the Company has the right, from time to time, to increase such number subject to the approval of the shareholders of the Company when required by law or regulatory authority. Generally, options issued under the 1996 Plan vest over a four-year period. The 1996 Plan expired on February 25, 2006; no options were issued from this plan after that date.

On November 22, 2006, the shareholders of the Company approved the Company's 2006 Equity Compensation Plan (the "2006 Plan"), which was amended and restated effective July 29, 2010 and which serves as a successor to the 1996 Plan. The 2006 Plan has been established for the benefit of the employees, officers, directors and certain consultants of the Company. The maximum number of common shares which have been set aside for issuance under the 2006 Plan is 1.25 million shares. On October 8, 2010, the 2006 Plan was amended to increase the number of shares which have been set aside for issuance by an additional 0.475 million shares to 1.725 million shares. In September 2015, the 2006 Plan was amended to increase the number of shares which have been set aside for issuance by an additional 0.75 million shares to 2.475 million shares. Generally, options issued under the 2006 Plan vest over a four-year period and have a term not exceeding seven years, except for automatic formula grants of non-qualified stock options, which vest after one year and have a five-year term. Prior to the September 2015 amendment to the 2006 Plan, automatic formula grants of non-qualified stock options vested immediately upon grant.

Our current equity-based compensation plans include provisions that allow for the "net exercise" of stock options by all plan participants. In a net exercise, any required payroll taxes, federal withholding taxes and exercise price of the shares due from the option holder can be paid for by having the option holder tender back to the Company a number of shares at fair value equal to the amounts due. These transactions are accounted for by the Company as a purchase and retirement of shares.

The fair value of each option grant is estimated on the date of grant using the Black-Scholes option-pricing model. Because option-pricing models require the use of subjective assumptions, changes in these assumptions can materially affect the fair value of the options. The assumptions presented in the table below represent the weighted average of the applicable assumption used to value stock options at their grant date. The Company calculates expected volatility based on historical volatility of the Company's common shares. The expected term, which represents the period of time that options granted are expected to be outstanding, is estimated based on historical exercise experience. The Company evaluated historical exercise behavior when determining the expected term assumptions. The risk-free rate assumed in valuing the options is based on the U.S. Treasury yield curve in effect at the time of grant for the expected term of the option. The Company determines the expected dividend yield percentage by dividing the expected annual dividend by the market price of Tucows Inc. common shares at the date of grant.

The fair value of stock options granted during the years ended December 31, 2019, 2018 and 2017 was estimated using the following weighted average assumptions:

	Year Ended December 31,		
	2019	2018	2017
Volatility	36.5%	37.9%	41.6%
Risk-free interest rate	2.0%	2.7%	1.8%
Expected life (in years)	4.50	4.48	4.55
Dividend yield	0.0%	0.0%	0.0%
The weighted average grant date fair value for options issued, with the exercise price equal to market value on the date of grant	\$ 20.20	\$ 22.22	\$ 20.08

Details of stock option transactions are as follows:

	Twelve months ended December 31, 2019		Twelve months ended December 31, 2018		Twelve months ended December 31, 2017	
	Number of shares	Weighted average exercise price per share	Number of shares	Weighted average exercise price per share	Number of shares	Weighted average exercise price per share
Outstanding, beginning of period	702,337	\$ 43.80	653,571	\$ 36.69	474,501	\$ 12.67
Granted	180,800	60.56	163,366	62.80	370,025	54.10
Exercised	(80,319)	16.90	(63,886)	12.86	(172,759)	7.88
Forfeited	(31,986)	59.35	(50,714)	52.33	(18,196)	37.70
Expired	(16,335)	47.51	-	-	-	-
Outstanding, end of period	754,497	49.94	702,337	43.80	653,571	36.69
Options exercisable, end of period	356,066	\$ 40.64	326,937	\$ 28.91	243,771	\$ 14.79

As of December 31, 2019, the exercise prices, weighted average remaining contractual life of outstanding options and intrinsic values were as follows:

Exercise price	Options outstanding				Options exercisable			
	Number outstanding	Weighted average exercise price per share	Weighted average remaining contractual life (years)	Aggregate intrinsic value	Number exercisable	Weighted average exercise price per share	Weighted average remaining contractual life (years)	Aggregate intrinsic value
\$ 8.56 - \$ 8.56	19,535	\$ 8.56	0.4	\$ 1,040	19,535	\$ 8.56	0.4	\$ 1,039
\$10.16 - \$19.95	74,465	16.42	1.7	3,378	73,215	16.36	1.7	3,326
\$21.10 - \$27.53	58,750	23.73	2.1	2,236	48,750	24.27	1.9	1,829
\$35.25 - \$37.35	14,375	35.89	3.4	372	11,875	36.02	3.3	306
\$47.00 - \$47.00	5,000	47.00	4.2	74	2,500	47.00	4.2	37
\$53.20 - \$58.65	340,078	55.53	4.5	2,124	172,802	55.68	4.2	1,053
\$61.33 - \$64.10	242,294	62.99	6.0	-	27,389	64.10	5.4	-
	<u>754,497</u>	<u>\$ 49.94</u>	<u>4.4</u>	<u>\$ 9,224</u>	<u>356,066</u>	<u>\$ 40.64</u>	<u>3.2</u>	<u>\$ 7,590</u>

Total unrecognized compensation cost relating to unvested stock options at December 31, 2019, prior to the consideration of expected forfeitures, is approximately \$6.6 million and is expected to be recognized over a weighted average period of 2.3 years.

The total intrinsic value of options exercised during the years ended December 31, 2019, 2018 and 2017 was \$3.9 million, \$2.9 million and \$7.6 million, respectively. Cash received from the exercise of stock options during the years ended December 31, 2019, 2018 and 2017 was \$0.4 million, \$0.1 million and \$0.2 million respectively.

The Company recorded stock-based compensation amounting to \$2.9 million, \$2.6 million and \$1.5 million for the years ended December 31, 2019, 2018 and 2017 respectively. Stock-based compensation has been included in operating expenses as follows (Dollar amounts in thousands of US dollars):

	Year Ended December 31,		
	2019	2018	2017
Network expenses	\$ 307	\$ 223	\$ 110
Sales and marketing	1,251	1,025	573
Technical operations and development	596	636	360
General and administrative	722	690	414
	<u>\$ 2,876</u>	<u>\$ 2,574</u>	<u>\$ 1,457</u>

15. Foreign Exchange:

A foreign exchange gain amounting to \$0.4 million has been recorded in general and administrative expenses during the year ended December 31, 2019. A foreign exchange loss amounting to \$0.9 million has been recorded in general and administrative expenses during the year ended December 31, 2018. A foreign exchange gain amounting to \$0.7 million has been recorded in general and administrative expenses during the year ended December 31, 2017.

16. Other Income, Net:

In February 2015, we waived our rights under the proposed joint venture to operate the .online registry and instead entered into a Joint Marketing agreement with our venture partners under which our original capital contributions have been returned and a set of go-forward marketing arrangements have been created instead. Under the terms of the agreement, the Company has undertaken to provide certain marketing support for .online registry and has agreed to certain volume commitments during the term of the agreement. The Joint Marketing Agreement is for a term of three years and commenced in November 2015. The Company generated a gain of \$1.5 million for waiving its rights and entering the Joint Marketing Agreement. The gain was being recognized over the term of three years. An amount of \$0.5 million of this gain was recognized for the years ended December 31, 2018 and 2017 respectively. As of December 31, 2018 the gain has been fully recognized.

