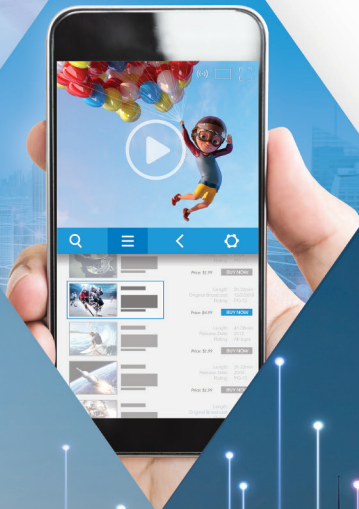


ANNUAL REPORT

2019

 **Limelight**
NETWORKS



Fellow Shareholders,

As this letter goes to print in mid-March 2020, the world is experiencing a global health crisis with COVID-19. In response, we've activated our pandemic response plan worldwide and are following the best practices of the CDC, WHO, and local government authorities. Limelight's focus continues to be to protect our employees, customers and partners while taking the appropriate steps to ensure Limelight's high-quality services are not interrupted.

Looking back at 2019, I'd would like to take this opportunity to review our accomplishments over the past year and comment on what's ahead. Last year I said we would generate steady, sequential revenue growth throughout 2019, and we did just that. We built revenue from \$43 million in the first quarter of 2019 to \$46 million in Q2, to \$51 million in Q3, and finally, a record \$60 million in the fourth quarter. For the full year 2019, revenue was \$200.6 million, up 3% year-over-year. Non-GAAP loss for 2019 was \$2.3 million, and adjusted EBITDA was \$18.1 million.


It's clear that our customer-focused strategy is working. We made great progress on many priorities during the year and we've set the foundation for a strong performance in 2020 and beyond. I'm extremely proud of how much we accomplished and the positive impact we have on our customers. Here are a few more highlights from 2019:

- Customer churn continued to decline, reaching the lowest level on record in Q4. I'm pleased that both new and existing customers are recognizing our high-quality services and trust us to deliver the best experience for their customers.
- We increased egress capacity to nearly 70 terabits per second with 130 points-of-presence (PoPs) across the globe.
- Efficiency has consistently improved through the use of software innovation and new server technology. Our new next generation servers, for example, increased the average amount of data delivered per unit of power (megabits per second per watt) by almost 80 percent, making our network more energy efficient while providing more capacity and reliability for customers.
- Our online traffic increased by nearly 50 percent in the last year. In fact, we set a new record for traffic every quarter of 2019. This strong demand was primarily due to our significant involvement in several live and on-demand OTT launches by some of the largest media companies in the world. These companies rely on us as a trusted partner based on network performance, global scale, and customer support.
- We worked hard to ensure a flawless launch of Amazon's English Premier League (EPL) broadcasting debut. During the height of the matches, we delivered over 4Tbps to support the EPL games. On all three nights, we were in the number one spot based on our quality.
- We also made good progress in edge services, which leverage our infrastructure and software to address our customers' needs at the edge for low latency, compute and connectivity. I'm particularly pleased with the growing revenue contribution from our edge services offerings as its revenue in 2019 more than doubled over the prior year.
- On the product front, we expanded the management and configuration capabilities of our suite of services with new APIs and web portal offerings. With these new capabilities -- in addition to existing APIs and Software Development Kits we already have -- developers now have more power to manage and monitor services across our edge cloud platform.

I'm very pleased that our strategic decision to focus on online video and edge services capabilities is starting to pay off. As I look forward at 2020, I see an exciting time in our industry. Additional OTT offerings are expected, demand is accelerating, excess capacity seems relatively limited, and the competitive landscape appears stable.

I want to personally thank you for your continuing confidence in Limelight. I'm more confident than ever about the opportunity that lies ahead for our employees, our customers, and our shareholders.

Sincerely,



Robert Lento
President, Chief Executive Officer and Director
Limelight Networks, Inc.

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

Form 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2019

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.
For the transition period from _____ to _____
Commission file number 001-33508

Limelight Networks, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

20-1677033
(I.R.S. Employer
Identification No.)

1465 North Scottsdale Road, Suite 400
Scottsdale, AZ 85257
(Address of principal executive offices, including Zip Code)

(602) 850-5000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol (s)	Name of each exchange on which registered
Common Stock, par value \$0.001 per share	LLNW	NASDAQ Global Select 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 15(d) of the Securities Exchange Act of 1934. Yes No

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

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

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

Large accelerated filer Accelerated filer Non-accelerated filer Smaller Reporting Company
Emerging Growth Company

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

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

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant was approximately \$301.6 million based on the last reported sale price of the common stock on the Nasdaq Global Select Market on June 28, 2019, the last business day of the registrant's most recently completed second fiscal quarter.

The number of shares outstanding of the registrant's Common Stock, par value \$0.001 per share, as of January 24, 2020: 118,613,275 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the Registrant's 2020 Annual Meeting of Stockholders are incorporated by reference in Part III of this Form 10-K.

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LIMELIGHT NETWORKS, INC.
ANNUAL REPORT ON FORM 10-K
For the Fiscal Year Ended December 31, 2019
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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. All statements contained in this Annual Report on Form 10-K, other than statements of historical fact, are forward-looking statements. Forward-looking statements generally can be identified by the words “may,” “will,” “expect,” “believe,” “anticipate,” “intend,” “could,” “estimate,” or “continue,” and similar expressions. We have based these forward-looking statements largely on our current expectations and projections about future events, as well as trends that we believe may affect our financial condition, results of operations, business strategy, short-term and long-term business operations and objectives, and financial needs. These statements include, among other things:

- our beliefs regarding delivery traffic growth trends and demands for digital content and edge services;
- our expectations regarding revenue, costs, expenses, gross margin, non-GAAP earnings per share, Adjusted EBITDA and capital expenditures;
- our plans regarding investing in our content delivery network, as well as other products and technologies;
- our beliefs regarding the growth of, and competition within, the content delivery industry;
- our beliefs regarding the growth of our business and how that impacts our liquidity and capital resources requirements;
- our expectations regarding headcount;
- the impact of certain new accounting standards and guidance as well as the time and cost of continued compliance with existing rules and standards;
- our expectations and strategies regarding acquisitions;
- our expectations regarding litigation and other pending or potential disputes;
- our estimations regarding taxes and belief regarding our tax reserves;
- our beliefs regarding the use of Non-GAAP financial measures;
- our approach to identifying, attracting and keeping new and existing customers, as well as our expectations regarding customer turnover;
- the sufficiency of our sources of funding;
- our belief regarding our interest rate risk;
- our beliefs regarding inflation risks;
- our beliefs regarding expense and productivity of and competition for our sales force; and
- our beliefs regarding the significance of our large customers.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described under the caption “Risk Factors” in Part I, Item 1A in this Annual Report on Form 10-K and those discussed in other documents we file with the Securities and Exchange Commission (SEC).

In addition, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the future events and trends discussed in this Annual Report on Form 10-K may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

The forward-looking statements contained herein are based on our current expectations and assumptions and on information available as of the date of the filing of this Annual Report on Form 10-K. We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements.

Unless expressly indicated or the context requires otherwise, the terms "Limelight," "we," "us," and "our" in this document refer to Limelight Networks, Inc., a Delaware corporation, and, where appropriate, its wholly owned subsidiaries. All information is presented in thousands, except per share amounts, customer count and where specifically noted.

PART I

Item 1. Business

Overview

Limelight provides digital content delivery, online video delivery, cloud security, edge computing, and cloud storage services. Limelight's edge services platform includes a globally distributed, high-performance private network, intelligent software, and support services.

The services we provide help our customers optimize and deliver digital content to a wide variety of digital devices. These services provide advanced features to enable digital workflows for live and on-demand video publishing, online gaming, content distribution, and website and web application acceleration. Limelight services incorporate content and application security, video transformation, distributed storage functionality, and the analytics and reporting associated with them. These services leverage our high capacity, high speed private global network, which offers distributed computing resources and extensive connectivity to last-mile broadband network providers, making it well suited to emerging edge compute workloads where rapid response times are needed.

We derive revenue primarily from the sale of content delivery, video delivery, cloud security, edge compute, cloud storage and professional services. In addition, we also maintain relationships with resellers that purchase our services for resale to their end customers.

We provide our services to customers that we believe view web, mobile, social, and other digital initiatives as critical to their success, including traditional and emerging media companies operating in the television, music, radio, newspaper, magazine, movie, gaming, software, and social media industries, as well as technology companies and various other entities conducting business online. Our offerings enable our customers to deliver a high-quality online experience and thereby improve brand perception, drive revenue, and enhance customer relationships.

We are a Delaware corporation formed in 2001. Our principal executive offices are located at 1465 North Scottsdale Road, Suite 400, Scottsdale, Arizona, 85257, and our main telephone number is (602) 850-5000. We began development of our infrastructure in 2001 and began generating meaningful revenue in 2002. We began international operations in 2004. As of December 31, 2019, we had approximately 599 active customers and had a presence in approximately 50 countries throughout the world.

We are registered as a reporting company under the Securities Exchange Act of 1934, as amended (Exchange Act). Accordingly, we file or furnish with the SEC annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, including all exhibits and all amendments to such reports as required by the Exchange Act and the rules and regulations of the SEC (Periodic Reports). The SEC maintains an Internet website that contains reports, proxy and information statements, and other information regarding issuers, such as Limelight Networks, Inc., that file electronically with the SEC. The address of this website is www.sec.gov. You can also contact the SEC by calling 1-800-SEC-0330.

Our Internet website address is www.limelight.com. We make available, free of charge, on or through our Internet website our Periodic Reports and amendments to those Periodic Reports as soon as reasonably practicable after we electronically file them with the SEC. We are not, however, including the information contained on our website, or information that may be accessed through links on our website, as part of, or incorporating it by reference into, this annual report on Form 10-K.

Trends Driving Internet Growth

We have identified several trends that point to an Internet of the future in which there is a need for global delivery of the highest quality digital experience:

- ***Shift to over the top (OTT) consumption for online video.*** Online video viewership continues to grow, as does the range of devices being used to consume that content. OTT distribution is typically included in major content rights offerings and the range of content available is increasing to incorporate additional and complementary content for distribution online. In our October 2019 *State of Online Video* consumer report, we found that OTT video viewing around the world has reached an all-time high of six hours, 48 minutes a week, with 82 percent of viewers binge-watching shows online. With the increase in online viewing, expectations for quality experiences are also on the rise. Our report found that viewers will not tolerate streaming disruptions, with one in four (25 percent) giving up on an online video after one rebuffer and another 40 percent leaving after two. As consumption of video content continues to shift to Internet-based delivery, we believe this will put an increasing strain on the Internet, placing

additional pressure on content distributors and service providers to take steps to protect the quality of the end-user experience as this increasing segment of traffic competes with other Internet activities, such as browsing websites and downloading digital content.

- **Broadcast Quality Online Video.** Online video is rapidly growing towards becoming a primary method by which users consume video content, whether it's via their personal computers, smartphones, tablets, smart televisions, or other connected devices. Yet, consumers continue to expect the same quality experience online as they would have in viewing broadcast television. This puts a significant burden on publishers to produce not just compelling content, but also to deliver it in a way that meets changing consumer expectations. To keep up, organizations have been forced to increase quality to provide a "broadcast-like" experience. For example, several large-scale online video providers are already streaming video in 4K resolution. In most cases, this requires four times the bandwidth of a traditional high definition stream. We believe that as more content is made available in 4K resolution (coupled with increasing sales of 4K-ready devices like televisions and computer monitors), more consumers will want to consume the higher-quality content, resulting in increased strain on Internet architecture and infrastructure.
- **Growth of digital downloads.** Consumers are becoming more accustomed to making purchases of movies, music, games, and applications digitally from a variety of retailers with the growing availability of higher bandwidth connections to connected devices. As a result, consumers accept larger download sizes. For example, releases of popular games have topped 50 gigabytes (GBs) in size. As digital purchases of massive files increase, we believe this will cause more strain on the Internet's infrastructure. We believe this will result in additional pressure on organizations and service providers to take steps to avoid congestion, latency, lengthening download times, and increasingly interrupted downloads, all of which we believe would undermine an organization's ability to deliver the best possible digital experience.
- **The Internet of Things.** Connected devices communicate with each other and with server-based resources via the Internet. Although it is unclear as to how much bandwidth this "background communication" will consume, as more devices become connected and begin communicating with each other and other resources, we believe this traffic will compete with other Internet traffic such as streaming video and digital downloads.
- **Applications and Websites.** Organizations are responding to consumer demand for their services to be available online and on their mobile devices by building more interactive and engaging digital experiences. While striving to retain consumers and increase share of wallet through modern design and user experience paradigms, the underlying complexity and range of back-end services modern applications and websites rely on is increasing along with their reliance on imagery and multimedia content to engage consumers. We believe that maintaining application and website performance will be critical for organizations, and that their success and longevity will depend on their ability to deliver the level of performance that users expect. This high performance delivery will become harder as demand for services increases and drives up bandwidth consumption in mobile and fixed networks.

Trends Illustrating Consumer Demand for Digital Content

The Internet is key for today's digital business. We believe there are a number of trends that illustrate a demand for digital content, contribute to the overall usage of the Internet, increase potential congestion, and highlight the need for a private, global network to meet the level of performance that users expect. We believe these trends are:

- **The continued growth of online video.** Consumers are demanding and consuming video, music, and other forms of rich media over the Internet. We expect broadcasters and OTT content distributors will continue to expand their online programming to meet this growing demand and businesses will continue to incorporate video into their digital marketing efforts as a way to further differentiate their message from competitors and generate new opportunities for engagement.
- **Mobile First.** We believe that mobile will continue to be increasingly important as a primary method users employ to interact with online content. Mobile devices enable consumers to remain connected and engaged with an organization's content when they are away from their primary computers or TVs and it's clear that consumers are employing these devices more often to do so. However, in order for those consumers to remain engaged, the experience must be optimized across devices. An organization's online content, services and video library has to be accessible regardless of device and provide the same engagement and interaction with those users.
- **Increasing use of Edge Computing.** While traditional cloud computing architectures offer the ability to centralize the aggregation and processing of data for applications, this centralization introduces latencies that can be problematic for real-time applications that require instant response. To address these limitations, edge computing is

being increasingly utilized to process real-time data for applications such as online gaming, safety and security, and Internet of Things inspection and monitoring to solve these issues in a scalable manner. We expect to see continued interest in the creation of platforms that enable applications to be distributed, managed and scaled as so-called “micro-services” and further split into individual functional elements that are then scaled on demand within edge services platforms.

- ***Increasing user expectations for digital experience performance.*** Applications and websites are becoming increasingly complex, while user expectations of performance are becoming more demanding. We anticipate that these demanding consumer expectations will drive a continued need for website and web application acceleration and security services. The combination of performance expectation coupled with multi-device delivery creates a considerable challenge for most organizations.
- ***Increasing need for scalable storage.*** The amount of data created each year has grown rapidly and we believe this rapid growth in data production will create demand for flexible and scalable storage mechanisms to support growing libraries of digital content. We anticipate the need for cloud storage to increase because of the growing demand for video and other types of digital content.
- ***Global broadband speed increase.*** With each passing year, the average broadband connection speed is increasing around the world. The continued increase in speed is illustrative of consumer desire to access multimedia content (e.g. online video, game downloads, interactive web applications) through the Internet and how integral rich, digital experiences have become the way people conduct their lives on a daily basis.

Requirements for delivering effective digital experiences

We believe the challenges of delivering digital content, particularly related to rich media, dynamic content, and applications over the Internet to a wide variety of mobile and connected devices, have created a new set of technical, management, and economic requirements for organizations. We believe those requirements include the following:

- ***Ability to scale capacity to handle rapidly accelerating demand.*** Online businesses must scale delivery of their web presence smoothly as the quantity of their site visitors or audience increases to avoid delays for users. When a large number of users simultaneously access a particular digital content asset such as a video, the operator must be able to meet that surge in demand without making users wait. Rapidly accelerating demand can be related to a single event such as a breaking news story or seasonal shopping or can be spread across an entire library of content, such as when a social media website surges in popularity. The continued increase in video and other rich media consumption and the growing size of digital content objects contributes to concerns that Internet bandwidth may be supply constrained in the future.
- ***Security.*** Maintaining effective security is a challenge for any enterprise that operates online. Denial of service attacks, data breaches, piracy, and other threats can impact companies in many ways, including compromising personal and sensitive information, loss of customer trust and loyalty, loss of revenue, and negative publicity and brand reputation. Businesses require services that employ a number of software and network features to mitigate the risk of unauthorized access to content and network-related attacks against web properties, digital content, and applications. There continues to be an increasing number of high-profile security incidents that raise the awareness and strategic importance of online security.
- ***Conditional access to content.*** Consumers increasingly expect the ability to consume any form of media content online. To meet this expectation, traditional media companies are making their enormous libraries of content, such as television shows and movies, available for viewing online. Content distributors often have regulations with respect to where they can display or store their content due to industry requirements or geographic location. Accordingly, companies require powerful features that enable them to control where content is stored, for how long, and in what regions it can be delivered and viewed.
- ***Ability to easily publish and deliver online video.*** As consumer demand for online video grows, businesses and organizations are adopting video into their marketing messages. However, there are a host of complexities involved in developing and implementing a video publishing workflow. Businesses require intuitive tools that enable them to manage their video portfolio and quickly and efficiently publish and deliver their video content at scale with quality performance. Additionally, many businesses require video content to be converted automatically for playback on any mobile device with the opportunity to integrate advertisements.
- ***Multi-device delivery.*** With the increasing popularity of smartphones and tablets, businesses and organizations must ensure that their content, whether dynamic web pages or video, can display properly in mobile formats. However,

adding this requirement to existing content publishing workflows can greatly complicate internal processes that may result in delays for making content available to end-users. Additionally, because many mobile devices have separate requirements, businesses will require features for automatically delivering correctly formatted content.

- **Reliability and Consistency.** Throughout the path data must traverse to reach a user, problems with the underlying infrastructure supporting the Internet can occur. For example, servers can crash or network connections can fail. Network, data center, or service provider outages can mean frustrated users, lost audiences, and missed revenue opportunities. Businesses require a massively redundant network they can depend on to ensure the reliable and consistent delivery of their digital experiences.

Our Services

We believe our powerful edge services platform with its global private IP network, intelligent software, and service and support addresses the trends driving Internet growth and the requirements for delivering effective digital experiences. Our primary services include the following:

- **Content delivery.** Limelight operates one of the world's largest private networks with the capacity, coverage, and performance to deliver websites, mobile applications, videos, music, software, games, and APIs quickly, reliably, and securely. We have developed and optimized our own software stack to deliver maximum performance over any connection type with a fully integrated suite of software services.
- **Video delivery.** Limelight's live, on-demand video delivery services and online video platform help organizations manage, publish, syndicate, analyze, and monetize video content. Limelight simplifies the process of delivering video to any device and makes it easy to integrate advertising into online video content.
- **Edge Cloud.** Limelight's edge cloud provides a fast, scalable, and secure infrastructure for low-latency edge compute applications. It reduces latencies and enables real time and highly interactive applications by moving processing power from a central point to the network edge and closer to the originators and consumers of data.
- **Cloud security.** Limelight's cloud security services offer a layered defense against malicious app and website attacks and unauthorized content access. DDoS attack protection defends against denial of service attacks, and Web Application Firewall protection guards against attacks that are intended to compromise the back-end services of applications and web sites, in order to deface, disable or steal data. TLS/SSL capabilities encrypt data so it cannot be intercepted in transit, and multiple content security methods are available so only authorized users have access to content.
- **Cloud Storage.** Limelight offers scalable, redundant, geographically diverse cloud storage with the flexibility and automation to support any content delivery workflow. Limelight simplifies and automates the process of ingesting and managing content while delivering fast performance and high availability.

Limelight Global Network

Our global network provides highly available, highly redundant storage, bandwidth, and computing resources in support of our services and solutions. This architecture, managed by our proprietary software, automatically responds to network and data center outages and disruptions. All of our delivery locations are interconnected via our global network and are connected to multiple Internet backbone and broadband Internet service provider (ISP) networks. This global network has three main features:

- **Densely configured, high-capacity.** Our global private network includes a fiber backbone that connects our delivery Points-of-Presence (PoPs) and enables content to bypass the congested public Internet as it is distributed to the end-user. Each Limelight PoP has a high density of fast servers that enable high cache-hit efficiency, providing faster delivery performance.
- **Global Scalability.** Limelight's global network infrastructure includes more than 100 PoPs around the world. This allows us to cache and deliver content from locations close to where it is being requested. Limelight's network is also directly interconnected with more than 900 major ISPs and last-mile network providers, shortening the distance and number of hops that content needs to take.
- **Intelligent software to manage the network.** We have developed proprietary software that manages our global network. This software manages, among other things, the delivery of digital content, the retrieval of dynamic content, storage and retrieval of objects, activity logging, and information reporting.

Sales, Service, and Marketing

Our sales and service professionals are located in five offices in the United States with an additional seven office locations in EMEA and Asia Pacific. We target media, high tech, software, gaming, enterprise, and other organizations for which the delivery of digital content is critical to the success of their business.

Our sales and service organization includes employees in telesales and field sales, professional services, account management, and solutions engineering. As of December 31, 2019, we had approximately 163 employees in our sales organization. Our ability to achieve revenue growth in the future will depend in large part on whether we successfully recruit, train, and retain sufficient sales, technical, and global services personnel, and how well we establish and maintain our distribution and reseller relationships. We believe that the complexity of our services will continue to require highly trained global sales and services personnel.

To support our sales efforts and promote the Limelight brand, we conduct marketing programs. Our marketing strategies include an active public relations campaign, advertisements, events and trade shows, digital marketing activities, strategic alliances, and on-going customer communication programs. As of December 31, 2019, we had 35 employees in our global marketing organization.

Customers

Our customers operate in the media, entertainment, gaming, technology and software, enterprise, retail and other sectors. As of December 31, 2019, we had approximately 599 active customers worldwide, including many widely recognized names in the fields of online video, digital music, news media, games, rich media applications, and software delivery.

For the years ended December 31, 2019, 2018, and 2017, respectively, we had one customer, Amazon, who accounted for approximately 30%, 30%, and 17%, respectively, of our total revenue. In the past, the customers that comprise our top 20 customers have continually changed, and our large customers may not continue to be as significant going forward as they have been in the past.

From time to time, we have discontinued service to customers for non-payment. Although we did not receive continuing revenue from these former customers, these changes provided for a stronger mix of customers across our base, decreased our days sales outstanding, and allowed us to recoup network capacity to help meet future growth needs. We continue to focus on acquiring and retaining high quality customers across all market segments.

Competition

We operate in the digital content delivery market, which is rapidly evolving and highly competitive. We expect this competitive environment to continue.

The principal methods of competition in this market include scale, performance, service, ease of use, product features, and price. We primarily face competition from Akamai, CenturyLink, Amazon, CDNetworks, Fastly, StackPath, and Verizon Digital Media Services.

Product feature competition is intense, requiring continuous investment in innovation. We believe our future success will depend on our ability to continue to innovate and enhance the performance, integration, and functionality of our existing suite of services and of our global network, and on our ability to add additional services and functionality to meet the market's increasing expectations regarding digital content delivery.

We believe our edge services platform, with its cloud-based software and high-speed private global network infrastructure, solves multiple challenges for customers by removing the need to install, manage, or provision software and hardware to satisfy the requirements for storing and delivering digital content. In addition, the market for digital content delivery can sometimes require multiple vendors to provide customers with a complete set of tools and services to manage and deliver all of their digital content to all audiences as part of a global digital presence. We also believe that in those situations where multiple vendors are required, Limelight offers one of the few CDNs with the scale, performance, and reach required to deliver digital content to global audiences.

Research and Development

Our research and development organization is responsible for the design, development, testing, and certification of the software, hardware, and network architecture of our global network and support of our content delivery and other Limelight

solutions. As of December 31, 2019, we had 176 employees and employee equivalents in our research and development group. Our research and development personnel are primarily located in Boston, Massachusetts; Grand Rapids, Michigan; Lexington, Kentucky; Lviv, Ukraine, and at our headquarters in Scottsdale, Arizona. Our engineering efforts support product development across all of our service areas, as well as innovation related to the global network itself. We test our services to ensure scalability in times of peak demand. We use internally developed and third-party software to monitor and to improve the performance of our network in the major Internet consumer markets around the world where we provide services for our customers. Our research and development expenses were \$22,534, \$24,075, and \$25,342 in 2019, 2018, and 2017, respectively, including stock-based compensation expense of \$1,922, \$2,720, and \$2,322 in 2019, 2018, and 2017, respectively.

Intellectual Property

Our success depends in part upon our ability to protect our core technology and other intellectual capital. To accomplish this, we rely on a combination of intellectual property rights, including patents, trade secrets, copyrights, trademarks, domain registrations, and contractual protections.

As of December 31, 2019, we had received 128 patents in the United States, expiring between 2023 and 2036, and we had 1 U.S. patent application pending. We do not have any issued patents in foreign countries. We do not know whether any of our patent applications will result in the issuance of a patent or whether the examination process will require us to narrow our claims. Any patents that may be issued to us may be contested, circumvented, found unenforceable or invalidated, and we may not be able to prevent third parties from infringing them. Therefore, we cannot predict the exact effect of having a patent with certainty.

As of December 31, 2019, we had received four trademarks in the United States. Our name, Limelight Networks, has been filed for multiple classes in the United States, Australia, Canada, the European Union, India, Japan, South Korea, and Singapore. We have 22 non United States trademarks registered. There is a risk that pending trademark applications may not issue, and that those trademarks that have issued may be challenged by others who believe they have superior rights to the marks.

We generally control access to and use of our proprietary software and other confidential information through the use of internal and external controls, including physical and electronic security, contractual protections with employees, contractors, customers and partners, and domestic and foreign copyright laws.

Despite our efforts to protect our trade secrets and proprietary rights and other intellectual property rights by following sound business practices, licenses, and confidentiality agreements, there is risk that unauthorized parties may still copy or otherwise obtain and use our software and technology. In addition, we have been expanding our international operations, and effective patent, copyright, trademark, and trade secret protection may not be available or may be limited in foreign countries. Further, expansion of our business with additional employees, locations, and legal jurisdictions may create greater risk that our trade secrets and proprietary rights will be harmed. If we fail to effectively protect our intellectual property and other proprietary rights, our business could be harmed.

Third parties could claim that our products or technologies infringe their proprietary rights. The digital content delivery market is characterized by the existence of a large number of patents, trademarks, and copyrights and by frequent litigation based on allegations of infringement or other violations of intellectual property rights. We expect that infringement claims may further increase as the number of products, services, and competitors in our market increases. Further, continued success in this market may provide an impetus to those who might use intellectual property litigation as a weapon against us. We have been the target of intellectual property infringement claims in the past and may be the target of such claims by third parties in the future. We were party to patent litigation with Akamai Technologies, Inc. from 2006 through 2018, when the parties agreed to settle all outstanding legal disputes between the parties.

Employees

As of December 31, 2019, we had 610 employees and employee equivalents. Of these, 402 are based in the Americas, 142 are based in EMEA and 66 are based in Asia Pacific. None of our employees are represented by a labor union, and we have not experienced any work stoppages to date. We consider the relationships with our employees to be positive.

Information about our Executive Officers

Our executive officers and their ages and positions as of January 24, 2020 are as follows:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Robert A. Lento	58	President, Chief Executive Officer and Director
Sajid Malhotra	56	Chief Financial Officer
Michael D. DiSanto	47	Chief Administrative and Legal Officer and Secretary
Kurt Silverman	63	Senior Vice President, Development & Delivery
Tom Marth	55	Senior Vice President, Sales

Robert A. Lento has served as our Chief Executive Officer since November 2012 and has served as a member of our board of directors since January 2013. Prior to joining us, Mr. Lento was a senior sales executive at Convergys Corporation, a provider of customer management services, from July 1998 to May 2012, most recently serving as President - Information Management Division from September 2007 to May 2012. Prior to that, from 1997 to 1998, Mr. Lento served as President of LAN Systems for Donnelly Enterprise Solutions, Inc., a provider of information management solutions. From 1989 to 1996, Mr. Lento served in leadership positions at ENTEX Information Services, Inc., a provider of computing infrastructure services. Mr. Lento received a B.S. in Management from the State University of New York.

Sajid Malhotra has served as our Chief Financial Officer since April 2016. Mr. Malhotra has also served as our Interim Chief Financial Officer from December 2015 to April 2016, Chief Strategy Officer from June 2015 to December 2015 and was our Senior Vice President, Strategy, Facilities, Investor Relations and Procurement from March 2014 to June 2015. Prior to joining us, from September 2012 to March 2013, Mr. Malhotra was an independent consultant focused on strategic and financial consulting, communication, and value creation. Prior to that, from 2006 to 2012, Mr. Malhotra was the Senior Vice President of Strategy, Marketing and Mergers and Acquisitions for Convergys Corporation. Prior to joining Convergys, Mr. Malhotra held several senior executive positions with NCR Corporation and AT&T. Mr. Malhotra earned his bachelor's degree in computer science and a master's degree of business administration in finance from PACE University in New York.

Michael D. DiSanto has served as our Senior Vice President, Chief Administrative and Legal Officer and Secretary since April 2015. Prior to joining us, Mr. DiSanto was a partner at the law firm Bingham McCutchen LLP from 2013 to 2014. From 2010 to 2013, Mr. DiSanto was a partner at the law firm Dinsmore & Shohl LLP. From 2008 to 2010, Mr. DiSanto was a partner at the law firm Reed Smith. Mr. DiSanto received a B.A. from Vanderbilt University and his J.D. from Santa Clara University School of Law.

Kurt Silverman has served as our Senior Vice President, Development & Delivery since September 2013. Prior to joining Limelight, Mr. Silverman was CEO and President of Slashsoft Corp., a strategic technology consulting firm for large scale real-time systems from May 2012 until September 2013. Prior to that, Mr. Silverman served as SVP of Development and Delivery for Convergys Information Management Group from August 2011 to May 2012. Prior to that, Mr. Silverman held multiple executive management positions, including most recently as Global CTO and SVP Large Global Accounts at Comverse Networks, Inc., CTO and SVP R&D at CSG International, CTO & VP at Lucent/Bell Labs, and VP Development at Kenan Systems Corporation. Mr. Silverman received both a B.S. and M.S from the Massachusetts Institute of Technology.

Tom Marth has served as our Senior Vice President of Sales since January 2019. Prior to joining Limelight, Mr. Marth was Regional Vice President at Workday from 2012 to 2017, where he led six sales teams across 15 states. Prior to that he was Group Vice President at Oracle where he took on increasing responsibility for more than 15 years. In addition, Tom has held sales roles at companies including FASCOR and Xerox. He earned a B.S. in Business Administration from Miami University.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information in this Annual Report on Form 10-K, including the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7, and our consolidated financial statements and related notes, before making a decision to invest in our common stock. The risks and uncertainties described below may not be the only ones we face. If any of the risks actually occur, our business, financial condition, operating results and prospects could be materially and adversely affected. In that event, the market price of our common stock could decline, and you could lose part or all of your investment. All information is presented in thousands, except per share amounts, customer count, head count and where specifically noted.

Risks Related to Our Business

We currently face competition from established competitors and may face competition from others in the future.

We compete in markets that are intensely competitive, rapidly changing and characterized by frequently declining prices. In these markets, vendors offer a wide range of alternate solutions. We have experienced and expect to continue to experience increased competition on price, features, functionality, integration and other factors. Several of our current competitors, as well as a number of our potential competitors, have longer operating histories, greater name recognition, broader customer relationships and industry alliances, and substantially greater financial, technical and marketing resources than we do. As a consequence of the competitive dynamics in our markets, we have experienced reductions in our prices, and an increased requirement for product advancement and innovation in order to remain competitive, which in turn have adversely affected and may continue to adversely affect our revenue, gross margin and operating results.

Our primary competitors for our content delivery service offering include Akamai, CenturyLink, Amazon, CDNetworks, Fastly, StackPath, and Verizon Digital Media Services. In addition, a number of companies have recently entered or are currently attempting to enter our market, either directly or indirectly, as a result of the growth in the content delivery market. These new entrants include companies that have built internal content delivery networks to solely deliver their own traffic, rather than relying solely, largely or in part on content delivery specialists, such as us. Some of these new entrants may become significant competitors in the future. Given the relative ease by which customers typically can switch among content delivery service providers, differentiated offerings or pricing by competitors could lead to a rapid loss of customers. Some of our current or potential competitors may bundle their offerings with other services, software or hardware in a manner that may discourage content providers from purchasing the services that we offer. In addition, we face different market characteristics and competition with local content delivery service providers as we expand internationally. Many of these international competitors are very well positioned within their local markets. Increased competition could result in price reductions and revenue shortfalls, loss of customers and loss of market share, which could harm our business, financial condition and results of operations.