17. Earnings Per Common Share:

The following table reconciles the numerators and denominators of the basic and diluted earnings per common share computation (Dollar amounts in thousands of US dollars, except for share data):

	Year ended December 31,		
	2019	2018	2017
Numerator for basic and diluted earnings per common share:			
Net income for the period	\$ 15,398	\$ 17,135	\$ 22,327
Denominator for basic and diluted earnings per common share:			
Basic weighted average number of common shares outstanding	10,623,799	10,604,722	10,537,356
Effect of outstanding stock options	149,013	189,448	256,266
Diluted weighted average number of shares outstanding	<u>10,772,812</u>	<u>10,794,170</u>	<u>10,793,622</u>
Basic earnings per common share	<u>\$ 1.45</u>	<u>\$ 1.62</u>	<u>\$ 2.12</u>
Diluted earnings per common share	<u>\$ 1.43</u>	<u>\$ 1.59</u>	<u>\$ 2.07</u>

Options to purchase 547,372 common shares were outstanding during 2019 (2018: 451,739; 2017: 341,650) but were not included in the computation of diluted income per common share because the options' exercise price was greater than the average market price of the common shares for the year.

18. Commitments and Contingencies:

(a) The Company has several non-cancelable lease and purchase obligations primarily for general office facilities, service contracts for mobile telephone services and equipment that expire over the next ten years. Future minimum payments under these agreements are as follows (Dollar amounts in thousands of US dollars):

Contractual Obligations for the year ending December 31,	Contractual Lease Obligations (1)	Debt Obligations	Purchase Obligations (2)	Total Obligations
2020	\$ 2,248	\$ -	\$ 29,153	\$ 31,401
2021	1,824	-	12,638	14,462
2022	1,745	-	12,264	14,009
2023	1,708	114,400	13,584	129,692
2024	1,420	-	19,074	20,494
Thereafter	5,584	-	5,250	10,834
	<u>\$ 14,529</u>	<u>\$ 114,400</u>	<u>\$ 91,963</u>	<u>\$ 220,892</u>

(1) Contractual lease obligations include \$0.9 million in lease payments related to Fiber IRU contracts that have not yet commenced in Fiscal 2019.

(2) Purchase obligations include all other legally binding service contracts for mobile telephone services and other operational agreements to be delivered during Fiscal 2020 and subsequent years.

(b) On February 9, 2015 Ting Fiber, Inc. (“Ting”) entered into a lease and network operation agreement with the City of Westminster, Maryland (the “City”) relating to the deployment of a new fiber network throughout the Westminster area (“WFN”).

Under the agreement, the City will finance, construct, and maintain the WFN which will be leased to Ting for a period of ten years. The network will be constructed in phases, the scope and timing of which shall be determined by the City, in cooperation with Ting.

Under the terms of the agreement, Ting may be required to advance funds to the City in the event of a quarterly shortfall between the City’s revenue from leasing the network to Ting and the City’s debt service requirements relating to financing of the network. Ting could be responsible for shortfalls between \$50,000 and \$150,000 per quarter. In Fiscal 2016, the City has entered into financing for the construction of the WFN which allows the City to draw up to \$21.0 million, from their lenders, over the next five years with interest only payments during that period with a loan maturity of 30 years. As of December 31, 2019, the City has drawn \$16.2 million and the City’s revenues from Ting exceed the City’s debt service requirements. The Company does not believe it will be responsible for any shortfall in Fiscal 2020.

(c) On September 17, 2018 Ting entered into a non-exclusive access and use agreement with SiFi Networks Fullerton, LLC (“SiFi”). The agreement memorializes a long-term (15-year) relationship wherein Ting will be granted the non-exclusive right to act as an Internet service provider for a fiber-optic network to be constructed in the city of Fullerton, California. Under the terms of the agreement, SiFi is fully responsible for constructing, operating and maintaining a wholesale fiber-optic network, as well as the financing of those activities.

Ting will be responsible for paying a fee per subscriber to SiFi. Through a “take or pay” arrangement, Ting has agreed to certain minimum charges based on minimum subscriber rates. These minimum fees are variable based on the percentage completion of the fiber optic network, and thus have not been considered an unconditional purchase obligation for the purposes of the table in Note 18(a).

(d) On November 4, 2019 Ting entered into an access and use agreement with Netly, LLC (“Netly”). The agreement memorializes a long-term (12-year) relationship wherein Ting will be granted the right to act as an Internet service provider for fiber-optic networks to be constructed in and around the cities of Solana Beach, California. Under the terms of the agreement, Ting will have a 3-year “Headstart” period over each completed segment of the network, whereby Ting shall be the exclusive provider of services to subscribers during the “Headstart” period. Netly is fully responsible for constructing, operating and maintaining a wholesale fiber optic network, as well as the financing of those activities.

Ting will be responsible for paying a fee per subscriber to Netly, as well as an unlit door fee for each serviceable address not subscribed. Through a “take or pay” arrangement, Ting has agreed to certain minimum charges based on minimum subscriber rates. These minimum fees are variable based on the percentage completion of the fiber optic network, and thus have not been considered an unconditional purchase obligation for the purposes of the table in Note 18(a).

(e) In the normal course of its operations, the Company becomes involved in various legal claims and lawsuits. The Company intends to vigorously defend these claims. While the final outcome with respect to any actions or claims outstanding or pending as of December 31, 2019 cannot be predicted with certainty, management does not believe that the resolution of these claims, individually or in the aggregate, will have a material adverse effect on the Company’s financial position.

19. Segment Reporting:

(a) We are organized and managed based on two operating segments which are differentiated primarily by their services, the markets they serve and the regulatory environments in which they operate and are described as follows:

1. Network Access Services - This segment derives revenue from the sale of mobile phones, telephony services, high speed Internet access, billing solutions to individuals and small businesses primarily through the Ting website. Revenues are generated in the United States.

2. Domain Services – This segment includes wholesale and retail domain name registration services, value added services and portfolio services. The Company primarily earns revenues from the registration fees charged to resellers in connection with new, renewed and transferred domain name registrations; the sale of retail Internet domain name registration and email services to individuals and small businesses; and by making its portfolio of domain names available for sale or lease. Domain Services revenues are attributed to the country in which the contract originates, primarily Canada and the United States.

The Chief Executive Officer (the “CEO”) is the chief operating decision maker and regularly reviews the operations and performance by segment. The CEO reviews gross profit as (i) a key measure of performance for each segment and (ii) to make decisions about the allocation of resources. Sales and marketing expenses, technical operations and development expenses, general and administrative expenses, depreciation of property and equipment, amortization of intangibles assets, impairment of indefinite life intangible assets, gain on currency forward contracts and other expense net are organized along functional lines and are not included in the measurement of segment profitability. Total assets and total liabilities are centrally managed and are not reviewed at the segment level by the CEO. The Company follows the same accounting policies for the segments as those described in “Note 2 – Significant Accounting Policies”, and “Note 10 – Revenue”.