We face different competitors for our other service offerings. However, the competitive landscape is different from content delivery in this area in that the process of changing vendors can be more costly and complicated for the customer, which could make it difficult for us to attract new customers and increase our market share.

Several of our competitors have greater financial and sales resources than we do. Many have been offering similar services in the markets in which we compete longer than we have. We may not be able to successfully compete against these or new competitors. If we are unable to increase our customer base and increase our market share, our business, financial condition and results of operations may suffer.

Any unplanned interruption or degradation in the functioning or availability of our network or services, or attacks on or disruptions to our internal information technology systems, could lead to increased costs, a significant decline in our revenue and harm to our reputation.

Our business is dependent on providing our customers with fast, efficient, and reliable distribution of content delivery and digital asset management services over the Internet every minute of every day. Many of our customers depend primarily or exclusively on our services to operate their businesses. Consequently, any disruption, or substantial and extensive degradation of our services could have a material impact on our customers' businesses. Our network or services could be disrupted by numerous events, including natural disasters, failure or refusal of our third-party network providers to provide the necessary capacity or access, failure of our software or global network infrastructure and power losses. In addition, we deploy our servers in third-party co-location facilities, and these third-party co-location providers could experience system outages or other disruptions that could constrain our ability to deliver our services. We may also experience disruptions caused by software viruses, unauthorized hacking of our systems, security breaches or other cyberattacks by unauthorized users. Any hacking of our systems or other cyberattacks could lead to the unauthorized release of confidential information that could damage our customers' business and reputation, as well as our own. The economic costs to us to eliminate or alleviate cyber or other security problems, viruses, worms, malicious software programs, and other security vulnerabilities could be significant, and our efforts to address these problems may not be successful and could result in interruptions, delays, cessation of service, and loss of existing or potential customers. In addition, our release of a security-related solution may increase our visibility as a security-focused company and make us a more attractive target for attacks on our infrastructure intended to steal information about our technology, financial data, or customer information or take other actions that would be damaging to our customers and us.

We could experience a significant, unplanned disruption, or substantial and extensive degradation of our services, or our network may fail in the future. Despite our significant infrastructure investments, we may have insufficient communications and server capacity to address these or other disruptions, which could result in interruptions in our services.

Any widespread interruption or substantial and extensive degradation in the functioning of our services for any reason would reduce our revenue and could harm our business and results of operations. If such a widespread interruption occurred, or if we failed to deliver content to users as expected during a high-profile media event, game release or other well-publicized circumstance, our reputation could be damaged severely. Moreover, any disruptions, significant degradation, cybersecurity threats, security breaches, or attacks on our internal information technology systems could undermine confidence in our services and cause us to lose customers or make it more difficult to attract new ones, either of which could harm our business and results of operations.

We have a history of losses and we may not achieve or maintain profitability in the future.

We incur significant expenses in developing our technology, and maintaining and expanding our network. We also incur significant share-based compensation expense and have incurred (and may in the future incur) significant costs associated with litigation. Accordingly, we may not be able to achieve or maintain profitability for the foreseeable future.

We also may not achieve sufficient revenue to achieve or maintain profitability and thus may continue to incur losses in the future for a number of reasons, including, among others:

- slowing demand for our services;
- increasing competition and competitive pricing pressures;
- any inability to provide our services in a cost-effective manner;
- the incurrence of unforeseen expenses, difficulties, complications and delays; and
- other risks described in this report.

If we fail to achieve and maintain profitability, the price of our common stock could decline, and our business, financial condition and results of operations could suffer.

If we are unable to sell our services at acceptable prices relative to our costs, our revenue and gross margins will decrease and our business and financial results will suffer.

Prices for content delivery services have fallen in recent years and are likely to fall further in the future. We have invested significant amounts in purchasing capital equipment as part of our effort to increase the capacity of our global content delivery network. Our investments in our infrastructure are based upon our assumptions regarding future demand, as well as prices that we will be able to charge for our services. These assumptions may prove to be wrong. If the price that we are able to charge customers to deliver their content falls to a greater extent than we anticipate, if we over-estimate future demand for our services, or if our costs to deliver our services do not fall commensurate with any future price declines, we may not be able to achieve acceptable rates of return on our infrastructure investments, and our gross profit and results of operations may suffer dramatically.

As we further expand our global network and services, and as we refresh our network equipment, we are dependent on significant future growth in demand for our services to justify additional capital expenditures. If we fail to generate significant additional demand for our services, our results of operations will suffer, and we may fail to achieve planned or expected financial results. There are numerous factors that could, alone or in combination with other factors, impede our ability to increase revenue, moderate expenses or maintain gross margins, including:

- continued price declines arising from significant competition;
- increasing settlement fees for certain peering relationships;
- failure to increase sales of our services;
- increases in electricity, bandwidth and rack space costs or other operating expenses, and failure to achieve decreases in these costs and expenses relative to decreases in the prices we can charge for our services and products;
- failure of our current and planned services and software to operate as expected;
- loss of any significant customers or loss of existing customers at a rate greater than our increase in new customers or our sales to existing customers;
- failure to increase sales of our services to current customers as a result of their ability to reduce their monthly usage of our services to their minimum monthly contractual commitment;
- failure of a significant number of customers to pay our fees on a timely basis or at all or to continue to purchase our services in accordance with their contractual commitments; and
- inability to attract high quality customers to purchase and implement our current and planned services.

A significant portion of our revenue is derived collectively from our video delivery services, cloud security, edge cloud, and origin storage services. These services tend to have higher gross margins than our content delivery services. We may

not be able to achieve the growth rates in revenue from such services that we or our investors expect or have experienced in the past. If we are unable to achieve the growth rates in revenue that we expect for these service offerings, our revenue and operating results could be significantly and negatively affected.

Our ability to use our net operating losses to offset future taxable income may be subject to certain limitations.

Our ability to use our net operating losses to offset future taxable income may be subject to certain limitations. As of December 31, 2019, we had federal and state net operating loss carryforwards, or NOLs, of \$206,500 and \$138,300, respectively, due to prior period losses. In general, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an “ownership change” can be subject to limitations on its ability to utilize its NOLs to offset future taxable income. Our existing NOLs may be subject to limitations arising from past ownership changes. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Code. In addition, under the Tax Cuts and Jobs Act (the Tax Act), the amount of post 2017 NOLs that we are permitted to deduct in any taxable year is limited to 80% of our taxable income in such year, where taxable income is determined without regard to the NOL deduction itself. In addition, the Tax Act generally eliminates the ability to carry back any NOL to prior taxable years, while allowing post 2017 unused NOLs to be carried forward indefinitely. There is a risk that due to changes under the Tax Act, regulatory changes, or other unforeseen reasons, our existing NOLs could expire or otherwise be unavailable to offset future income tax liabilities. For these reasons, we may not be able to realize a tax benefit from the use of our NOLs, whether or not we attain profitability.

Our involvement in litigation may have a material adverse effect on our financial condition and operations.

We have been involved in multiple intellectual property lawsuits in the past (see discussion of such lawsuits in Note 10 "Contingencies - Legal Matters" of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K). We are from time to time party to other lawsuits. The outcome of all litigation is inherently unpredictable. The expenses of defending these lawsuits, particularly fees paid to our lawyers and expert consultants, have been significant to date. If the cost of prosecuting or defending current or future lawsuits continues to be significant, it may continue to adversely affect our operating results during the pendency of such lawsuits. Lawsuits also require a diversion of management and technical personnel time and attention away from other activities to pursue the defense or prosecution of such matters. In addition, adverse rulings in such lawsuits either alone or cumulatively may have an adverse impact on our revenue, expenses, market share, reputation, liquidity and financial condition.

If we are required to seek funding, such funding may not be available on acceptable terms or at all.

We may need to obtain funding due to a number of factors, including a shortfall in revenue, increased expenses, increased investment in capital equipment, the acquisition of significant businesses or technologies, or adverse judgments or settlements in connection with future, unforeseen litigation. We believe that our cash, cash equivalents and marketable securities classified as current plus cash from operations will be sufficient to fund our operations and proposed capital expenditures for at least the next 12 months. However, we may need or desire funding before such time. If we do need to obtain funding, it may not be available on commercially reasonable terms or at all. If we are unable to obtain sufficient funding, our business would be harmed. Even if we were able to find outside funding sources, we might be required to issue securities in a transaction that could be highly dilutive to our investors or we may be required to issue securities with greater rights than the securities we have outstanding today. We might also be required to take other actions that could lessen the value of our common stock, including borrowing money on terms that are not favorable to us. If we are unable to generate or raise capital that is sufficient to fund our operations, we may be required to curtail operations, reduce our capabilities or cease operations in certain jurisdictions or completely.

We may have difficulty scaling and adapting our existing architecture to accommodate increased traffic and technology advances or changing business requirements. This could lead to the loss of customers and cause us to incur unexpected expenses to make network improvements.

Our services and solutions are highly complex and are designed to be deployed in and across numerous large and complex networks. Our global network infrastructure has to perform well and be reliable for us to be successful. We will need to continue to invest in infrastructure and customer support to account for the continued growth in traffic (and the increased complexity of that traffic) delivered via content delivery networks such as ours. We have spent and expect to continue to spend substantial amounts on the purchase and lease of equipment and data centers and the upgrade of our technology and network infrastructure to handle increased traffic over our network, implement changes to our network architecture and integrate existing solutions and to roll out new solutions and services. For example, during 2019, we increased our network capacity by more than 100% to over 60 terabits per second through software enhancements and hardware additions. This expansion is expensive and complex and could result in inefficiencies, operational failures or defects in our network and related software. If we do not implement such changes or expand successfully, or if we experience inefficiencies and operational failures, the

quality of our solutions and services and user experience could decline. From time to time, we have needed to correct errors and defects in our software or in other aspects of our network. In the future, there may be additional errors and defects that may harm our ability to deliver our services, including errors and defects originating with third party networks or software on which we rely. These occurrences could damage our reputation and lead to the loss of current and potential customers, which would harm our operating results and financial condition. We must continuously upgrade our infrastructure in order to keep pace with our customers' evolving demands. Cost increases or the failure to accommodate increased traffic or these evolving business demands without disruption could harm our operating results and financial condition.

If we are unable to develop new services and enhancements to existing services or fail to predict and respond to emerging technological trends and customers' changing needs, our operating results and market share may suffer.

The market for our services is characterized by rapidly changing technology, evolving industry standards, and new product and service introductions. Our operating results depend on our ability to understand user preferences or predict industry changes. Our operating results also depend on our ability to modify our solutions and services on a timely basis or develop and introduce new services into existing and emerging markets. The process of developing new technologies is complex and uncertain. We must commit significant resources to developing new services or enhancements to our existing services before knowing whether our investments will result in services the market will accept. Furthermore, we may not successfully execute our technology initiatives because of errors in planning or timing, technical hurdles that we fail to overcome in a timely fashion, misunderstandings about market demand or a lack of appropriate resources. As prices for content delivery services fall, we will increasingly rely on new product offerings and other service offerings to maintain or increase our gross margins. Failures in execution, delays in bringing new or improved products or services to market, failure to effectively integrate service offerings, or market acceptance of new services we introduce could result in competitors providing those solutions before we do, which could lead to loss of market share, revenue and earnings.

We depend on a limited number of customers for a substantial portion of our revenue in any fiscal period, and the loss of, or a significant shortfall in demand from, these customers could significantly harm our results of operations.

During any given fiscal period, a relatively small number of customers typically account for a significant percentage of our revenue. For the year ended December 31, 2019, sales to our top 20 customers accounted for approximately 72% of our total revenue. During the year ended December 31, 2019, we had one customer, Amazon, who represented approximately 30% of our total revenue.

In the past, the customers that comprised our top 20 customers have continually changed, and we also have experienced significant fluctuations in our individual customers' usage of, or decreased usage of, our services. As a consequence, we may not be able to adjust our expenses in the short term to address the unanticipated loss of a large customer during any particular period. As such, we may experience significant, unanticipated fluctuations in our operating results that may cause us to not meet our expectations or those of stock market analysts, which could cause our stock price to decline.

Rapidly evolving technologies or new business models could cause demand for our services to decline or could cause these services to become obsolete.

Customers, potential customers or third parties may develop technological or business model innovations that address digital delivery requirements in a manner that is, or is perceived to be, equivalent or superior to our service offerings. This is particularly true as our customers increase their operations and begin expending greater resources on delivering their content using third party solutions. If we fail to offer content delivery, video content management and other related services that are competitive to in-sourced solutions, we may lose additional customers or fail to attract customers that may consider pursuing this in-sourced approach, and our business and financial results would suffer.

If competitors introduce new products or services that compete with or surpass the quality or the price or performance of our services, we may be unable to renew our agreements with existing customers or attract new customers at the prices and levels that allow us to generate attractive rates of return on our investment. We may not anticipate such developments and may be unable to adequately compete with these potential solutions. In addition, our customers' business models may change in ways that we do not anticipate, and these changes could reduce or eliminate our customers' needs for our services. If this occurred, we could lose customers or potential customers, and our business and financial results would suffer.

As a result of these or similar potential developments, it is possible that competitive dynamics in our market may require us to reduce our prices faster than we anticipate, which could harm our revenue, gross margin and operating results.

Failure to effectively enhance our sales capabilities could harm our ability to increase our customer base and achieve broader market acceptance of our services.

Increasing our customer base and achieving broader market acceptance of our services will depend to a significant extent on our ability to enhance our sales and marketing operations. We have a concentration of our sales force at our headquarters in Scottsdale, Arizona, but we also have a widely deployed field sales force. We have aligned our sales resources to improve our sales productivity and efficiency and to bring our sales personnel closer to our current and potential customers. Adjustments to our sales force have been and will continue to be expensive and could cause some near-term productivity impairments. As a result, we may not be successful in improving the productivity and efficiency of our sales force, which could cause our results of operations to suffer.

We believe that there is significant competition for both inside and direct sales personnel with the sales skills and technical knowledge that we require. Our ability to achieve significant growth in revenue in the future will depend, in large part, on our success in recruiting, training and retaining sufficient numbers of inside and direct sales personnel. New hires require significant training and, in most cases, take a significant period of time before they achieve full productivity. Our recent hires and planned hires may not become as productive as we would like, and we may be unable to hire or retain sufficient numbers of qualified individuals in the future in the markets where we do business. Our business will be seriously harmed if our sales force productivity efforts do not generate a corresponding significant increase in revenue.

Many of our significant current and potential customers are pursuing emerging or unproven business models, which, if unsuccessful, or ineffective at monetizing delivery of their content, could lead to a substantial decline in demand for our content delivery and other services.

Because the proliferation of broadband Internet connections and the subsequent monetization of content libraries for distribution to Internet users are relatively recent phenomena, many of our customers' business models that center on the delivery of rich media and other content to users remain unproven. Some of our customers will not be successful in selling advertising, subscriptions, or otherwise monetizing the content we deliver on their behalf and consequently may not be successful in creating a profitable business model. This will result in some of our customers discontinuing their Internet or web-based business operations and discontinuing use of our services and solutions. Further, any deterioration and related uncertainty in the global financial markets and economy could result in, among other things, reductions in available capital and liquidity from banks and other providers of credit, fluctuations in equity and currency values worldwide, and concerns that portions of the worldwide economy may be in a prolonged recessionary period. Any one or more of these occurrences could materially adversely impact our customers' access to capital or willingness to spend capital on our services or, in some cases, ultimately cause the customer to file for protection from creditors under applicable insolvency or bankruptcy laws or simply go out of business. This uncertainty may also impact our customers' levels of cash liquidity, which could affect their ability or willingness to timely pay for services that they will order or have already ordered from us. From time to time we discontinue service to customers for non-payment of services. We expect further customers may discontinue operations or not be willing or able to pay for services that they have ordered from us. Further loss of customers may adversely affect our financial results.

If we are unable to attract new customers or to retain our existing customers, our revenue could be lower than expected and our operating results may suffer.

To increase our revenue, we must add new customers and sell additional services to existing customers and encourage existing customers to increase their usage levels. If our existing and prospective customers do not perceive our services to be of sufficiently high value and quality, we may not be able to retain our current customers or attract new customers. We sell our services pursuant to service agreements that generally include some form of financial minimum commitment. Our customers have no obligation to renew their contracts for our services after the expiration of their initial commitment, and these service agreements may not be renewed at the same or higher level of service, if at all. Moreover, under some circumstances, some of our customers have the right to cancel their service agreements prior to the expiration of the terms of their agreements. Aside from minimum financial commitments, customers are not obligated to use our services for any particular type or amount of traffic. These facts, in addition to the changing competitive landscape in our market, means that we cannot accurately predict future customer renewal rates or usage rates. Our customers' renewal rates may decline or fluctuate as a result of a number of factors, including:

- their satisfaction or dissatisfaction with our services;
- the quality and reliability of our content delivery network;
- the prices of our services;
- the prices of services offered by our competitors;
- discontinuation by our customers of their Internet or web-based content distribution business;
- mergers and acquisitions affecting our customer base; and

- reductions in our customers' spending levels.

If our customers do not renew their service agreements with us, or if they renew on less favorable terms, our revenue may decline and our business may suffer. Similarly, our customer agreements often provide for minimum commitments that are often significantly below our customers' historical usage levels. Consequently, even if we have agreements with our customers to use our services, these customers could significantly curtail their usage without incurring any penalties under our agreements. In this event, our revenue would be lower than expected and our operating results could suffer.

It also is an important component of our growth strategy to market our services and solutions to particular industries or market segments. As an organization, we may not have significant experience in selling our services into certain of these markets. Our ability to successfully sell our services into these markets to a meaningful extent remains unproven. If we are unsuccessful in such efforts, our business, financial condition and results of operations could suffer.

Rapid increase in the use of mobile and alternative devices to access the Internet present significant development and deployment challenges.

The number of people who access the Internet through devices other than PCs, including mobile devices, game consoles and television set-top devices, has increased dramatically in the past few years. The capabilities of these devices are advancing dramatically and the increasing need to provide a high-quality video experience will present us and other providers with significant challenges. If we are unable to deliver our service offerings to a substantial number of alternative device users and at a high quality, or if we are slow to develop services and technologies that are more compatible with these devices, we may fail to capture a significant share of an increasingly important portion of the market. Such a failure could limit our ability to compete effectively in an industry that is rapidly growing and changing, which, in turn, could cause our business, financial condition and results of operations to suffer.

We need to defend our intellectual property and processes against patent or copyright infringement claims, which may cause us to incur substantial costs and threaten our ability to do business.

Companies, organizations or individuals, including our competitors and non-practicing entities, may hold or obtain patents or other proprietary rights that would prevent, limit or interfere with our ability to make, use or sell our services or develop new services, which could make it more difficult for us to operate our business. From time to time, we may receive inquiries from holders of patents inquiring whether we infringe their proprietary rights. Companies holding Internet-related patents or other intellectual property rights are increasingly bringing suits alleging infringement of such rights or otherwise asserting their rights and seeking licenses. Any litigation or claims, whether or not valid, could result in substantial costs and diversion of resources from the defense of such claims. In addition, many of our agreements with customers require us to defend and indemnify those customers for third-party intellectual property infringement claims against them, which could result in significant additional costs and diversion of resources. If we are determined to have infringed upon a third party's intellectual property rights, we may also be required to do one or more of the following:

- cease selling, incorporating or using products or services that incorporate the challenged intellectual property;
- pay substantial damages;
- obtain a license from the holder of the infringed intellectual property right, which license may or may not be available on reasonable terms or at all; or
- redesign products or services.

If we are forced to litigate any claims or to take any of these other actions, our business may be seriously harmed.

Our business may be adversely affected if we are unable to protect our intellectual property rights from unauthorized use or infringement by third parties.

We rely on a combination of patent, copyright, trademark and trade secret laws and restrictions on disclosure to protect our intellectual property rights. We have applied for patent protection in the United States and a number of foreign countries. These legal protections afford only limited protection and laws in foreign jurisdictions may not protect our proprietary rights as fully as in the United States. Monitoring infringement of our intellectual property rights is difficult, and we cannot be certain that the steps we have taken will prevent unauthorized use of our intellectual property rights. Developments and changes in patent law, such as changes in interpretations of the joint infringement standard, could restrict how we enforce certain patents we hold. We also cannot be certain that any pending or future patent applications will be granted, that any future patent will not be challenged, invalidated or circumvented, or that rights granted under any patent that may be issued will provide competitive advantages to us.

Our results of operations may fluctuate in the future. As a result, we may fail to meet or exceed the expectations of securities analysts or investors, which could cause our stock price to decline.

Our results of operations may fluctuate as a result of a variety of factors, many of which are outside of our control. If our results of operations fall below the expectations of securities analysts or investors, the price of our common stock could decline substantially. In addition to the effects of other risks discussed in this section, fluctuations in our results of operations may be due to a number of factors, including, among others:

- our ability to increase sales to existing customers and attract new customers to our content delivery and other services;
- the addition or loss of large customers, or significant variation in their use of our content delivery and other services;
- costs associated with current or future intellectual property lawsuits and other lawsuits;
- service outages or third party security breaches to our platform or to one or more of our customers' platforms;
- the amount and timing of operating costs and capital expenditures related to the maintenance and expansion of our business, operations and infrastructure and the adequacy of available funds to meet those requirements;
- the timing and success of new product and service introductions by us or our competitors;
- the occurrence of significant events in a particular period that results in an increase in the use of our content delivery and other services, such as a major media event or a customer's online release of a new or updated video game or operating system;
- changes in our pricing policies or those of our competitors;
- the timing of recognizing revenue;
- limitations of the capacity of our global network and related systems;
- the timing of costs related to the development or acquisition of technologies, services or businesses;
- the potential write-down or write-off of intangible or other long-lived assets;
- general economic, industry and market conditions (such as fluctuations experienced in the stock and credit markets during times of deteriorated global economic conditions) and those conditions specific to Internet usage;
- limitations on usage imposed by our customers in order to limit their online expenses; and
- war, threat of war or terrorist actions, including cyber terrorism targeted at us, our customers, or both, and inadequate cybersecurity.

We believe that our revenue and results of operations may vary significantly in the future and that period-to-period comparisons of our operating results may not be meaningful. You should not rely on the results of one period as an indication of future performance.

We generate our revenue primarily from the sale of content delivery services, and the failure of the market for these services to expand as we expect or the reduction in spending on those services by our current or potential customers would seriously harm our business.

While we offer our customers a number of services and solutions, we generate the majority of our revenue from charging our customers for the content delivered on their behalf through our global network. We are subject to an elevated risk of reduced demand for these services. Furthermore, if the market for delivery of rich media content in particular does not continue to grow as we expect or grows more slowly, then we may fail to achieve a return on the significant investment we are making to prepare for this growth. Our success, therefore, depends on the continued and increasing reliance on the Internet for delivery of media content and our ability to cost-effectively deliver these services. Many different factors may have a general tendency to limit or reduce the number of users relying on the Internet for media content, the amount of content consumed by our customers' users, or the number of providers making this content available on-line, including, among others:

- a general decline in Internet usage;
- third party restrictions on on-line content (including copyright restrictions, digital rights management and restrictions in certain geographic regions);
- system impairments or outages, including those caused by hacking or cyberattacks; and
- a significant increase in the quality or fidelity of off-line media content beyond that available online to the point where users prefer the off-line experience.

The influence of any of these or other factors may cause our current or potential customers to reduce their spending on content delivery services, which would seriously harm our operating results and financial condition.

We could incur charges due to impairment of goodwill and long-lived assets.

As of December 31, 2019, we had a goodwill balance of approximately \$77,102, which is subject to periodic testing for impairment. Our long-lived assets also are subject to periodic testing for impairment. A significant amount of judgment is involved in the periodic testing. Failure to achieve sufficient levels of cash flow could result in impairment charges for goodwill or fixed asset impairment for long-lived assets, which could have a material adverse effect on our reported results of operations. Our goodwill impairment analysis also includes a comparison of the aggregate estimated fair value of our reporting unit to our total market capitalization. If our stock trades below our book value, a significant and sustained decline in our stock price and market capitalization could result in goodwill impairment charges. During times of financial market volatility, significant judgment will be used to determine the underlying cause of the decline and whether stock price declines are short-term in nature or indicative of an event or change in circumstances. Impairment charges, if any, resulting from the periodic testing are non-cash.

Our operations are dependent in part upon communications capacity provided by third party telecommunications providers. A material disruption of the communications capacity could harm our results of operations, reputation and customer relations.

We enter into arrangements for private line capacity for our backbone from third party providers. Our contracts for private line capacity generally have terms of one to three years. The communications capacity may become unavailable for a variety of reasons, such as physical interruption, technical difficulties, contractual disputes, or the financial health of our third party providers. Also, industry consolidation among communications providers could result in fewer viable market alternatives, which could have an impact on our costs of providing services. Alternative providers are currently available; however, it could be time consuming and expensive to promptly identify and obtain alternative third party connectivity. Additionally, as we grow, we anticipate requiring greater private line capacity than we currently have in place. If we are unable to obtain such capacity from third party providers on terms commercially acceptable to us or at all, our business and financial results would suffer. Similarly, if we are unable to timely deploy enough network capacity to meet the needs of our customer base or effectively manage the demand for our services, our reputation and relationships with our customers would be harmed, which, in turn, could harm our business, financial condition and results of operations.

We face risks associated with international operations that could harm our business.

We have operations in numerous foreign countries and may continue to expand our sales and support organizations internationally. As part of our business strategy, we intend to expand our international network infrastructure. Expansion could require us to make significant expenditures, including the hiring of local employees or resources, in advance of generating any revenue. As a consequence, we may fail to achieve profitable operations that will compensate our investment in international locations. We are subject to a number of risks associated with international business activities that may increase our costs, lengthen our sales cycle and require significant management attention. These risks include:

- increased expenses associated with sales and marketing, deploying services and maintaining our infrastructure in foreign countries;
- competition from local content delivery service providers, many of which are very well positioned within their local markets;
- challenges caused by distance, language and cultural differences;
- unexpected changes in regulatory requirements preventing or limiting us from operating our global network or resulting in unanticipated costs and delays;
- interpretations of laws or regulations that would subject us to regulatory supervision or, in the alternative, require us to exit a country, which could have a negative impact on the quality of our services or our results of operations;
- longer accounts receivable payment cycles and difficulties in collecting accounts receivable;
- corporate and personal liability for violations of local laws and regulations;
- currency exchange rate fluctuations and repatriation of funds;
- potentially adverse tax consequences;
- credit risk and higher levels of payment fraud; and
- foreign exchange controls that might prevent us from repatriating cash earned in countries outside the United States.

International operations are subject to significant additional risks not generally faced in our domestic operations, including, but not limited to, risks relating to legal systems that may not adequately protect contract and intellectual property rights, policies and taxation, the physical infrastructure of the country, as well as risks relating to potential political turmoil and currency exchange controls. There can be no assurance that these international risks will not materially adversely affect our business. Should there be significant productivity losses, or if we become unable to conduct operations in international

locations in the future, and our contingency plans are unsuccessful in addressing the related risks, our business could be adversely affected.

Our business depends on continued and unimpeded access to third party controlled end-user access networks.

Our content delivery services depend on our ability to access certain end-user access networks in order to complete the delivery of rich media and other on-line content to end-users. Some operators of these networks may take measures that could degrade, disrupt or increase the cost of our or our customers' access to certain of these end-user access networks. Such measures may include restricting or prohibiting the use of their networks to support or facilitate our services, or charging increased fees to us, our customers or end-users in connection with our services. In 2015, the U.S. Federal Communications Commission (FCC) released network neutrality and open Internet rules that reclassified broadband Internet access services as a telecommunications service subject to some elements of common carrier regulation. Among other things, the FCC order prohibited blocking or discriminating against lawful services and applications and prohibited "paid prioritization," or providing faster speeds or other benefits in return for compensation. In 2017, the FCC overturned these rules. As a result, we or our customers could experience increased cost or slower data on these third-party networks. If we or our customers experience increased cost in delivering content to end users, or otherwise, or if end users perceive a degradation of quality, our business and that of our customers may be significantly harmed. This or other types of interference could result in a loss of existing customers, increased costs and impairment of our ability to attract new customers, thereby harming our revenue and growth.

In addition, the performance of our infrastructure depends in part on the direct connection of our global network to a large number of end-user access networks, known as peering, which we achieve through mutually beneficial cooperation with these networks. In some instances, network operators charge us for the peering connections. If, in the future, a significant percentage of these network operators elected to no longer peer with our network or peer with our network on less favorable economic terms, then the performance of our infrastructure could be diminished, our costs could increase and our business could suffer.

If our ability to deliver media files in popular proprietary content formats is restricted or becomes cost-prohibitive, demand for our content delivery services could decline, we could lose customers and our financial results could suffer.

Our business depends on our ability to deliver media content in all major formats. If our legal right or technical ability to store and deliver content in one or more popular proprietary content formats, such as HTTP Live Streaming becomes limited, our ability to serve our customers in these formats would be impaired and the demand for our content delivery and other services would decline by customers using these formats. Owners of propriety content formats may be able to block, restrict or impose fees or other costs on our use of such formats, which could lead to additional expenses for us and for our customers, or which could prevent our delivery of this type of content altogether. Such interference could result in a loss of existing customers, increased costs and impairment of our ability to attract new customers, which would harm our revenue, operating results and growth.

We use certain "open-source" software, the use of which could result in our having to distribute our proprietary software, including our source code, to third parties on unfavorable terms, which could materially affect our business.

Certain of our service offerings use software that is subject to open-source licenses. Open-source code is software that is freely accessible, usable and modifiable. Certain open-source code is governed by license agreements, the terms of which could require users of such open-source code to make any derivative works of such open-source code available to others on unfavorable terms or at no cost. Because we use open-source code, we may be required to take remedial action to protect our proprietary software. Such action could include replacing certain source code used in our software, discontinuing certain of our products or features or taking other actions that could divert resources away from our development efforts.

In addition, the terms relating to disclosure of derivative works in many open-source licenses are unclear. We periodically review our compliance with the open-source licenses we use and do not believe we will be required to make our proprietary software freely available. Nevertheless, if a court interprets one or more such open-source licenses in a manner that is unfavorable to us, we could be required to make some components of our software available at no cost, which could materially and adversely affect our business and financial condition.

If we are unable to retain our key employees and hire qualified sales and technical personnel, our ability to compete could be harmed.

Our future success depends upon the continued services of our executive officers and other key technology, sales, marketing and support personnel who have critical industry experience and relationships that they rely on in implementing our business plan. There is increasing competition for talented individuals with the specialized knowledge to deliver our services and this competition affects both our ability to retain key employees and hire new ones. Historically, we have experienced a

significant amount of employee turnover, especially with respect to our sales personnel. As a result, a significant number of our sales personnel are relatively new and may need time to become fully productive. The loss of the services of any of our key employees could disrupt our operations, delay the development and introduction of our services, and negatively impact our ability to sell our services.

We are subject to the effects of fluctuations in foreign exchange rates, which could affect our operating results.

The financial condition and results of operations of our operating foreign subsidiaries are reported in the relevant local currency and are then translated into U.S. dollars at the applicable currency exchange rate for inclusion in our consolidated U.S. dollar financial statements. Also, although a large portion of our customer and vendor agreements are denominated in U.S. dollars, we may be exposed to fluctuations in foreign exchange rates with respect to customer agreements with certain of our international customers. Exchange rates between these currencies and U.S. dollars in recent years have fluctuated significantly and may do so in the future. In addition to currency translation risk, we incur currency transaction risk whenever one of our operating subsidiaries enters into a transaction using a different currency than the relevant local currency. Given the volatility of exchange rates, we may be unable to manage our currency transaction risks effectively. Currency fluctuations could have a material adverse effect on our future international sales and, consequently, on our financial condition and results of operations.

As part of our business strategy, we may acquire businesses or technologies and may have difficulty integrating these operations.

We have completed a number of business acquisitions and may seek to acquire businesses or technologies that are complementary to our business in the future. Acquisitions are often complex and involve a number of risks to our business, including, among others;

- the difficulty of integrating the operations, services, solutions and personnel of the acquired companies;
- the potential disruption of our ongoing business;
- the potential distraction of management;
- the possibility that our business culture and the business culture of the acquired companies will not be compatible;
- the difficulty of incorporating or integrating acquired technology and rights with or into our other services and solutions;
- expenses related to the acquisition and to the integration of the acquired companies;
- the impairment of relationships with employees and customers as a result of any integration of new personnel;
- employee turnover from the acquired companies or from our current operations as we integrate businesses;
- risks related to the businesses of acquired companies that may continue to impact the businesses following the merger; and
- potential unknown liabilities associated with acquired companies.