Information by reportable segments (with the exception of disaggregated revenue, which is discussed in “Note 10 – Revenue”), which is regularly reported to the chief operating decision maker is as follows (Dollar amounts in thousands of US dollars):

	Network Access Services	Domain Services	Consolidated Totals
Year Ended December 31, 2019			
Net Revenues	\$ 95,663	\$ 241,482	\$ 337,145
Cost of revenues			
Cost of revenues	48,343	169,236	217,579
Network expenses	2,007	7,183	9,190
Depreciation of property and equipment	6,877	1,598	8,475
Amortization of intangible assets	46	1,078	1,124
Total cost of revenues	57,273	179,095	236,368
Gross Profit	38,390	62,387	100,777
Expenses:			
Sales and marketing			34,270
Technical operations and development			9,717
General and administrative			17,880
Depreciation of property and equipment			486
Loss on disposition of property and equipment			73
Amortization of intangible assets			9,209
Impairment of indefinite life intangible assets			-
Loss (gain) on currency forward contracts			(198)
Income from operations			29,340
Other income (expenses), net			(4,769)
Income before provision for income taxes			\$ 24,571

	Network Access Services	Domain Services	Consolidated Totals
Year Ended December 31, 2018			
Net Revenues	\$ 97,324	\$ 248,689	\$ 346,013
Cost of revenues			
Cost of revenues	50,055	182,048	232,103
Network expenses	2,029	7,817	9,846
Depreciation of property and equipment	4,063	1,235	5,298
Amortization of intangible assets	46	1,950	1,996
Total cost of revenues	56,193	193,050	249,243
Gross Profit	41,131	55,639	96,770
Expenses:			
Sales and marketing			33,063
Technical operations and development			8,748
General and administrative			17,710
Depreciation of property and equipment			424
Amortization of intangible assets			7,247
Loss (gain) on currency forward contracts			254
Income from operations			29,324
Other income (expenses), net			(3,169)
Income before provision for income taxes			\$ 26,155
	Network Access Services	Domain Services	Consolidated Totals
Year Ended December 31, 2017			
Net Revenues	\$ 89,452	\$ 239,969	\$ 329,421
Cost of revenues			
Cost of revenues	48,640	181,960	230,600
Network expenses	1,861	7,463	9,324
Depreciation of property and equipment	2,201	941	3,142
Amortization of intangible assets	46	1,788	1,834
Total cost of revenues	52,748	192,152	244,900
Gross Profit	36,704	47,817	84,521
Expenses:			
Sales and marketing			29,423
Technical operations and development			7,258
General and administrative			13,594
Depreciation of property and equipment			585
Amortization of intangible assets			6,566
Impairment of indefinite life intangible assets			111
Loss (gain) on currency forward contracts			(98)
Income from operations			27,082
Other income (expenses), net			(3,007)
Income before provision for income taxes			\$ 24,075

- (b) The following is a summary of the Company's cost of revenues from each significant revenue stream (Dollar amounts in thousands of US dollars):

	2019	2018*	2017
<u>Network Access Services:</u>			
Mobile Services	\$ 44,415	\$ 46,061	\$ 45,335
Other Services	3,928	3,994	3,305
Total Network Access Services	48,343	50,055	48,640
<u>Domain Services:</u>			
<u>Wholesale</u>			
Domain Services	148,530	160,216	161,013
Value Added Services	2,986	3,154	2,450
Total Wholesale	151,516	163,370	163,463
<u>Retail</u>			
Portfolio	627	953	1,151
Total Domain Services	169,236	182,048	181,960
<u>Network Expenses:</u>			
Network, other costs	9,190	9,846	9,324
Network, depreciation and amortization costs	9,599	7,294	4,976
Total Network Expenses	18,789	17,140	14,300
	<u>\$ 236,368</u>	<u>\$ 249,243</u>	<u>\$ 244,900</u>

- (c) The following is a summary of the Company's property and equipment by geographic region (Dollar amounts in thousands of US dollars):

	December 31, 2019	December 31, 2018*
Canada	\$ 2,319	\$ 1,393
United States	79,758	46,631
Europe	44	41
	<u>\$ 82,121</u>	<u>\$ 48,065</u>

- (d) The following is a summary of the Company's amortizable intangible assets by geographic region (Dollar amounts in thousands of US dollars):

	December 31, 2019	December 31, 2018*
Canada	\$ 5,207	\$ 6,553
United States	40,140	30,421
	<u>\$ 45,347</u>	<u>\$ 36,974</u>

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- (e) The following is a summary of the Company's deferred tax asset, net of valuation allowance, by geographic region (Dollar amounts in thousands of US dollars):

	December 31, 2019	December 31, 2018*
Canada	\$ -	\$ -
	\$ -	\$ -

- (f) Valuation and qualifying accounts (Dollar amounts in thousands of US dollars):

Allowance for doubtful accounts	Balance at beginning of period	Charged to costs and expenses	Write-offs during period	Balance at end of period
Year Ended December 31, 2019	\$ 132	\$ (1)	\$ -	\$ 131
Year Ended December 31, 2018	\$ 168	\$ (36)	\$ -	\$ 132

20. Subsequent Events:

- a. On October 31, 2019, the Company entered into a Stock Purchase Agreement to purchase all of the issued and outstanding shares of Cedar Holdings Group, Incorporated ("Cedar"), a fiber Internet provider business based in Durango, Colorado. The transaction closed on January 1, 2020, following receipt of all regulatory approvals. The purchase price was \$14.1 million, less an estimated purchase price adjustment of approximately \$0.1 million relating to a working capital deficit and assessment of the fair value of contingent consideration, for net purchase consideration of \$14.0 million. The cash consideration due at closing of \$9.0 million was financed by an advance on the 2019 Amended Credit Facility. The Company also issued 32,374 of Tucows Inc. shares (\$2.0 million) of Tucows Inc. shares with a two-year restriction period at closing. Included in the agreement is contingent consideration totaling up to \$4.0 million, due on the 24th and 36th month anniversaries of the closing of the transaction dependent upon the achievement of certain milestones as defined in the Share Purchase Agreement. The fair value of the contingent consideration was determined to be \$3.1 million using a discount rate of 11.3%. The Company has prepared a preliminary purchase price allocation of the assets acquired and the liabilities assumed of Cedar based on management's best estimates of fair value. The final purchase price allocation may vary based on final appraisals, valuations and analyses of the fair value of the acquired assets and assumed liabilities.

The following table shows the preliminary allocation of the purchase price for Cedar to the acquired identifiable assets, liabilities assumed and goodwill:

Cash Consideration, including working capital adjustment	\$ 8,901
Share-based payment	2,000
Fair value of contingent payments	3,065
Total estimated purchase price	13,966
Cash and Cash Equivalents	66
Accounts Receivables, net	67
Other current assets	195
Property and equipment	4,488
Right of use operating lease	18
Intangible assets	5,570
Total identifiable assets	10,404
Accounts payable and accrued liabilities	(254)
Deferred tax liability	(2,207)
Operating lease liability	(13)
Total liabilities assumed	(2,474)
Total net assets (liabilities) assumed	7,930
Total goodwill	\$ 6,036

- b. On February 12, 2020, the Company announced that its Board has approved a stock buyback program to repurchase up to \$40 million of its common stock in the open market. Purchases will be made exclusively through the facilities of the NASDAQ Capital Market. The stock buyback program commenced on February 13, 2020 and will terminate on or before February 12, 2021. The previously announced \$40 million buyback program for the period February 14, 2019 to February 13, 2020 was terminated on February 13, 2020. The Company repurchased 101,816 shares under this program, for a total of \$5.0 million. According to the terms of our 2019 Amended Credit Facility, share repurchases require the Lenders' consent if the Company's Total Funded Debt to Adjusted EBITDA ratio exceeds 2.00:1.