Any inability to integrate services, solutions, operations or personnel in an efficient and timely manner could harm our results of operations.

If we are not successful in completing acquisitions that we may pursue in the future, we may be required to reevaluate our business strategy, and we may incur substantial expenses and devote significant management time and resources without a productive result. In addition, future acquisitions will require the use of our available cash or dilutive issuances of securities. Future acquisitions or attempted acquisitions could also harm our ability to achieve profitability.

Internet-related and other laws relating to taxation issues, privacy, data security, and consumer protection and liability for content distributed over our network could harm our business.

Laws and regulations that apply to communications and commerce conducted over the Internet are becoming more prevalent, both in the United States and internationally, and may impose additional burdens on companies conducting business on-line or providing Internet-related services such as ours. Increased regulation could negatively affect our business directly, as well as the businesses of our customers, which could reduce their demand for our services. For example, tax authorities abroad may impose taxes on the Internet-related revenue we generate based on where our internationally deployed servers are located. In addition, domestic and international taxation laws are subject to change. Our services, or the businesses of our customers, may become subject to increased taxation, which could harm our financial results either directly or by forcing our customers to scale back their operations and use of our services in order to maintain their operations. Also, the Communications Act of 1934, as amended by the Telecommunications Act of 1996 (the Act), and the regulations promulgated by the FCC under Title II of the Act, may impose obligations on the Internet and those participants involved in Internet-related businesses. In addition, the laws relating to the liability of private network operators for information carried on, processed by or disseminated through their networks are unsettled, both in the United States and abroad. Network operators have been sued in the past, sometimes successfully, based on the content of material disseminated through their networks. We may become subject to legal claims

such as defamation, invasion of privacy, and copyright infringement in connection with content stored on or distributed through our network. In addition, our reputation could suffer as a result of our perceived association with the type of content that some of our customers deliver. If we need to take costly measures to reduce our exposure to the risks posed by laws and regulations that apply to communications and commerce conducted over the Internet, or are required to defend ourselves against related claims, our financial results could be negatively affected.

Several other federal laws also could expose us to liability and impose significant additional costs on us. For example, the Digital Millennium Copyright Act has provisions that limit, but do not eliminate, our liability for the delivery of customer content that infringe copyrights or other rights, so long as we comply with certain statutory requirements. In addition, the Children's On-line Privacy Protection Act restricts the ability of on-line services to collect information from minors and the Protection of Children from Sexual Predators Act of 1998 requires on-line service providers to report evidence of violations of federal child pornography laws under certain circumstances. Also, there are emerging regulation and industry standards regarding the collection and use of personal information and protecting the security of data on networks. Compliance with these laws, regulations, and standards is complex and any failure on our part to comply with these regulations may subject us to additional liabilities.

Privacy concerns could lead to regulatory and other limitations on our business, including our ability to use “cookies” and video player “cookies” that are crucial to our ability to provide services to our customers.

Our ability to compile data for customers depends on the use of “cookies” and video player “cookies” to identify certain on-line behavior that allows our customers to measure a website or video's effectiveness. A cookie is a small file of information stored on a user's computer that allows us to recognize that user's browser or video player when the user makes a request for a web page or to play a video. Government authorities inside the United States concerned with the privacy of Internet users have suggested the enactment of legislation that would regulate cookies and/or require certain disclosures regarding cookies. Bills aimed at regulating the collection, use and/or storage of personal data from Internet users are currently pending in United States Congress and many state legislatures. Attempts at such regulation may be drafted in such a way as to limit or otherwise regulate the collection of certain technology like cookies, thereby creating restrictions that could reduce our ability to use them. For example, the California Consumer Privacy Act (CCPA) became effective in January 2020. The CCPA, among other things, contains new disclosure obligations for businesses that collect personal information about California residents and affords those individuals new rights relating to their personal information that may affect our ability to use personal information or share it with our business partners. The CCPA also provides for significant statutory fines and creates a private right of action for certain data breaches. Regulations from the California Attorney General have not been finalized, and it is expected that additional amendments to the CCPA will be introduced in 2020. In addition, the Federal Trade Commission and the Department of Commerce have conducted hearings regarding user profiling, the collection of non-personally identifiable information, and on-line privacy.

Our foreign operations may also be adversely affected by regulatory action outside the United States. These regulations, which can be enforced by private parties or governmental entities, are constantly evolving and can be subject to significant change. For example, the European Union has enacted an electronic communications directive that imposes certain restrictions on the use of cookies, requires certain disclosures with respect to cookie usages and also places restrictions on the sending of unsolicited communications. Each European Union member country was required to enact legislation to comply with the provisions of the electronic communications directive. Germany has also enacted additional laws limiting the use of user profiling, and other countries, both in and out of the European Union, may impose similar limitations.

Internet users may directly limit or eliminate the placement of cookies on their computers by using third-party software that blocks cookies, or by disabling or restricting the cookie functions of their Internet browser software and in their video player software. Internet browser software upgrades also may result in limitations on the use of cookies. Technologies like the Platform for Privacy Preferences Project may limit collection of cookies. Plaintiffs' attorneys also have organized class action suits against companies related to the use of cookies and several companies, including companies in the Internet advertising industry, have had claims brought against them before the Federal Trade Commission regarding the collection and use of Internet user information. We may be subject to such suits in the future, which could limit or eliminate our ability to collect such information. If our ability to use cookies were substantially restricted due to the foregoing, or for any other reason, we would have to generate and use other technology or methods that allow the gathering of user data in order to provide services to customers. This change in technology or methods could require significant re-engineering time and resources, and may not be complete in time to avoid negative consequences to our business. In addition, alternative technology or methods might not be available on commercially reasonable terms, if at all. If the use of cookies is prohibited and we are not able to efficiently and cost effectively create new technology, our business, financial condition and results of operations would be materially adversely affected. In addition, any compromise of security that results in the release of Internet users' and/or our customers' data could seriously limit the adoption of our service offerings as well as harm our reputation and brand, expose us to liability and subject us to reporting obligations under various state laws, which could have an adverse effect on our business.

The risk that these types of events could seriously harm our business is likely to increase as the amount of data stored for customers on our servers and the number of countries where we operate has been increasing, and we may need to expend significant resources to protect against security breaches, which could have an adverse effect on our business, financial condition or results of operations.

Also, a number of new privacy laws and/or proposals pending could affect our business. For example, the European Commission has enacted the General Data Protection Regulation, or GDPR, which became effective in May 2018. GDPR superseded prior EU data protection legislation, imposes more stringent EU data protection requirements, and provides for greater penalties for noncompliance. Additionally, in October 2015, the European Court of Justice invalidated the U.S.-EU Safe Harbor framework that had been in place since 2000, which allowed companies to meet certain European legal requirements for the transfer of personal data from the European Economic Area to the United States. Although U.S. and EU authorities reached a political agreement regarding a new potential means for legitimizing personal data transfers from the European Economic Area to the United States, the EU-U.S. Privacy Shield, there continue to be concerns about whether the EU-US Privacy Shield will face additional challenges (similar to the fate of the Safe Harbor framework). We expect that for the immediate future, we will continue to face uncertainty as to whether our efforts to comply with our obligations under European privacy laws will be sufficient. If we are investigated by a European data protection authority, we may face fines and other penalties. Any such investigation or charges by European data protection authorities could have a negative effect on our existing business and on our ability to attract and retain new customers. These existing and proposed laws and regulations can be costly to comply with, could expose us to significant penalties for non-compliance, can delay or impede the development or adoption of our products and services, reduce the overall demand for our services, result in negative publicity, increase our operating costs, require significant management time and attention, slow the pace at which we close (or prevent us from closing) sales transactions, and subject us to claims or other remedies, including fines or demands that we modify or cease existing business practices.

Our business requires the continued development of effective business support systems to support our customer growth and related services.

The growth of our business depends on our ability to continue to develop effective business support systems. This is a complicated undertaking requiring significant resources and expertise. Business support systems are needed for:

- implementing customer orders for services;
- delivering these services; and
- timely and accurate billing for these services.

Because our business plan provides for continued growth in the number of customers that we serve and services offered, there is a need to continue to develop our business support systems on a schedule sufficient to meet proposed service roll-out dates. The failure to continue to develop effective business support systems could harm our ability to implement our business plans and meet our financial goals and objectives.

We have incurred, and will continue to incur significant costs as a result of operating as a public company, and our management is required to devote substantial time to compliance initiatives.

As a public company, we have incurred, and will continue to incur, significant expenses, including accounting, legal and other professional fees, insurance premiums, investor relations costs, and costs associated with compensating our independent directors. In addition, rules implemented by the SEC and the Nasdaq Global Select Market impose additional requirements on public companies, including requiring changes in corporate governance practices. For example, the listing requirements of the Nasdaq Global Select Market require that we satisfy certain corporate governance requirements relating to independent directors, audit committees, distribution of annual and interim reports, stockholder meetings, stockholder approvals, solicitation of proxies, conflicts of interest, stockholder voting rights and codes of conduct. Our management and other personnel need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations increase our legal and financial compliance costs and make some activities more time-consuming and costly. For example, these rules and regulations make it more difficult and more expensive for us to obtain director and officer liability insurance.

If the accounting estimates we make, and the assumptions on which we rely, in preparing our financial statements prove inaccurate, our actual results may be adversely affected.

Our financial statements have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments about, among other things, taxes, revenue recognition, share-based compensation costs, contingent obligations and doubtful accounts. These estimates and judgments affect the reported amounts of our assets, liabilities, revenue and expenses, the amounts of charges

accrued by us, and related disclosure of contingent assets and liabilities. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances and at the time they are made. If our estimates or the assumptions underlying them are not correct, we may need to accrue additional charges or reduce the value of assets that could adversely affect our results of operations, investors may lose confidence in our ability to manage our business and our stock price could decline.

If we fail to maintain proper and effective internal controls or fail to implement our controls and procedures with respect to acquired or merged operations, our ability to produce accurate financial statements could be impaired, which could adversely affect our operating results, our ability to operate our business and investors' views of us.

We must ensure that we have adequate internal financial and accounting controls and procedures in place so that we can produce accurate financial statements on a timely basis. We are required to spend considerable effort on establishing and maintaining our internal controls, which is costly and time-consuming and needs to be re-evaluated frequently.

We have operated as a public company since June 2007, and we will continue to incur significant legal, accounting, and other expenses as we comply with the Sarbanes-Oxley Act of 2002, as well as new rules implemented from time to time by the SEC and the Nasdaq Global Select Market. These rules impose various requirements on public companies, including requiring changes in corporate governance practices, increased reporting of compensation arrangements and other requirements. Our management and other personnel will continue to devote a substantial amount of time to these compliance initiatives. Moreover, new rules and regulations will likely increase our legal and financial compliance costs and make some activities more time-consuming and costly. These rules and regulations could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

Section 404 of the Sarbanes-Oxley Act of 2002 requires that we include in our annual report our assessment of the effectiveness of our internal control over financial reporting and our audited financial statements as of the end of each fiscal year. Furthermore, our independent registered public accounting firm, Ernst & Young LLP (EY), is required to report on whether it believes we maintained, in all material respects, effective internal control over financial reporting as of the end of the year. Our continued compliance with Section 404 will require that we incur substantial expense and expend significant management time on compliance related issues, including our efforts in implementing controls and procedures related to acquired or merged operations. We currently do not have an internal audit group and use an international accounting firm to assist us with our assessment of the effectiveness of our internal controls over financial reporting. In future years, if we fail to timely complete this assessment, or if EY cannot timely attest, there may be a loss of public confidence in our internal controls, the market price of our stock could decline, and we could be subject to regulatory sanctions or investigations by the Nasdaq Global Select Market, the SEC or other regulatory authorities, which would require additional financial and management resources. In addition, any failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm our operating results or cause us to fail to timely meet our regulatory reporting obligations.

Changes in financial accounting standards or practices may cause adverse, unexpected financial reporting fluctuations and affect our reported results of operations.

A change in accounting standards or practices can have a significant effect on our operating results and may affect our reporting of transactions completed before the change is effective. New accounting pronouncements and varying interpretations of existing accounting pronouncements have occurred and may occur in the future. Changes to existing rules or the questioning of current practices may adversely affect our reported financial results or the way we conduct our business.

Divestiture of our businesses or product lines, including those that we have acquired or will acquire, may materially adversely affect our financial condition, results of operations or cash flows, or may result in impairment charges that may adversely affect our results of operations.

Divestitures involve risks, including difficulties in the separation of operations, services, products and personnel, the diversion of management's attention from other business concerns, the disruption of our business, the potential loss of key employees and the retention of uncertain contingent liabilities related to the divested business, any of which could result in a material adverse effect to our financial condition, results of operations or cash flows. Divestitures of previously acquired businesses may result in significant asset impairment charges, including those related to goodwill and other intangible assets, which could have a material adverse effect on our financial condition and results of operations. Future impairment may result from, among other things, deterioration in the performance of the acquired business or product line, adverse market conditions and changes in the competitive landscape, adverse changes in applicable laws or regulations, including changes that restrict the activities of the acquired business or product line, changes in accounting rules and regulations, and a variety of other circumstances. The amount of any impairment is recorded as a charge to the statement of operations. We may never realize the full value of our goodwill and intangible assets, and any determination requiring the write-off of a significant portion of these

assets may have an adverse effect on our financial condition and results of operations. We cannot assure you that we will be successful in managing these or any other significant risks that we encounter in divesting a business or product line.

Risks Related to Ownership of Our Common Stock

The trading price of our common stock has been, and is likely to continue to be, volatile.

The trading prices of our common stock and the securities of technology companies generally have been highly volatile. Factors affecting the trading price of our common stock will include:

- variations in our operating results;
- announcements of technological innovations, new services or service enhancements, strategic alliances or significant agreements by us or by our competitors;
- commencement or resolution of, our involvement in and uncertainties arising from litigation;
- recruitment or departure of key personnel;
- changes in the estimates of our operating results or changes in recommendations by any securities analysts that elect to follow our common stock;
- if we or our stockholders sell substantial amounts of our common stock (including shares issued upon the exercise of options and warrants);
- developments or disputes concerning our intellectual property or other proprietary rights;
- the gain or loss of significant customers;
- market conditions in our industry, the industries of our customers and the economy as a whole; and
- adoption or modification of regulations, policies, procedures or programs applicable to our business.

In addition, if the market for technology stocks or the stock market in general experiences loss of investor confidence, the trading price of our common stock could decline for reasons unrelated to our business, operating results or financial condition. The trading price of our common stock might also decline in reaction to events or speculation of events that affect other companies in our industry even if these events do not directly affect us.

If securities or industry analysts do not publish research or reports about our business or if they issue an adverse or misleading opinion or report, our stock, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us issue an adverse or misleading opinion regarding our stock, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

Future equity issuances or a sale of a substantial number of shares of our common stock may cause the price of our common stock to decline.

Because we may need to raise additional capital in the future to continue to expand our business and our research and development activities, among other things, we may conduct additional equity offerings. If we or our stockholders sell substantial amounts of our common stock (including shares issued upon the exercise of options and warrants) in the public market, the market price of our common stock could fall. For example, in November 2017 and March 2018, investment entities affiliated with Goldman, Sachs & Co. sold 15,000,000 and 15,272,493 shares of our common stock, respectively, in two registered public offerings. A decline in the market price of our common stock could make it more difficult for us to sell equity or equity-related securities in the future at a time and price that we deem appropriate.

Anti-takeover provisions in our charter documents and Delaware law could discourage, delay or prevent a change in control of our company and may affect the trading price of our common stock.

Provisions of our amended and restated certificate of incorporation and bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us, even if doing so would benefit our stockholders. These provisions:

- establish that members of the board of directors may be removed only for cause upon the affirmative vote of stockholders owning a majority of our capital stock;

- authorize the issuance of “blank check” preferred stock that could be issued by our board of directors to increase the number of outstanding shares and thwart a takeover attempt;
- limit who may call special meetings of stockholders;
- prohibit stockholder action by written consent, thereby requiring stockholder actions to be taken at a meeting of the stockholders;
- establish advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings;
- provide for a board of directors with staggered terms; and
- provide that the authorized number of directors may be changed only by a resolution of our board of directors.

In addition, Section 203 of the Delaware General Corporation Law, which imposes certain restrictions relating to transactions with major stockholders, may discourage, delay or prevent a third party from acquiring us.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our global corporate headquarters is located in approximately 37,755 square feet of leased office space in Scottsdale, Arizona. We also lease space for a data center and warehouse in Phoenix, Arizona. We lease offices in several other locations in the United States and Canada, including in or near Lexington, Kentucky; Boston, Massachusetts; Grand Rapids, Michigan; New York, New York; Seattle, Washington; and Toronto, Canada. We also lease offices in Europe and Asia in or near London, England; Paris, France; Tel Aviv, Israel; Bangalore, Chennai, Haryana and Mumbai, India; Lviv, Ukraine; Tokyo, Japan; Seoul, Korea; and Singapore. We believe our facilities are sufficient to meet our needs for the foreseeable future and, if needed, additional space will be available at a reasonable cost.

Item 3. Legal Proceedings

For a description of our material pending legal proceedings, please refer to Note 10 “Contingencies - Legal Matters” of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this annual report on Form 10-K, which is incorporated herein by reference.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

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

Market Information

Our common stock, par value \$0.001 per share, trades on The Nasdaq Global Select Market under the symbol “LLNW”.

Holdings

As of January 24, 2020, there were 238 holders of record of our common stock.

Dividends

We have never paid or declared any cash dividends on shares of our common stock or other securities and do not anticipate paying any cash dividends in the foreseeable future. We currently intend to retain all future earnings, if any, for use in the operation of our business.

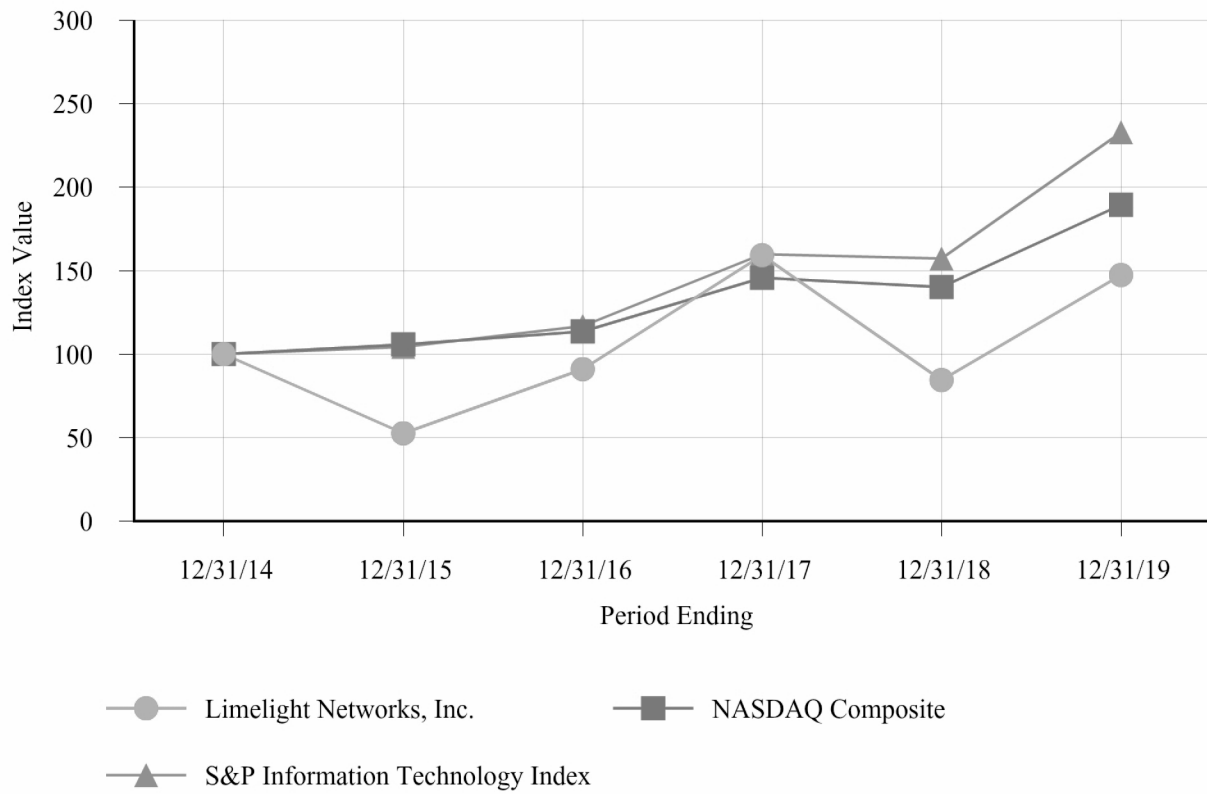
Issuers Purchases of Equity Securities

None

STOCK PERFORMANCE GRAPH

The graph set forth below compares the cumulative total stockholder return on our common stock between December 31, 2014 and December 31, 2019, with the cumulative total return of (i) the Nasdaq Composite Index and (ii) the S&P Information Technology Sector Index, over the same period. This graph assumes the investment of \$100 on December 31, 2014 in our common stock, the Nasdaq Composite Index and the S&P Information Technology Sector Index, and assumes the reinvestment of dividends, if any. The comparisons shown in the graph below are based upon historical data. We caution that the stock price performance shown in the graph below is not necessarily indicative of, nor is it intended to forecast, the potential future performance of our common stock.

Comparative Stock Performance



This graph assumes an investment on December 31, 2014 of \$100 in our common stock (based on the closing sale price of our common stock), and in each of such indices (including the reinvestment of all dividends). Measurement points are to the last trading day for each respective period. The performance shown is not necessarily indicative of future performance.

Item 6. Selected Financial Data

The following selected consolidated financial data should be read in conjunction with our Consolidated Financial Statements and related notes and with “Management Discussion and Analysis of Financial Condition and Results of Operations” and other financial data included elsewhere in this Annual Report on Form 10-K. On August 1, 2016, we entered into a settlement and license agreement with Akamai with respect to the ‘703 and certain other related patents, which settled all asserted and unasserted claims with respect to the licensed patents. The terms of the agreement required us to pay \$54,000 over twelve equal quarterly installments, which began on August 1, 2016. We took a charge in the year ended December 31, 2016 for the full, undiscounted amount of \$54,000, per our accounting policy. On January 1, 2018, we adopted Topic 606, Revenue from Contracts with Customers (Topic 606) using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. We recorded a net decrease to opening accumulated deficit of \$1,496 as of January 1, 2018 due to the cumulative impact of adopting Topic 606 with the impact primarily related to the costs to obtain a customer contract (\$1,129), specifically commissions and upfront incentive payments, and from the recognition of revenue from customers with contracts that contain minimum commitments billed ratably over the contract term (\$367). On April 9, 2018, we entered into a definitive settlement and patent license agreement with Akamai in a separate matter where the parties agreed to (i) license certain patents to the other party, (ii) a covenant not to sue for three years for certain patents related to the licensed patents, and (iii) settle all outstanding legal disputes between the parties. The terms of the agreement also required Akamai to pay to Limelight a total of \$14,900, over five equal quarterly installments. During the year ended December 31, 2018, we recorded \$14,900 of settlement and patent license income related to this agreement. All information is presented in thousands, except per share amounts, customer count and where specifically noted.

	Limelight Networks, Inc.				
	Year Ended December 31,				
	2019	2018	2017	2016	2015
Revenue	\$ 200,634	\$ 195,670	\$ 184,360	\$ 168,234	\$ 170,912
Cost of revenue:					
Cost of services (1)	99,897	85,920	78,423	78,857	84,818
Depreciation — network	19,193	16,277	18,138	18,032	17,975
Total cost of revenue	119,090	102,197	96,561	96,889	102,793
Gross profit	81,544	93,473	87,799	71,345	68,119
Operating expenses:					
General and administrative (1)	30,785	32,372	32,053	30,042	25,027
Sales and marketing (1)	43,078	39,553	36,098	32,945	37,868
Research and development (1)	22,534	24,075	25,342	24,335	28,016
Depreciation and amortization	872	2,313	2,376	2,452	2,929
Provision for litigation	—	—	—	54,000	—
Total operating expenses	97,269	98,313	95,869	143,774	93,840
Operating loss	(15,725)	(4,840)	(8,070)	(72,429)	(25,721)
Other income (expense):					
Interest expense	(76)	(86)	(80)	(918)	(29)
Interest income	427	670	494	123	317
Settlement and patent license income	—	14,900	—	—	—
Other, net	80	(264)	452	(98)	1,748
Total other income (expense)	431	15,220	866	(893)	2,036
(Loss) income before income taxes	(15,294)	10,380	(7,204)	(73,322)	(23,685)
Income tax expense	750	538	426	603	267
Net (loss) income	\$ (16,044)	\$ 9,842	\$ (7,630)	\$ (73,925)	\$ (23,952)
Net (loss) income per share:					
Basic	\$ (0.14)	\$ 0.09	\$ (0.07)	\$ (0.71)	\$ (0.24)
Diluted	\$ (0.14)	\$ 0.08	\$ (0.07)	\$ (0.71)	\$ (0.24)
Weighted average shares used in per share calculation:					
Basic	115,890	112,114	108,814	104,350	100,105
Diluted	115,890	120,010	108,814	104,350	100,105

(1) Includes share-based compensation as follows:

Limelight Networks, Inc.					
Year Ended December 31,					
	2019	2018	2017	2016	2015
Cost of services	\$ 1,495	\$ 1,815	\$ 1,450	\$ 1,493	\$ 2,047
General and administrative	8,098	8,458	6,502	7,070	5,398
Sales and marketing	2,263	2,837	2,470	2,792	2,657
Research and development	1,922	2,720	2,322	2,104	2,236
Total	<u>\$ 13,778</u>	<u>\$ 15,830</u>	<u>\$ 12,744</u>	<u>\$ 13,459</u>	<u>\$ 12,338</u>

Limelight Networks, Inc.					
Year Ended December 31,					
	2019	2018	2017	2016	2015
Consolidated Balance Sheet Data:					
Cash and cash equivalents and marketable securities, current	\$ 18,335	\$ 50,466	\$ 49,316	\$ 66,187	\$ 73,002
Non-current marketable securities	40	40	40	40	40
Working capital	34,185	58,273	44,607	56,643	86,080
Property and equipment, net	46,136	27,378	28,991	30,352	36,143
Total assets	209,369	198,925	196,448	208,129	225,627
Provision for litigation	—	9,000	18,000	18,000	—
Provision for litigation, less current portion	—	—	9,000	27,000	—
Long-term debt, less current portion	—	—	—	—	1,436
Total stockholders' equity	166,537	165,151	144,145	137,568	198,097

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

This Annual Report on Form 10-K contains "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include, among other things, statements as to industry trends, our future expectations, operations, financial condition and prospects, business strategies and other matters that do not relate strictly to historical facts. These statements are often identified by the use of words such as "may," "will," "expect," "believe," "anticipate," "intend," "could," "estimate," or "continue," and similar expressions or variations. These statements are based on the beliefs and assumptions of our management based on information currently available to management. Such forward-looking statements are subject to risks, uncertainties and other factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled "Risk Factors" set forth in Part I, Item 1A and in the "Special Note Regarding Forward-Looking Statements" preceding Part I of this Annual Report on Form 10-K. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements. We undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements. Prior period information has been modified to conform to current year presentation. All information is presented in thousands, except per share amounts, customer count and where specifically noted.

Overview

We were founded in 2001 as a provider of content delivery network services to deliver digital content over the Internet. We began development of our infrastructure in 2001 and began generating meaningful revenue in 2002. Today, we are a leading provider of digital content delivery, online video delivery, cloud security, edge computing, and cloud storage services. Our edge services platform includes a globally distributed, high-performance private network, intelligent software, and support services. Our mission is to securely manage and globally deliver digital content, building customer satisfaction through exceptional reliability and performance.

Our delivery services represent approximately 79% of our total revenue for the year ended December 31, 2019. We also generate revenue through the sale of professional services and other infrastructure services, such as transit and rack space services.

We operate in markets that are highly competitive. We have experienced and expect to continue to experience increased competition in price, features, functionality, integration and other factors leading to customer churn and customers operating their own network. Competition and technology advancements have resulted in declining average selling prices in the industry. We believe continued increases in content delivery traffic growth rates, driven by the continued shift to over the top consumption for online video and increased consumption of rich media content and larger file sizes, increased migration of applications and data to the cloud, and continued growth rates of mobile device usage are all important trends that will continue to outpace declining average selling prices in the industry.

In addition to these revenue-related trends, our profitability is impacted by trends in our costs of services and operating expenses. We continuously review our capacity needs and work to optimize our data center footprint. During 2019, we increased our network capacity by more than 100% to over 60 terabits per second through software enhancements and hardware additions. We continuously renegotiate our infrastructure contracts in order to scale our operations based on traffic levels and lower bandwidth costs per unit. Our operating expenses are largely driven by payroll and related employee costs. Our headcount increased from 563 at December 31, 2018, to 610 as of December 31, 2019.

In August 2016, we entered into a settlement and license agreement with Akamai Technologies, Inc. (Akamai) with respect to the U.S. Patent No. 6,108,703 (the '703 patent) and certain other related patents. The agreement settled all asserted and unasserted claims with respect to the licensed patents. The terms of the agreement required us to pay \$54,000 over twelve equal quarterly installments beginning on August 1, 2016. During the three months ended June 30, 2019, we made our final payment of \$4,500 to Akamai under the terms of the settlement and license agreement.

In April 2018, we entered into a definitive settlement and patent license agreement with Akamai in a separate matter where the parties agreed to (i) license certain patents to the other party, (ii) a covenant not to sue for three years for certain patents related to the licensed patents, and (iii) settle all outstanding legal disputes between the parties. The terms of the agreement also required Akamai to pay to Limelight a total of \$14,900, over five equal quarterly installments. During the three months ended June 30, 2019, we received our final payment of \$2,980 from Akamai.

Please see our discussion in Note 10 "Contingencies - Legal Matters" of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for more information on this and other lawsuits.

The following table summarizes our revenue, costs and expenses for the years ended December 31, 2019, 2018, and 2017 (in thousands of dollars and as a percentage of total revenue).

	Year Ended December 31,					
	2019		2018		2017	
Revenue	\$ 200,634	100.0 %	\$ 195,670	100.0 %	\$ 184,360	100.0 %
Cost of revenue	119,090	59.4 %	102,197	52.2 %	96,561	52.4 %
Gross profit	81,544	40.6 %	93,473	47.8 %	87,799	47.6 %
Operating expenses	97,269	48.5 %	98,313	50.2 %	95,869	52.0 %
Operating loss	(15,725)	(7.8)%	(4,840)	(2.5)%	(8,070)	(4.4)%
Settlement and patent license income	—	— %	14,900	7.6 %	—	— %
Total other income (expense)	431	0.2 %	320	0.2 %	866	0.5 %
(Loss) income before income taxes	(15,294)	(7.6)%	10,380	5.3 %	(7,204)	(3.9)%
Income tax expense	750	0.4 %	538	0.3 %	426	0.2 %
Net (loss) income	<u>\$ (16,044)</u>	<u>(8.0)%</u>	<u>\$ 9,842</u>	<u>5.0 %</u>	<u>\$ (7,630)</u>	<u>(4.1)%</u>

Use of Non-GAAP Financial Measures

To evaluate our business, we consider and use non-generally accepted accounting principles (Non-GAAP) net income (loss), EBITDA and Adjusted EBITDA as supplemental measures of operating performance. These measures include the same adjustments that management takes into account when it reviews and assesses operating performance on a period-to-period basis. We consider Non-GAAP net income (loss) to be an important indicator of overall business performance. We define Non-GAAP net income (loss) to be U.S. GAAP net income (loss), adjusted to exclude the settlement and patent license income, share-based compensation and litigation expenses. We believe that EBITDA provides a useful metric to investors to compare us with other companies within our industry and across industries. We define EBITDA as U.S. GAAP net income (loss), adjusted to exclude depreciation and amortization, interest expense, interest and other (income) expense and income tax expense. We define Adjusted EBITDA as EBITDA adjusted to exclude the settlement and patent license income, share-based compensation and litigation expenses. We use Adjusted EBITDA as a supplemental measure to review and assess operating performance. Our management uses these Non-GAAP financial measures because, collectively, they provide valuable information on the performance of our on-going operations, excluding non-cash charges, taxes and non-core activities (including interest payments related to financing activities). These measures also enable our management to compare the results of our on-going operations from period to period, and allow management to review the performance of our on-going operations against our peer companies and against other companies in our industry and adjacent industries. We believe these measures also provide similar insights to investors, and enable investors to review our results of operations "through the eyes of management."