21. Selected Quarterly Financial Data (Unaudited):

	December 31	September 30	June 30	March 31
	(in thousands, except for per share data)			
2019				
Total revenues	\$ 85,946	\$ 88,129	\$ 84,117	\$ 78,953
Gross profit	26,045	27,574	24,507	22,651
Net income	5,778	4,205	2,616	2,799
Earnings per share:				
Basic	\$ 0.55	\$ 0.40	\$ 0.25	\$ 0.26
Diluted	0.54	0.39	0.24	0.26

2018

Total revenues	\$	85,612	\$	83,519	\$	81,087	\$	95,795
Gross profit		27,731		24,261		22,158		22,619
Net income		4,436		5,346		3,608		3,744
Earnings per share:								
Basic	\$	0.42	\$	0.50	\$	0.34	\$	0.35
Diluted		0.41		0.50		0.33		0.35

EXHIBIT INDEX

Exhibit No.	Description
2.1	<u>Stock Purchase Agreement, dated as of January 20, 2017, by and among Tucows Inc., Tucows (Emerald), LLC, Rightside Group, Ltd., Rightside Operating Co. and eNom, Incorporated (Incorporated by reference to Exhibit 2.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on January 23, 2017).</u>
2.2	<u>First Amendment, dated as of June 13, 2017, to Stock Purchase Agreement, dated as of June 13, 2017, by and among Tucows Inc., Tucows (Emerald), LLC, Rightside Group, Ltd., Rightside Operating Co. and eNom, Incorporated (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on June 13, 2017).</u>
2.3	<u>Asset Purchase Agreement, dated as of March 18, 2019, by and among Tucows Inc., Ting Fiber, Inc., NetNames European Holdings ApS, NetNames GmbH, CSC Administrative Services Limited UK, Corporation Service Company and Ascio Technologies, Inc. (Incorporated by reference to Exhibit 2.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on March 20, 2019).</u>
3.1.1	<u>Fourth Amended and Restated Articles of Incorporation of Tucows Inc. (Incorporated by reference to Exhibit 3.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on November 29, 2007).</u>
3.1.2	<u>Articles of Amendment to Fourth Amended and Restated Articles of Incorporation of Tucows Inc. (Incorporated by reference to Exhibit 3.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on January 3, 2014).</u>
3.2	<u>Second Amended and Restated Bylaws of Tucows Inc. (Incorporated by reference to Exhibit 3.2 filed with Tucows' Annual Report on Form 10-K for the year ended December 31, 2006, as filed with the SEC on March 29, 2007).</u>
3.3	<u>Amendment No. 1 to Second Amended and Restated Bylaws of Tucows Inc. (Incorporated by Reference to Exhibit 3.3 filed with Tucows' Quarterly Report on Form 10-Q for the quarter ended June 30, 2012).</u>
4.1#	<u>Description of Securities of the Registrant.</u>
10.1*	<u>2006 Equity Compensation Plan, as amended and restated effective as of September 8, 2015 (Incorporated by reference to Exhibit 99(d)(1) filed with Tucows' Schedule TO, as filed with the SEC on September 17, 2010).</u>
10.2*	<u>Employment Agreement, dated as of January 22, 2003, between Tucows.com Co. and Elliot Noss (Incorporated by reference to Exhibit 10.3 filed with Tucows' Annual Report on Form 10-K for the year ended December 31, 2002, as filed with the SEC on March 28, 2003).</u>
10.3	<u>Lease between 707932 Ontario Limited and Tucows International Corporation, dated as of December 10, 1999 (Incorporated by reference to exhibit number 10.9 filed with Tucows' Annual Report on Form 10-K for the year ended December 31, 2001, as filed with the SEC on April 1, 2002).</u>
10.4	<u>Lease extension between 707932 Ontario Limited and Tucows Inc. and Tucows.com Co., dated as of September 18, 2004 (Incorporated by reference to Exhibit 10.8 filed with Tucows' Annual Report on Form 10-K for the year ended December 31, 2004, as filed with the SEC on March 24, 2005).</u>
10.5#	<u>Lease extension between 707932 Ontario Limited and Tucows (Delaware) Inc. and Tucows.com Co dated as of January 1, 2019.</u>
10.6*	<u>Description of Tucows Fiscal 2004 At Risk Compensation Plan (Incorporated by reference to Exhibit 10.9 filed with Tucows' Annual Report on Form 10-K for the year ended December 31, 2004, as filed with the SEC on March 24, 2005).</u>

Exhibit No.	Description
10.7	Credit Agreement, dated as of August 18, 2016, by and among Tucows.com Co., Ting Fiber, Inc., Ting Inc., as Borrowers, Tucows Inc., as Guarantor, and Bank of Montreal and Royal Bank of Canada, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on August 19, 2016).
10.8	First Amended and Restated Credit Agreement, dated as of January 20, 2017, by and among Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Delaware), Inc., Tucows (Emerald) LLC, as Borrowers, Tucows Inc., as Guarantor, and Bank of Montreal, Royal Bank of Canada and Bank of Nova Scotia, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on January 23, 2017).
10.9	First Amendment, dated as of June 6, 2017, to the First Amended and Restated Credit Agreement, dated as of January 20, 2017, by and among Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Delaware), Inc., Tucows (Emerald) LLC, as Borrowers, Tucows Inc., as Guarantor, and Bank of Montreal, Royal Bank of Canada and Bank of Nova Scotia, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on June 9, 2017).
10.10	Interim Amendment, dated as of December 5, 2017, to the First Amended and Restated Credit Agreement, dated as of January 20, 2017, by and among Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Delaware), Inc., Tucows (Emerald) LLC, as Borrowers, Tucows Inc., as Guarantor, and Bank of Montreal, Royal Bank of Canada and Bank of Nova Scotia, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on December 8, 2017).
10.11	Second Interim Amendment, dated as of January 24, 2018, to the First Amended and Restated Credit Agreement, dated as of January 20, 2017, by and among Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Delaware), Inc., Tucows (Emerald) LLC, as Borrowers, Tucows Inc., as Guarantor, and Bank of Montreal, Royal Bank of Canada and Bank of Nova Scotia, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on January 24, 2018).
10.12	Second Amendment to First Amended and Restated Credit Agreement, dated as of March 18, 2019, by and among Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Delaware) Inc. and Tucows (Emerald), LLC, as Borrowers, Tucows Inc., as Guarantor, Bank of Montreal, as Administrative Agent, and Bank of Montreal, Royal Bank of Canada and The Bank of Nova Scotia, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on March 20, 2019).
10.13	Amended and Restated Senior Secured Credit Agreement, dated as of June 14, 2019, by and among Tucows.com Co., Ting Fiber, Inc., Ting Inc., Tucows (Delaware) Inc., Tucows (Emerald), LLC, as Borrowers, Tucows Inc., as parent, Royal Bank of Canada, as Administrative Agent, and Royal Bank of Canada, Bank of Montreal, Bank of Nova Scotia, HSBC Bank Canada and Canadian Imperial Bank of Commerce, as Lenders (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on June 18, 2019).
10.14	Amending Agreement No. 1, dated as of November 27, 2019, to the Amended and Restated Senior Secured Credit Agreement, dated as of June 14, 2019 (Incorporated by reference to Exhibit 10.1 filed with Tucows' Current Report on Form 8-K, as filed with the SEC on December 4, 2019).
21.1#	Subsidiaries of Tucows Inc.
23.1#	Consent of KPMG LLP, Independent Registered Public Accounting Firm.
31.1#	Chief Executive Officer's Rule 13a-14(a)/15d-14(a) Certification.
31.2#	Chief Financial Officer's Rule 13a-14(a)/15d-14(a) Certification.
32.1†	Chief Executive Officer's Section 1350 Certification.
32.2†	Chief Financial Officer's Section 1350 Certification.
101.INS#	XBRL Instance
101.SCH#	XBRL Taxonomy Extension Schema
101.CAL#	XBRL Taxonomy Extension Calculation
101.DEF#	XBRL Taxonomy Extension Definition
101.LAB#	XBRL Taxonomy Extension Labels
101.PRE#	XBRL Taxonomy Extension Presentation
*	Management or compensatory contract.
#	Filed herewith.
†	Furnished herewith.