Furthermore, our management uses these Non-GAAP financial measures to assist them in making decisions regarding our strategic priorities and areas for future investment and focus.

In our January 29, 2020, earnings press release, as furnished on Form 8-K, we included Non-GAAP net income (loss), EBITDA and Adjusted EBITDA. The terms Non-GAAP net income (loss), EBITDA and Adjusted EBITDA are not defined under U.S. GAAP, and are not measures of operating income, operating performance or liquidity presented in accordance with U.S. GAAP. Our Non-GAAP net income (loss), EBITDA and Adjusted EBITDA have limitations as analytical tools, and when assessing our operating performance, Non-GAAP net income (loss), EBITDA and Adjusted EBITDA should not be considered in isolation, or as a substitute for net income (loss) or other consolidated income statement data prepared in accordance with U.S. GAAP. Some of these limitations include, but are not limited to:

- EBITDA and Adjusted EBITDA do not reflect our cash expenditures or future requirements for capital expenditures or contractual commitments;
- these measures do not reflect changes in, or cash requirements for, our working capital needs;
- Non-GAAP net income (loss) and Adjusted EBITDA do not reflect the cash requirements necessary for litigation costs, including provision for litigation and litigation expenses;

- these measures do not reflect the interest expense, or the cash requirements necessary to service interest or principal payments, on our debt that we may incur;
- these measures do not reflect income taxes or the cash requirements for any tax payments;
- although depreciation and amortization are non-cash charges, the assets being depreciated and amortized will be replaced sometime in the future, and EBITDA and Adjusted EBITDA do not reflect any cash requirements for such replacements;
- while share-based compensation is a component of operating expense, the impact on our financial statements compared to other companies can vary significantly due to such factors as the assumed life of the options and the assumed volatility of our common stock; and
- other companies may calculate Non-GAAP net income (loss), EBITDA and Adjusted EBITDA differently than we do, limiting their usefulness as comparative measures.

We compensate for these limitations by relying primarily on our U.S. GAAP results and using Non-GAAP net income (loss), EBITDA, and Adjusted EBITDA only as supplemental support for management's analysis of business performance. Non-GAAP net income (loss), EBITDA and Adjusted EBITDA are calculated as follows for the periods presented.

Reconciliation of Non-GAAP Financial Measures

In accordance with the requirements of Item 10(e) of Regulation S-K, we are presenting the most directly comparable U.S. GAAP financial measures and reconciling the unaudited Non-GAAP financial metrics to the comparable U.S. GAAP measures.

Reconciliation of U.S. GAAP Net Income (Loss) to Non-GAAP Net Income (Loss) (Unaudited)

	Year Ended December 31,		
	2019	2018	2017
U.S. GAAP net (loss) income	\$ (16,044)	\$ 9,842	\$ (7,630)
Settlement and patent license income	—	(14,900)	—
Share-based compensation	13,778	15,830	12,744
Litigation expenses	—	2,907	5,518
Non-GAAP net (loss) income	<u>\$ (2,266)</u>	<u>\$ 13,679</u>	<u>\$ 10,632</u>

Reconciliation of U.S. GAAP Net Income (Loss) to EBITDA to Adjusted EBITDA (Unaudited)

	Year Ended December 31,		
	2019	2018	2017
U.S. GAAP net (loss) income	\$ (16,044)	\$ 9,842	\$ (7,630)
Depreciation and amortization	20,065	18,590	20,514
Interest expense	76	86	80
Interest and other (income) expense	(507)	(406)	(946)
Income tax expense	750	538	426
EBITDA	<u>\$ 4,340</u>	<u>\$ 28,650</u>	<u>\$ 12,444</u>
Settlement and patent license income	—	(14,900)	—
Share-based compensation	13,778	15,830	12,744
Litigation expenses	—	2,907	5,518
Adjusted EBITDA	<u>\$ 18,118</u>	<u>\$ 32,487</u>	<u>\$ 30,706</u>

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements and related disclosures in conformity with U.S. GAAP requires management to make judgments, assumptions, and estimates that affect the amounts reported in the consolidated financial statements and accompanying notes. Note 2 to the consolidated financial statements describes the significant accounting policies and methods used in the preparation of the consolidated financial statements. The accounting policies described below are significantly affected by critical accounting estimates. Such accounting policies require significant judgments, assumptions, and estimates used in the preparation of the consolidated financial statements, and actual results could differ materially from the amounts reported based on these policies.

Revenue Recognition

Revenues are recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services.

Our customers generally execute contracts with terms of one year or longer, which are referred to as recurring revenue contracts or long-term contracts. These contracts generally allow the customer access to our network and are either entirely usage based or commit the customer to a minimum monthly level of usage with additional charges applicable for actual usage above the monthly minimum commitment. We define usage as customer data sent or received using our content delivery service, or content that is hosted or cached by us at the request or direction of our customers. For contracts that contain minimum monthly commitments, we recognize revenue equal to the greater of the minimum monthly committed amount or actual usage, if actual usage exceeds the monthly committed amount, using the right to invoice practical expedient allowable under Topic 606, Revenue from Contracts with Customers (Topic 606).

For contracts that contain minimum commitments over the contractual term, we estimate an amount of variable consideration by using either the expected value method or the most likely amount method. We include estimates of variable consideration in revenue only when we have a high degree of confidence that revenue will not be reversed in a subsequent reporting period. We believe that the expected value method is the most appropriate estimate of the amount of variable consideration. These customers have entered into contracts with contract terms generally from one to four years. As of December 31, 2019, we have approximately \$2,700 of remaining unsatisfied performance obligations. We recognized revenue of approximately \$9,600 and \$8,300, respectively, during the years ended December 31, 2019 and 2018, related to these types of contracts with our customers. We expect to recognize approximately 93% of the remaining unsatisfied performance obligations in 2020, approximately 6% in 2021, and approximately 1% in 2022.

We may charge the customer an activation fee when services are first activated. We do not charge activation fees for contract renewals. Activation fees are not distinct within the context of the overall contractual commitment with the customer to perform our content delivery service and are therefore recognized initially as deferred revenue and recognized as revenue ratably over the estimated life of the customer arrangement.

We also derive revenue from services and events sold as discrete, non-recurring events or based solely on usage. For these services, we recognize revenue when control of promised goods or services is transferred to customers at an amount that reflects the consideration to which we expect to be entitled to in exchange for those goods or services.

At the inception of a customer contract for service, we make an assessment as to that customer's ability to pay for the services provided. If we subsequently determine that collection from the customer is not probable, we record an allowance for doubtful accounts and bad debt expense or deferred revenue for that customer's unpaid invoices and cease recognizing revenue for continued services provided until it is probable that revenue will not be reversed in a subsequent reporting period. Our standard payment terms vary by the type and location of our customer.

Arrangements with Multiple Performance Obligations

Certain of our revenue arrangements include multiple promises to our customers. Revenue arrangements with multiple promises are accounted for as separate performance obligations if each promise is distinct. Such arrangements may include a combination of some or all of the following: content delivery services, video content management services, performance services for website and web application acceleration and security, professional services, cloud storage, edge computing services, and sale of equipment.

Judgment may be required in determining whether products or services are considered distinct performance obligations that should be accounted for separately or as one combined performance obligation. Revenue is recognized over the period in which the performance obligations are satisfied, which is generally over the contract term. We have determined that generally most of our products and services do not constitute an individual service offering to our customers, as our promise to

the customer is to provide a complete edge services platform, and therefore have concluded that it represents a single performance obligation. We have determined that professional services and hardware sales represent separate performance obligations from that of our edge services platform.

Consideration is allocated to the performance obligations using the relative standalone selling price method. Generally, arrangements with performance obligations are provided over the same contract period, and therefore, revenue is recognized over the same period.

We determine standalone selling price by evaluating the overall pricing objectives and market conditions. Consideration included our discounting practices, the size and volume of our transactions, the area where services are sold, price lists, historical sales and contract prices.

Deferred Revenue

Deferred revenue represents amounts billed to customers for which revenue has not been recognized. Deferred revenue primarily consists of the unearned portion of monthly billed service fees and prepayments made by customers for services to be rendered in future periods.

Accounts Receivable and Related Reserves

Trade accounts receivable are recorded at the invoiced amounts and do not bear interest. We record reserves as a reduction of our accounts receivable balance for service credits and for doubtful accounts. Estimates are used in determining both of these reserves. The allowance for doubtful accounts charges are included as a component of general and administrative expenses.

Our allowance for doubtful accounts is based upon a calculation that uses our aging of accounts receivable and applies a reserve percentage to the specific age of the receivable to estimate the allowance for doubtful accounts. The reserve percentages are determined based on our historical write-off experience. These estimates could change significantly if our customers' financial condition changes or if the economy in general deteriorates. In the event such conditions become known, we specifically identify balances for necessary reserves.

Our reserve for future service credits relates to service credits that are expected to be issued to customers during the ordinary course of business. These credits typically relate to customer disputes and billing adjustments and are estimated at the time the revenue is recognized and recorded as a reduction of revenues. Estimates for service credits are based on an analysis of credits issued in previous periods.

Goodwill and Other Intangible Assets

We have recorded goodwill as a result of past business acquisitions. Goodwill is recorded when the purchase price paid for an acquisition exceeds the estimated fair value of the net identified tangible and intangible assets acquired. In each of our acquisitions, the objective of the acquisition was to expand our product offerings and customer base and to achieve synergies related to cross selling opportunities, all of which contributed to the recognition of goodwill.

We test goodwill for impairment on an annual basis or more frequently if events or changes in circumstances indicate that goodwill might be impaired. We concluded that we have one reporting unit and assigned the entire balance of goodwill to this reporting unit. The estimated fair value of the reporting unit is determined using our market capitalization as of our annual impairment assessment date or more frequently if circumstances indicate the goodwill might be impaired. Items that could reasonably be expected to negatively affect key assumptions used in estimating fair value include but are not limited to:

- sustained decline in our stock price due to a decline in our financial performance due to the loss of key customers, loss of key personnel, emergence of new technologies or new competitors and/or unfavorable outcomes of intellectual property disputes;
- decline in overall market or economic conditions leading to a decline in our stock price; and
- decline in observed control premiums paid in business combinations involving comparable companies.

The estimated fair value of the reporting unit is determined using a market approach. Our market capitalization is adjusted for a control premium based on the estimated average and median control premiums of transactions involving companies comparable to us. As of the annual impairment testing date of October 31, 2019, we determined that goodwill was not impaired. We noted that the estimated fair value of our reporting unit exceeded carrying value by approximately \$483,589 or 301%, using the market capitalization plus an estimated control premium of 30% on the annual impairment testing date. There were no indicators of impairment subsequent to the annual impairment testing date.

As of December 31, 2019, we have no other unamortized intangible assets. However, in prior years, our other intangible assets represented existing technologies and customer relationship intangibles. Other intangible assets are amortized over their respective estimated lives, ranging from less than one year to six years. In the event that facts and circumstances indicate intangibles or other long-lived assets may be impaired, we evaluate the recoverability and estimated useful lives of such assets. Amortization of other intangible assets is included in depreciation and amortization in the accompanying consolidated statements of operations.

Impairment and Useful Lives of Long-Lived Assets

We review our long-lived assets, such as fixed assets and amortizable intangible assets, for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. Events that would trigger an impairment review include a change in the use of the asset or forecasted negative cash flows related to the asset. When such events occur, we compare the carrying amount of the asset to the undiscounted expected future cash flows related to the asset. If this comparison indicates that impairment is present, the amount of the impairment is calculated as the difference between the carrying amount and the fair value of the asset. If a readily determinable market price does not exist, fair value is estimated using discounted expected cash flows attributable to the asset. The estimates required to apply this accounting policy include forecasted usage of the long-lived assets, the useful lives of these assets, and expected future cash flows. Changes in these estimates could materially impact results from operations.

Contingencies

We record contingent liabilities resulting from asserted and unasserted claims when it is probable that a loss has been incurred and the amount of the loss is reasonably estimable. We disclose contingent liabilities when there is a reasonable possibility that the ultimate loss will exceed the recorded liability. Additionally, estimating the loss, or range of loss, associated with a contingency requires analysis of multiple factors, and changes in law or other developments may ultimately cause our judgments to change. Therefore, actual losses in any future period are inherently uncertain and may be materially different from our estimate.

Deferred Taxes and Tax Reserves

Our provision for income taxes is comprised of a current and a deferred portion. The current income tax provision is calculated as the estimated taxes payable or refundable on tax returns for the current year. The deferred income tax provision is calculated for the estimated future tax effects attributable to temporary differences and carryforwards using expected tax rates in effect during the years in which the differences are expected to reverse or the carryforwards are expected to be realized.

We currently have net deferred tax assets consisting of net operating loss carryforwards, tax credit carryforwards and deductible temporary differences. Management periodically weighs the positive and negative evidence to determine if it is more likely than not that some or all of the deferred tax assets will be realized. Forming a conclusion that a valuation allowance is not required is difficult when there is negative evidence such as cumulative losses in recent years. As a result of our recent cumulative losses, we have recorded a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. In the event we were to determine that we would be able to realize our deferred income tax assets in the future in excess of their net recorded amount, we would make an adjustment to the valuation allowance which would reduce the provision for income taxes in the period of such realization.

We have recorded certain tax reserves to address potential exposures involving our income tax and sales and use tax positions. These potential tax liabilities result from the varying application of statutes, rules, regulations and interpretations by different taxing jurisdictions. Our estimate of the value of our tax reserves contain assumptions based on past experiences and judgments about the interpretation of statutes, rules and regulations by taxing jurisdictions. It is possible that the costs of the ultimate tax liability or benefit from these matters may be materially more or less than the amount that we estimated.

Uncertainty in income taxes is recognized in our financial statements under guidance that prescribes a two-step process to determine the amount of tax benefit to be recognized. First, the tax position must be evaluated to determine the likelihood that it will be sustained upon external examination. If the tax position is deemed more-likely-than-not to be sustained, the tax position is then assessed to determine the amount of benefit to recognize in the financial statements. The amount of the benefit that may be recognized is the largest amount that has a greater than 50% likelihood of being realized upon ultimate settlement. Our unrecognized tax benefit from uncertain tax positions increased by \$2 from January 1, 2019 to December 31, 2019. We anticipate that our unrecognized tax benefits may increase or decrease within twelve months of the reporting date, as audits or reviews are initiated or settled and as a result of settling potential tax liabilities in certain foreign jurisdictions. It is not currently reasonably possible to estimate the range of change. We recognize interest and penalties related to unrecognized tax benefits in our tax provision.

Our effective tax rate is influenced by the recognition of tax positions pursuant to the more likely than not standard that such positions will be sustained upon examination by the taxing authority. In addition, other factors such as changes in tax laws, rulings by taxing authorities and court decisions, and significant changes in our operations through acquisitions or divestitures can have a material impact on the effective tax rate. Differences between our estimated and actual effective income tax rates and related liabilities are recorded in the period they become known.

We conduct business in various foreign countries. As a multinational corporation, we are subject to taxation in multiple locations, and the calculation of our foreign tax liabilities involves dealing with uncertainties in the application of complex tax laws and regulations in various taxing jurisdictions. If we ultimately determine that the payment of these liabilities will be unnecessary, we reverse the liability and recognize a tax benefit during the period in which we determine the liability no longer applies. Conversely, we record additional tax charges in a period in which we determine that a recorded tax liability is less than we expect the ultimate assessment to be.

The application of tax laws and regulations is subject to legal and factual interpretation, judgment and uncertainty. Tax laws and regulations themselves are subject to change as a result of changes in fiscal policy, changes in legislation, the evolution of regulations and court rulings. Therefore, the actual liability for United States or foreign taxes may be materially different from our estimates, which could result in the need to record additional tax liabilities or potentially reverse previously recorded tax liabilities.

On December 22, 2017, the Tax Cuts and Jobs Act (the Tax Act) significantly revised the U.S. corporate income tax law, by among other things, reducing the corporate income tax rate to 21% for tax years beginning in 2018, implementing a modified territorial system that includes a one-time transition tax on deemed repatriated earnings of foreign subsidiaries and creating new taxes on certain foreign sourced earnings. Also on December 22, 2017, The Securities and Exchange Commission staff issued Staff Accounting Bulletin (SAB) 118 to provide guidance for companies that are not able to complete their accounting for the income tax effects of the Tax Act in the period of enactment. SAB 118 provides for a measurement period of up to one year from the date of enactment. During the measurement period, companies need to reflect adjustments to any provisional amounts if it obtains, prepares or analyzes additional information about facts and circumstances that existed as of the enactment date that, if known, would have affected the income tax effects initially reported as provisional amounts.