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.

DATE: March 4, 2020

Tucows Inc.

By: /s/ ELLIOT NOSS

Name: Elliot Noss

Title: *Chief Executive Officer and President*

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

Signature	Title	Date
/s/ ELLIOT NOSS Elliot Noss	President, Chief Executive Officer (Principal Executive Officer) and Director	March 4, 2020
/s/ DAVINDER SINGH Davinder Singh	Chief Financial Officer (Principal Financial and Accounting Officer)	March 4, 2020
/s/ ALLEN KARP Allen Karp	Director	March 4, 2020
/s/ RAWLEIGH RALLS Rawleigh Ralls	Director	March 4, 2020
/s/ ROBIN CHASE Robin Chase	Director	March 4, 2020
/s/ EREZ GISSIN Erez Gissin	Director	March 4, 2020
/s/ JEFFREY SCHWARTZ Jeffrey Schwartz	Director	March 4, 2020
/s/ BRAD BURNHAM Brad Burnham	Director	March 4, 2020

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

The following summary describes the common stock, no par value per share, of Tucows Inc. (the “Company”, “our”, “us”, or “we”), which are the only securities of the Company registered under Section 12 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). The following is a summary and does not purport to be complete. The summary is subject to and qualified by the provisions of our Fourth Amended and Restated Articles of Incorporation (the “Articles”), Second Amended and Restated Bylaws (the “Bylaws”), and the Pennsylvania Business Corporation Law (“PBCL”).

Authorized Capital Stock

Our authorized capital stock consists of 250,000,000 shares of common stock, no par value per share, and 1,250,000 shares of preferred stock, no par value per share, all of which shares of preferred stock are undesignated.

Common Stock

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of shareholders, and will be entitled to receive dividends and other distributions when and if declared by our Board of Directors at any regular or special meeting, subject to the rights of the holders of shares of any series of preferred stock.

If we are liquidated, subject to the rights, if any, of the holders of any outstanding shares of preferred stock, the holders of shares of our common stock will be entitled to share, ratably according to the number of shares of common stock held by them, in our remaining assets available for distribution to our stock.

The holders of shares of our common stock will not have preemptive rights to purchase or subscribe for any stock or any other of our securities. There are no conversion, redemption, or sinking fund provisions applicable to our common stock.

Preferred Stock

Under the terms of the Articles, our Board of Directors is authorized to issue shares of preferred stock from time to time in one or more series without shareholder approval. Our Board of Directors has the full authority to fix by resolution full, limited, fractional, or no voting rights, and such designations, preferences, qualifications, privileges, limitations, restrictions, options, conversion rights and other special or relative rights of any series of preferred stock. This authority is subject to the limitation that no shares of preferred stock may have more than one vote per share with respect to any matter on which shares of preferred stock vote together with shares of our common stock.

Anti-takeover Provisions of the Articles, Bylaws, and Pennsylvania Law

The provisions of the PBCL, the Articles, and Bylaws may have the effect of delaying, deferring, or discouraging another person from acquiring control of the Company.

Pennsylvania Law

The PBCL has several anti-takeover provisions which apply to registered corporations. A registered corporation is generally a corporation that has a class or series of shares entitled to vote in the election of directors registered under the Exchange Act.

We are a registered corporation, however, we have elected to opt-out of substantially all of the anti-takeover provisions of the PBCL, specifically Subchapters 25E, G, H and Section 2538 of Subchapter 25D. These provisions do not apply to us.

We are subject to the provisions of Subchapter 25F of the PBCL prohibiting business combination transactions with a person that becomes a beneficial owner of shares representing 20% or more of the voting power in an election of our directors unless:

- the business combination or the acquisition of the 20% interest is approved by our Board of Directors before the 20% interest is acquired;
- the person beneficially owns at least 80% of the outstanding shares and the business combination is approved by a majority vote of the disinterested shareholders, and satisfies minimum price and other conditions prescribed in the PBCL;
- the business combination is approved by a majority vote of the disinterested shareholders at a meeting called no earlier than five years after the date the 20% interest is acquired; or
- the business combination is approved by shareholder vote at a meeting called no earlier than five years after the date the 20% interest is acquired, and satisfies minimum price and other conditions prescribed in the PBCL.

A “business combination” includes mergers, consolidations, asset sales, share exchanges, divisions of a registered corporation or any subsidiary thereof and other transactions resulting in a disproportionate financial benefit to an interested shareholder.

The above description of Subchapter 25F of the PBCL merely summarizes the material anti-takeover provisions applicable to us that are contained in the PBCL, but are not a complete discussion of those provisions.

The PBCL contains other provisions applicable to us that may have an anti-takeover effect. For instance, under Section 1715 of the PBCL, our directors are not required to consider the interests of the shareholders as being dominant or controlling in considering our best interests. Our directors may consider, to the extent they consider appropriate, such factors as:

- the effects of any action upon any group affected by such action, including our shareholders, employees, suppliers, customers and creditors and upon communities in which we have offices or other establishments;
 - our short-term and long-term interests, including benefits that may accrue to us from our long term plans and the possibility that these interests may be best served by our continued independence;
 - the resources, intent and conduct of any person seeking to acquire control of us; and
 - all other pertinent factors.
-

Section 1715 further provides that any act of our Board of Directors, a committee of the Board of Directors or an individual director relating to or affecting an acquisition or potential or proposed acquisition of control to which a majority of our disinterested directors have assented will be presumed to satisfy the standard of care set forth in the PBCL, unless it is proven by clear and convincing evidence that our disinterested directors did not consent to such act in good faith after reasonable investigation. As a result of this and the other provisions of Section 1715, our directors are provided with broad discretion with respect to actions that may be taken in response to acquisitions or proposed acquisitions of corporate control.

Fourth Amended and Restated Articles of Incorporation

Shareholders of the Company do not have the right to cumulate their votes with respect to the election of directors.

Second Amended and Restated Bylaws

Board of Director Vacancies

The Bylaws provide that vacancies in the Board of Directors, including vacancies resulting from an increase in the number of directors, may be filled by a majority vote of the remaining members of the Board of Directors though less than a quorum, or by a sole remaining director.

Shareholder Action; Special Meeting of Shareholders

The Bylaws provide that shareholders may not take any action by unanimous written consent or partial consent in lieu of a meeting. The Bylaws further provide that a special meeting of shareholders may only be called by the Chief Executive Officer, the Chairman of the Board of Directors, or the Board of Directors pursuant to a resolution adopted by a majority of the total number of authorized directors.

Advance Notice Requirements for Shareholder Proposals and Director Nominations

The Bylaws provide advance notice procedures for shareholders seeking to bring business before our annual meeting of shareholders, or to nominate candidates for election as directors at our annual meeting of shareholders. To be timely, a shareholder's notice must be delivered, in writing, to the Secretary at our principal executive offices not more than 90 days nor less than 60 days prior to the date on which the Company first mailed its proxy materials for the preceding year's annual meeting if the date of the annual meeting is not more than 30 days before and not more than 30 days after the first anniversary of the preceding year's annual meeting. If the date of the annual meeting is more than 30 days before or more than 30 days after the first anniversary of the preceding year's annual meeting, a shareholder's notice must be delivered not more than 120 days nor less than 90 days prior to such annual meeting, or no later than the tenth day following the public announcement of the annual meeting.

For a special meeting, to be timely, a shareholder notice must be delivered, in writing, to the Secretary at our principal executive offices not more than 90 days nor less than 60 days prior to the date of such special meeting, and no later than the tenth day following the public announcement of a special meeting.

The Bylaws also specify certain requirements regarding the form and content of the shareholder's notice.

These provisions might preclude our shareholders from bringing matters before our annual meeting of shareholders or special meetings or making nominations for directors at our annual meetings or special meetings.

Listing

Our common stock is listed on the NASDAQ Capital Market under the symbol "TCX" and on the TSX Exchange under the symbol "TC".

THIRD LEASE EXTENSION AND AMENDING AGREEMENTTHIS AGREEMENT made as of the 1st day of January, 2019.**BETWEEN:**

707932 ONTARIO LIMITED
(the "**Landlord**")

OF THE FIRST PART

- and -

TUCOWS (DELAWARE) INC. AND
TUCOWS.COM CO.
(together the "**Tenant**")

OF THE SECOND PART

WHEREAS:

- A. By a lease dated December 10, 1999 (the "**Original Lease**") between the Landlord and Tucows International Corporation (the "Original Tenant"), the Landlord leased to the Original Tenant premises (the "**Original Leased Premises**") having an approximate Rentable Area of 18,426 square feet and comprising the entire ground floor of the building (the "**Building**") municipally known as 78 Mowat Street, Toronto, Ontario, as more particularly described in the Original Lease, for an initial term (the "**Original Term**") of five (5) years commencing on January 1, 2000 (the "**Commencement Date**") and ending on December 31, 2004 (the "**Expiry Date**");
 - B. By a lease extension and amending agreement dated as of September 10, 2004 (the "**First LEAA**") among the Landlord, the Original Tenant and Tucows Inc. and Tucows.Com Co., together as assignee: (i) the Original Lease was assigned to the Tenant; (ii) the Rentable Area of the Original Leased Premises was expanded by premises (the "**Expansion Premises**") and, together with the Original Leased Premises, the "**Leased Premises**") having an approximate Rentable Area of 8,511 square feet and comprising a portion of the second (2nd) floor of the Building, as more particularly described in the First LEAA; (iii) the Original Term was thereby extended for an additional period of seven (7) years (the "**First Extension Term**"), commencing on January 1, 2005 and ending on December 31, 2011 inclusive; and (iv) the Original Lease was thereby further amended, all on the terms and conditions contained therein;
 - C. Tucows Inc. changed its name to Tucows (Delaware) Inc.;
 - D. By a lease extension and amending agreement dated September 17, 2010 (the "**Second LEAA**") between the Landlord and the Tenant: (i) the Original Term was thereby further extended for an additional period of nine (9) years (the "**Second Extension Term**"), commencing on January 1, 2012 and ending on December 31, 2020 inclusive; and (ii) the Original Lease was thereby further amended, all on the terms and conditions contained therein;
 - E. The Original Lease, as amended by the First LEAA and the Second LEAA, is herein called the "**Lease**";
 - F. The Original Term as extended by the First Extension Term and the Second Extension Term, is hereby referred to as the "Term"; and
 - G. The Landlord and the Tenant have agreed to: (i) further extend the Term for a period of ten (10) years, commencing on January 1, 2021 and ending on December 31, 2030; and (ii) further amend the Lease effective as of the date of this lease extension and amending agreement (the "**Agreement**"), all on the terms and conditions set out herein.
-

NOW, THEREFORE, THIS AGREEMENT WITNESSES that in consideration of the mutual promises hereinafter set forth and other good valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties hereto, the parties hereto agree as follows:

1. **Confirmation of Recitals**

The parties hereto confirm that the foregoing recitals are true in substance and in fact.

2. **Extension of Lease**

The Term of the Lease is hereby extended for a period of ten (10) years (the “**Third Extension Term**”), commencing on January 1, 2021 and expiring on December 31, 2030, upon the same terms, covenants and conditions as are contained in the Lease except save and except as expressly set forth herein.

3. **Amendments to the Lease**

Effective as of December 1, 2018, the Lease is hereby amended as follows:

(a) Section 2.2 (Basic Rent) is hereby amended to provide that the Basic Rent payable during the Third Extension Term shall be as follows:

(i) January 1, 2021 to December 31, 2022: Twenty Five Dollars Fifty Cents (\$25.50)

\$686,893.50 per annum (\$57,241.13 per month), based on a rate of Twenty Five Dollars Fifty Cents (\$ 25.50) per square foot of the estimated Rentable Area of the Leased Premises per annum, plus Sales Taxes;

(ii) January 1, 2023 to December 31, 2024: Twenty Six Dollars Fifty Cents (\$26.50):

\$713,830.50 per annum (\$59,485.88 per month), based on a rate of Twenty Six Dollars Fifty Cents (\$26.50) per square foot of the estimated Rentable Area of the Leased Premises per annum, plus Sales Taxes;

(iii) January 1, 2025 to December 31, 2026: Twenty Seven Dollars Fifty Cents (\$27.50):

\$740,767.50 per annum (\$61,730.63 per month), based on a rate of Twenty Seven Dollars Fifty Cents (\$27.50) per square foot of the estimated Rentable Area of the Leased Premises per annum, plus Sales Taxes;

(iv) January 1, 2027 to December 31, 2028: Twenty Eight Dollars Fifty Cents (\$28.50):

\$767,704.50 per annum (\$63,975.38 per month), based on a rate of Twenty Eight Dollars Fifty Cents (\$28.50) per square foot of the estimated Rentable Area of the Leased Premises per annum, plus Sales Taxes;

(v) January 1, 2029 to December 31, 2030: Twenty Nine Dollars Fifty Cents (\$29.50):

\$794,641.50 per annum (\$66,220.13 per month), based on a rate of Twenty Nine Dollars Fifty Cents (\$29.50) per square foot of the estimated Rentable Area of the Leased Premises per annum, plus Sales Taxes.

The foregoing amounts are calculated based on a certified Rentable Area of the Leased Premises of twenty six thousand, nine hundred and thirty seven (26,937) square feet.”

- (b) The following is added to the Lease as Section 10.3 (Option to Extend):

“Section 10.3 Option to Extend

Provided that the Tenant: (i) is Tucows.Com Co. and/or Tucows (Delaware) Inc.; (ii) is in actual, physical possession of the whole of the Leased Premises; and (iii) pays the Rent as and when due and punctually observes and performs the terms, covenants and conditions to be observed and performed by it in accordance with the terms of this Lease, the Tenant shall have the right to extend the Term for one (1) further period of five (5) years (the “Extension Term”) upon giving the Landlord written notice of its election to extend the Term (the “Extension Notice”) at least nine (9) months and not more than twelve (12) months prior to the expiration of the Term. The Extension Term shall be upon the same terms and conditions as this Lease except that:

- (a) There shall be no further right to extend;
- (b) The Landlord shall have no obligation to pay to the Tenant any Tenant allowance, provide any Fixturing Period, rent free period or any other period of early occupancy, do or perform any Landlord’s Work or provide any other inducement or incentive; and
- (c) The Basic Rent payable during the Extension Term shall be the Fair Market Rent for the Leased Premises as of the date which is six (6) months prior to the expiry of the Term as negotiated between the parties or as otherwise determined in accordance with the provisions of this Section, provided that the Basic Rent payable during the Extension Term, whether negotiated between the parties or determined as aforesaid, shall not, in any event, be less than the Basic Rent payable during the last year of the immediately preceding Term.

"Fair Market Rent" means the annual rental which could reasonably be obtained by the Landlord for the Leased Premises from willing renewing tenants dealing at arms' length with the Landlord in the market prevailing for a term commencing on the commencement date of the Extension Term for comparable premises, having regard to all relevant circumstances including the size and location of the Leased Premises, the facilities afforded, the terms of the lease thereof (including its provisions for Additional Rent), the condition of the Leased Premises and the extent and quality of the leasehold improvements (disregarding the Tenant's trade fixtures and also disregarding any deficiencies in the condition and state of repair of the Leased Premises as a result of the Tenant's failure to comply with its obligations hereunder in respect of the maintenance and repair of the Leased Premises) and the use of the Leased Premises and having regard to rentals currently being obtained for space in the Building and for comparable space in other buildings comparably located.

If the Landlord and the Tenant are unable to agree on the Fair Market Rent for the Leased Premises not later than three (3) months prior to the expiry of the Term, then, upon notice by either the Landlord or the Tenant to the other, the Fair Market Rent will be determined as follows: (A) each of the Landlord and the Tenant shall retain a real estate appraiser, at each party’s own expense, having an AACI or ARICs accreditation, and shall instruct such appraiser to prepare a report in writing which shall state the Fair Market Rent of the Leased Premises, provided however that the rental from any appraiser shall not be less than the annual Basic Rent payable during the last year of the immediately preceding Term; (B) provided that the valuations differ by less than fifteen percent (15%), the Fair Market Rent for the Extension Term shall be the average of the valuation set forth by each appraiser; (C) if the valuations differ by more than fifteen percent (15%), the two real estate appraisers shall jointly select a third appraiser, at both parties’ shared expense, who shall be instructed to determine the Fair Market Rent for the Extension Term as provided for in subparagraph (A) hereof, in which event, the Fair Market Rent for the Extension Term shall be the average of the two (2) valuations whose difference is the least; and (D) the Fair Market Rent for the Extension Term, determined by the valuations in accordance with Subparagraphs (B) or (C) hereof and subject to Section 10.3(c) hereof, shall be absolutely binding upon the parties hereto.”

- (c) The following is added to the Lease as Section 10.4 (Sale, Demolition or Substantial Renovation):

“Section 10.4 Sale, Demolition or Substantial Renovation

If the Landlord wishes to demolish or substantially alter or renovate all or a substantial portion of the Building, the Landlord shall have the right, at any time during the Term, to be exercised upon not less than eighteen (18) months' prior written notice to the Tenant, to terminate this Lease, provided that the effective date of any such termination (the “Termination Date”) shall not, in any event, be earlier than June 30, 2025. Provided that the Tenant is not, as of the Termination Date, in default under this Lease, the Landlord shall pay to the Tenant, upon the Tenant vacating the Leased Premises on the Termination Date, the Remaining Value and, except for such payment, the Landlord shall have no other obligation whatsoever to the Tenant with respect to the termination of this Lease. “Remaining Value” means the value as of the Termination Date of the leasehold improvements installed by the Tenant in the Leased Premises between January 1, 2019 and December 31, 2020, calculated for each item on the basis of the initial cost thereof to the Tenant and depreciated for the period which shall have elapsed between January 1, 2021 and the Termination Date on the basis of an assumed rate of depreciation on a straight-line basis to zero over: (i) the normal life thereof; or (ii) ten (10) years, whichever shall be the shorter period, less any residual or salvage value if the Tenant shall be permitted or required to remove such item and less the amount of any encumbrance thereon. The Tenant shall provide all necessary bills, invoices and such other supporting documentation as may, in the opinion of the Landlord, be necessary to substantiate the initial cost of such items and the calculation of the Remaining Value. The Tenant agrees that, upon the Termination Date, the Tenant shall vacate the Leased Premises and deliver up vacant possession of the Leased Premises in accordance with the terms of this Lease. The Tenant acknowledges that it shall have no claim against the Landlord as a result of the exercise by the Landlord of its right hereunder and upon such termination, all Rent shall be apportioned to the Termination Date and upon compliance by each of the parties with their respective obligations under this Lease up to and including the Termination Date, each of the parties shall thereafter be released from all future obligations arising under this Lease.”

- (d) The following definitions are added to Schedule “B” (Definitions) of the Lease:

““Sales Taxes”: all business transfer, multi-stage sales, sales, use, consumption, value-added or other similar taxes imposed by any federal, provincial or municipal government upon the Landlord or the Tenant in respect of this Lease, or the payments made by the Tenant hereunder or the goods and services provided by the Landlord hereunder including, without limitation, the rental of the Leased Premises and the provision of administrative services to the Tenant hereunder.”

4. **Roof**

The Landlord confirms its ongoing obligations throughout the Third Extension Term to maintain and repair the roof of the Building as further set out in Section 8.1 (Maintenance and Repairs by the Landlord) of the Lease, on the terms and conditions set out therein.

5. **Security Deposit**

The Landlord acknowledges and confirms that it currently holds on account for the Tenant the amount of Thirty One Thousand, Seven Hundred and Fifty Three Dollars (\$31,753.00) as a Security Deposit pursuant to the provisions of Section 2.4 of the Lease.

6. **Condition of Leased Premises**

The Tenant will accept the Leased Premises on the commencement date of the Third Extension Term on an “as is, where is” basis, the Landlord has no responsibility or liability for making any renovations, alterations or improvements in or to the Leased Premises and the Landlord shall not be required to pay any allowance or give any inducement in respect thereof.

7. **Performance of Covenants**

The Landlord and the Tenant hereby mutually covenant and agree that, during the Third Extension Term, they shall continue to perform and observe all of the covenants, provisos and obligations on their respective parts to be performed pursuant to the terms of the Lease, as amended and extended hereby.

8. **Jurisdiction**

This Agreement shall be governed by and interpreted in accordance with, and the parties hereto shall attorn to, the laws of the Province of Ontario. The parties agree that the Courts of Ontario shall have jurisdiction to determine any matters arising hereunder.

9. **Obligations Joint and Several**

If any of the parties hereto consist of two or more persons, this Agreement shall be read with all appropriate grammatical changes. If the Tenant consists of two or more persons, the obligations of such party hereunder shall be joint and several.

10. **Miscellaneous Provisions**

- (a) Capitalized expressions used herein, unless separately defined herein, have the same meaning as defined in the Lease.
- (b) The Lease, as amended by the terms of this Agreement, is hereby ratified and confirmed and remain in full force and effect in accordance with their respective terms.
- (c) Time in all respects shall be of the essence.
- (d) This Agreement and the Lease shall be binding upon and enure to the benefit of the parties hereto and their respective successors and assigns, subject to the express restrictions contained in the Lease.
- (e) This Agreement shall come into force once fully executed by both parties.
- (f) The parties hereto covenant and agree that they have good right, full power and authority to enter into this Agreement in the manner as aforesaid.
- (g) Each of the parties shall, at all times hereafter, upon the reasonable request of any other party, make or procure to be made, done or executed all such further assurances and to do all such things as may be necessary to give full force and effect to the full intent of this Agreement.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF the parties hereto have executed this Agreement.

SIGNED, SEALED AND DELIVERED
in the presence of:

) **707932 ONTARIO LIMITED**
)
) (Landlord)
)
) Per: _____
) Name: _____
) Title: _____
)
) Per: _____
) Name: _____
) Title: _____
)
) I/We have authority to bind the Corporation.
)
) **TUCOWS (DELAWARE) INC.**
) (Tenant)
)
) Per: _____
) Name: _____
) Title: _____
)
) Per: _____
) Name: _____
) Title: _____
)
) I/We have authority to bind the Corporation.
)
) **TUCOWS.COM CO.**
) (Tenant)
)
) Per: _____
) Name: _____
) Title: _____
)
) Per: _____
) Name: _____
) Title: _____
) I/We have authority to bind the Corporation.

Subsidiaries of Tucows Inc., a Pennsylvania corporation

1. Tucows (Delaware) Inc., a Delaware corporation, is a wholly owned subsidiary of Tucows Inc.
2. Tucows.com Co., a Nova Scotia corporation, is a wholly owned subsidiary of Tucows (Delaware) Inc.
3. Tucows Corp., a Mississippi corporation, is a wholly owned subsidiary of Tucows (Delaware) Inc.
4. Tucows (UK) Limited, a company incorporated in England and Wales, is a wholly owned subsidiary of Tucows.com Co.
5. Tucows (Australia) Pty Limited, a Victoria corporation, is a wholly owned subsidiary of Tucows.com Co.
6. Tucows (Germany) Inc., a Bonn corporation, is a wholly owned subsidiary of Tucows.com Co.
7. EPAG Domainservices GmbH, a Nova Scotia corporation, is a wholly owned subsidiary of Tucows (Germany) Inc.
8. Ting Inc., a Delaware corporation, is a wholly owned subsidiary of Tucows (Delaware) Inc.
9. Tucows TLDs Inc., an Ontario corporation, is a wholly owned subsidiary of Tucows.com Co.
10. Tucows Domains Inc., an Ontario corporation, is a wholly owned subsidiary of Tucows.com Co.
11. Contact Privacy Inc., an Ontario corporation, is a wholly owned subsidiary of Tucows.com Co.
12. Ting Fiber Inc., a Delaware Corporation, is a wholly owned subsidiary of Tucows (Delaware) Inc.
13. Ting Virginia, LLC, a Virginia Corporation, is a 90% owned subsidiary of Ting Fiber Inc.
14. Blue Ridge Websoft, LLC, a Virginia Corporation, is a wholly owned subsidiary of Ting Virginia, LLC.
15. Fiber Roads, LLC, a Virginia Corporation, is a wholly owned subsidiary of Ting Virginia, LLC.
16. Navigator Network Services, LLC, a Virginia Corporation, is a wholly owned subsidiary of Ting Virginia, LLC.
17. Tucows (Emerald), LLC, a Delaware limited liability company, is a wholly owned subsidiary of Ting Fiber Inc.
18. eNom, LLC, a Delaware limited liability company, is a wholly owned subsidiary of Tucows (Emerald), LLC.
19. Rightside Australia Pty Limited, a Queensland corporation, is a wholly owned subsidiary of eNom, LLC.
20. eNom Canada Corp. a Nova Scotia corporation, is a wholly owned subsidiary of eNom, LLC.
21. Whois Privacy Protection Services, Inc, Nevada corporation, is a wholly owned subsidiary of eNom, LLC.
22. Secure Business Services, Inc., a Nevada corporation, is a wholly owned subsidiary of eNom, LLC.
23. Roam Mobility Holdings Inc., a Nova Scotia corporation, is a wholly owned subsidiary of Tucows.com Co.



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 Suite 1400
 Vaughan, Ontario
 L4K 0J3
 Telephone (905) 265-5900
 Fax (905) 265-6390
www.kpmg.ca

Consent of Independent Registered Public Accounting Firm

The Board of Directors of Tucows Inc.:

We consent to the incorporation by reference in the Registration Statements (Nos. 333-12279, 333-37545, 333-61181, 333-30342, 333-74010, 333-106961, 333-140985, 333-169848, 333-207863) on Form S-8 and the Registration Statement (No. 333-125843) on Form S-1 of Tucows Inc. (the Company), of our reports dated March 4, 2020, with respect to the consolidated balance sheets of Tucows Inc. as of December 31, 2019 and December 31, 2018, 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, 2019, and the related notes, and the effectiveness of internal control over financial reporting as of December 31, 2019, which reports appear in the December 31, 2019 annual report on Form 10-K of Tucows Inc.

Our report dated March 4, 2020, on the effectiveness of internal control over financial reporting as of December 31, 2019, contains an explanatory paragraph that states management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2019, Ascio Technologies Inc.'s (a company acquired during 2019) internal control over financial reporting associated with total assets of \$44 million and total revenues of \$17 million included in the consolidated financial statements of the Company as of and for the year ended December 31, 2019.

Our report dated March 4, 2020 on the consolidated financial statements of the Company refers to the change in the Company's method for accounting for the adoption of *ASC Topic 606: Revenue from Contracts with Customers* and *ASC Topic 842: Leases*.

Chartered Professional Accountants, Licensed Public Accountants

Vaughan, Canada
 March 4, 2020

**Certification Pursuant to
Rules 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as Amended**

I, Elliot Noss, certify that:

1. I have reviewed this annual report on Form 10-K of Tucows Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13-a15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13-a15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's Board of Directors (or persons performing the equivalent function):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 4, 2020

/s/ ELLIOT NOSS

 Elliot Noss
Chief Executive Officer and President

**Certification Pursuant to
Rules 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as Amended**

I, Davinder Singh, certify that:

1. I have reviewed this annual report on Form 10-K of Tucows Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13-a15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13-a15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures, and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's Board of Directors (or persons performing the equivalent function):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 4, 2020

/s/ DAVINDER SINGH

Davinder Singh
Chief Financial Officer

CERTIFICATION PURSUANT TO 18 U.S.C SECTION 1350

In connection with the Annual Report of Tucows Inc. (the "Company") on Form 10-K for the period ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Elliot Noss, Chief Executive Officer and President of the Company, hereby certify to my knowledge, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

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

Date: March 4, 2020

/s/ ELLIOT NOSS
Elliot Noss
Chief Executive Officer and President

CERTIFICATION PURSUANT TO 18 U.S.C SECTION 1350

In connection with the Annual Report of Tucows Inc. (the "Company") on Form 10-K for the period ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Davinder Singh, Chief Financial Officer of the Company, hereby certify to my knowledge, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

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

Date: March 4, 2020

/s/ DAVINDER SINGH

Davinder Singh
Chief Financial Officer