At December 31, 2018, we have completed our analysis of the Tax Act.

Income tax expense for the year ending December 31, 2017 included a provisional amount of \$41 tax benefit related to the re-measurement of a deferred tax liability on a long-lived asset. The remaining impact from the re-measurement of our net U.S. deferred tax asset at the lower 21% rate was offset by the valuation allowance. During 2018, this amount was finalized and no additional adjustment was required to be made.

The one-time transition tax is based on our total post-1986 earnings and profits that we previously deferred from U.S. income taxes. We recorded a provisional amount for our one-time transition tax liability for all of our foreign subsidiaries. The transition tax that we calculated resulted in an immaterial amount of additional federal taxable income. The additional taxable income from the transition tax was offset by net operating losses and did not result in cash taxes payable. No additional income taxes have been provided for any remaining undistributed foreign earnings not subject to the transition tax, or any additional outside basis differences inherent in these entities, as these amounts continue to be indefinitely reinvested in foreign operations. Determining the amount of unrecognized deferred tax liability related to any remaining undistributed earnings not subject to the transition tax and additional outside basis difference in these entities (i.e. basis difference in excess of that subject to the one-time transition tax) is not practicable.

The Tax Act contains several base broadening provisions that became effective on January 1, 2018 that did not have a material impact on future earnings due to our net operating loss (NOL) and valuation allowance position. Also effective for 2018 is a new Global Intangible Low-Taxed Income inclusion (GILTI). The GILTI did not have a material impact on our 2018 earnings due to our NOL and valuation allowance position.

Share-Based Compensation

We account for our share-based compensation awards using the fair-value method. The grant date fair value was determined using the Black-Scholes-Merton pricing model. The Black-Scholes-Merton valuation calculation requires us to make key assumptions such as future stock price volatility, expected terms, risk-free rates, and dividend yield. Our expected volatility is derived from our volatility rate as a publicly traded company. The expected term is based on our historical experience. The risk-free interest factor is based on the United States Treasury yield curve in effect at the time of the grant for zero coupon United States Treasury notes with maturities of approximately equal to each grant's expected term. We have never paid cash dividends and do not currently intend to pay cash dividends, and therefore, we have assumed a 0% dividend yield.

We develop an estimate of the number of share-based awards that will be forfeited due to employee turnover. We will continue to use judgment in evaluating the expected term, volatility, and forfeiture rate related to our own share-based awards on a prospective basis, and in incorporating these factors into the model. If our actual experience differs significantly from the assumptions used to compute our share-based compensation cost, or if different assumptions had been used, we may have recorded too much or too little share-based compensation cost.

We apply the straight-line attribution method to recognize compensation costs associated with awards that are not subject to graded vesting. For awards that are subject to graded vesting and performance based awards, we recognize compensation costs separately for each vesting tranche. We also estimate when and if performance-based awards will be earned. If an award is not considered probable of being earned, no amount of share-based compensation is recognized. If the award is deemed probable of being earned, related compensation expense is recorded over the estimated service period. To the extent our estimates of awards considered probable of being earned changes, the amount of share-based compensation recognized will also change.

Results of Continuing Operations

Comparison of the Years Ended December 31, 2019 and 2018

Revenue

We derive revenue primarily from the sale of our digital content delivery, video delivery, cloud security, edge cloud and origin storage services. We also generate revenue through the sale of professional services and other infrastructure services, such as transit and rack space services.

The following table reflects our revenue for the year ended December 31, 2019, compared to December 31, 2018:

	Year Ended December 31,			
	2019	2018	Increase (Decrease)	Percent Change
Revenue	\$ 200,634	\$ 195,670	\$ 4,964	2.5%

Our revenue increased during the year ended December 31, 2019, versus 2018 primarily due to a significant increase in volumes driven by increased demand for our services. For the year ended December 31, 2019, we experienced a decrease in average selling price versus the comparable 2018 period as a result of strategic decisions we made in the latter half of 2018 regarding contract renegotiations with certain of our large customers.

Our active customers worldwide decreased to 599 as of December 31, 2019, compared to 649 as of December 31, 2018. We are continuing our selective approach to accepting profitable business by following a clear process for identifying customers that value quality, performance, availability, and service.

During the years ended December 31, 2019 and 2018, sales to our top 20 customers accounted for approximately 72% and 71%, respectively of our total revenue. The customers that comprised our top 20 customers change from time to time, and our large customers may not continue to be as significant going forward as they have been in the past.

During each of the years ended December 31, 2019 and 2018, Amazon represented approximately 30% of our total revenue.

Revenue by geography is based on the location of the customer from which the revenue is earned. The following table sets forth revenue by geographic area (in thousands and as a percentage of total revenue):

	Year Ended December 31,			
	2019		2018	
Americas	\$ 125,075	62%	\$ 118,462	61%
EMEA	32,008	16%	38,015	19%
Asia Pacific	43,551	22%	39,193	20%
Total revenue	\$ 200,634	100%	\$ 195,670	100%

Cost of Revenue

Cost of revenue consists primarily of fees paid to network providers for bandwidth and backbone, costs incurred for non-settlement free peering and connection to Internet service providers, and fees paid to data center operators for housing of our network equipment in third party network data centers, also known as co-location costs. Cost of revenue also includes leased warehouse space and utilities, depreciation of network equipment used to deliver our content delivery services, payroll and related costs, and share-based compensation for our network operations and professional services personnel. Other costs include professional fees and outside services, travel and travel-related expenses and royalty expenses.

Cost of revenue was composed of the following (in thousands and as a percentage of total revenue):

	Year Ended December 31,			
	2019		2018	
Bandwidth and co-location fees	\$ 67,747	33.8%	\$ 57,118	29.2%
Depreciation - network	19,193	9.6%	16,277	8.3%
Payroll and related employee costs	16,468	8.2%	15,532	7.9%
Share-based compensation	1,495	0.7%	1,815	0.9%
Other costs	14,187	7.1%	11,455	5.9%
Total cost of revenue	<u>\$ 119,090</u>	59.4%	<u>\$ 102,197</u>	52.2%

Our cost of revenue increased in both aggregate dollars and as a percentage of total revenue for the year ended December 31, 2019, versus the comparable 2018 period. The changes in cost of revenue were primarily a result of the following:

- Bandwidth and co-location expenses increased in aggregate dollars due to higher peering and transit costs, resulting from our purchase of additional peering and transit services to accommodate increased traffic on our network and our continued expansion in existing, as well as new geographies.
- Depreciation expense increased due to increased capital expenditures during 2019.
- Payroll and related employee costs were higher due to increased operations personnel.
- Other costs increased primarily due to an increase in international re-seller costs.

General and Administrative

General and administrative expense was composed of the following (in thousands and as a percentage of total revenue):

	Year Ended December 31,			
	2019		2018	
Payroll and related employee costs	\$ 10,657	5.3%	\$ 10,614	5.4%
Professional fees and outside services	4,419	2.2%	4,145	2.1%
Share-based compensation	8,098	4.0%	8,458	4.3%
Litigation expenses	—	—%	2,907	1.5%
Other costs	7,611	3.8%	6,248	3.2%
Total general and administrative	<u>\$ 30,785</u>	15.3%	<u>\$ 32,372</u>	16.5%

Our general and administrative expense decreased in both aggregate dollars and as a percentage of total revenue for the year ended December 31, 2019, versus 2018. The decrease in aggregate dollars for the year ended December 31, 2019, versus the comparable 2018 period was primarily driven by the decrease in litigation expenses due to the settlement of our intellectual property lawsuits, and to a lesser extent a reduction in share-based compensation. These decreases were offset by increased professional fees and increased other costs consisting of bad debt expense and fees and licenses.

We expect our general and administrative expenses for 2020 to increase slightly in aggregate dollars and as a percentage of revenue due to expected changes in variable compensation.

Sales and Marketing

Sales and marketing expense was composed of the following (in thousands and as a percentage of total revenue):

	Year Ended December 31,			
	2019		2018	
Payroll and related employee costs	\$ 31,165	15.5%	\$ 27,717	14.2%
Share-based compensation	2,263	1.1%	2,837	1.4%
Marketing programs	2,120	1.1%	2,169	1.1%
Other costs	7,530	3.8%	6,830	3.5%
Total sales and marketing	<u>\$ 43,078</u>	<u>21.5%</u>	<u>\$ 39,553</u>	<u>20.2%</u>

Our sales and marketing expense increased in both aggregate dollars and as a percentage of total revenue for the year ended December 31, 2019, versus the comparable 2018 period. The increase in sales and marketing expense was primarily as a result of increased payroll and related employee costs due to increased sales personnel, as well as an increase in other costs primarily due to increased facilities costs and increased travel and entertainment. These increases were partially offset by decreased share-based compensation.

We expect our sales and marketing expenses for 2020 to remain consistent with 2019.

Research and Development

Research and development expense was composed of the following (in thousands and as a percentage of total revenue):

	Year Ended December 31,			
	2019		2018	
Payroll and related employee costs	\$ 15,791	7.9%	\$ 16,710	8.5%
Share-based compensation	1,922	1.0%	2,720	1.4%
Other costs	4,821	2.4%	4,645	2.4%
Total research and development	<u>\$ 22,534</u>	<u>11.2%</u>	<u>\$ 24,075</u>	<u>12.3%</u>

Our research and development expense decreased in both aggregate dollars and as a percentage of total revenue for the year ended December 31, 2019 versus 2018. The decrease in aggregate dollars was primarily due to a decrease in payroll and related employee costs due to lower salary expense and lower variable compensation. These decreases were partially offset by an increase in other costs primarily due to increased casual labor and supplies.

We expect our research and development expenses for 2020 to remain consistent with 2019.

Depreciation and Amortization (Operating Expenses)

Depreciation and amortization expense was \$872, or 0.4% of revenue, for the year ended December 31, 2019, versus \$2,313, or 1.2% of revenue for 2018. Depreciation expense consists of depreciation on equipment and furnishings used by general administrative, sales and marketing, and research and development personnel. Amortization expense consists of amortization of intangible assets acquired in business combinations.

Interest Expense

Interest expense was \$76 for the year ended December 31, 2019, versus \$86 for 2018. The decrease was due to fees incurred during the comparable 2018 period associated with the Fourth Amendment (Fourth Amendment) to the Loan and Security Agreement (the Credit Agreement) with Silicon Valley Bank (SVB) originally entered into in November 2015. See Note 8 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information related to our Credit Agreement.

Interest Income

Interest income was \$427 for the year ended December 31, 2019 versus \$670 for 2018. Interest income includes interest earned on invested cash balances and marketable securities.

Other Income (Expense)

Other income was \$80 for the year ended December 31, 2019, versus other expense of \$264 for 2018. For the years ended December 31, 2019 and 2018, respectively, other income/expense consisted primarily of foreign currency transaction gains and losses and the gain/loss on sale of fixed assets.

Income Tax Expense

Income tax expense for the year ended December 31, 2019, was \$750 versus \$538 for 2018. Income tax expense on net income (loss) before taxes was different than the statutory income tax rate primarily due to our providing for a valuation allowance on deferred tax assets in certain jurisdictions, and recording of state and foreign tax expense for the year. The effective income tax rate is based primarily upon income or loss for the year, the composition of the income or loss in different countries, and adjustments, if any, for the potential tax consequences, benefits or resolutions for tax audits.

On December 22, 2017, the Tax Cuts and Jobs Act (the Tax Act) significantly revised the U.S. corporate income tax law, by among other things, reducing the corporate income tax rate to 21% for tax years beginning in 2018, implementing a modified territorial system that includes a one-time transition tax on deemed repatriated earnings of foreign subsidiaries and creating new taxes on certain foreign sourced earnings.

Income tax expense for the year ending December 31, 2017 includes a \$41 tax benefit related to the re-measurement of a deferred tax liability on a long-lived asset resulting from the federal corporate rate reduction to 21%. The remaining impact from the re-measurement of our net U.S. deferred tax asset at the lower 21% rate was offset by the valuation allowance. During 2018, this amount was finalized and no additional adjustment was required to be made.

Comparison of the Years Ended December 31, 2018 and 2017

Revenue

The following table reflects our revenue for the year ended December 31, 2018, compared to December 31, 2017:

	Year Ended December 31,			
	2018	2017	Increase (Decrease)	Percent Change
Revenue	\$ 195,670	\$ 184,360	\$ 11,310	6.1%

Our revenue increased during the year ended December 31, 2018, versus 2017 primarily due to an increase in our content delivery revenue, which was driven by increases in volumes with certain of our larger customers. For the year ended December 31, 2018, we experienced an increase in average selling price versus the comparable 2017 period, primarily due to customer and product mix.

Our active customers worldwide decreased to 649 as of December 31, 2018, compared to 717 as of December 31, 2017. We are continuing our selective approach to accepting profitable business by following a clear process for identifying customers that value quality, performance, availability, and service.

During the years ended December 31, 2018 and 2017, sales to our top 20 customers accounted for approximately 71% and 66%, respectively of our total revenue. The customers that comprised our top 20 customers change from time to time, and our large customers may not continue to be as significant going forward as they have been in the past.

During the years ended December 31, 2018 and 2017, Amazon represented approximately 30% and 17%, respectively, of our total revenue.

Revenue by geography is based on the location of the customer from which the revenue is earned. The following table sets forth revenue by geographic area (in thousands and as a percentage of total revenue):

	Year Ended December 31,			
	2018		2017	
Americas	\$ 118,462	61%	\$ 116,112	63%
EMEA	38,015	19%	37,212	20%
Asia Pacific	39,193	20%	31,036	17%
Total revenue	<u>\$ 195,670</u>	100%	<u>\$ 184,360</u>	100%

Cost of Revenue

Cost of revenue was composed of the following (in thousands and as a percentage of total revenue):

	Year Ended December 31,			
	2018		2017	
Bandwidth and co-location fees	\$ 57,118	29.2%	\$ 54,033	29.3%
Depreciation - network	16,277	8.3%	18,138	9.8%
Payroll and related employee costs	15,532	7.9%	16,651	9.0%
Share-based compensation	1,815	0.9%	1,450	0.8%
Other costs	11,455	5.9%	6,289	3.4%
Total cost of revenue	<u>\$ 102,197</u>	52.2%	<u>\$ 96,561</u>	52.4%

Our cost of revenue increased in aggregate dollars and remained consistent as a percentage of revenue for the year ended December 31, 2018, versus 2017 primarily as a result of the following:

- Bandwidth expenses, in aggregate dollars, increased due to higher transit costs resulting from increased traffic volumes on our network and expansion into new geographies. As a percentage of total revenue, our bandwidth expenses remained consistent versus the comparable 2017 period due to renegotiated lower rates with our vendors. Our co-location costs remained consistent in aggregate dollars, but slightly decreased as a percentage of total revenue versus the comparable 2017 period due to improved server and operational efficiencies, resulting in additional revenue without corresponding proportional co-location costs.
- Depreciation - network decreased due to the lower levels of capital expenditures over the last several years.
- Payroll and related employee costs decreased due to lower variable compensation.
- Other costs increased primarily due to an increase in international re-seller costs.

General and Administrative

General and administrative expense was composed of the following (in thousands and as a percentage of total revenue):

	Year Ended December 31,			
	2018		2017	
Payroll and related employee costs	\$ 10,614	5.4%	\$ 12,521	6.8%
Professional fees and outside services	4,145	2.1%	3,213	1.7%
Share-based compensation	8,458	4.3%	6,502	3.5%
Litigation expenses	2,907	1.5%	5,518	3.0%
Other costs	6,248	3.2%	4,299	2.3%
Total general and administrative	<u>\$ 32,372</u>	16.5%	<u>\$ 32,053</u>	17.4%

Our general and administrative expense increased in aggregate dollars and decreased as a percentage of total revenue for the year ended December 31, 2018, versus 2017. The increase in aggregate dollars was primarily driven by our receipt of a state sales tax refund in 2017. In addition, we incurred an increase in professional fees and increased share-based

compensation. The increase in share-based compensation is primarily the result of converting a portion of our annual corporate incentive bonus program to Company stock instead of cash to align the goals of our employee compensation with that of our shareholders. These increases were offset by decreased litigation expenses, due to the settlement of our intellectual property lawsuits and decreased payroll and related employee costs primarily due to lower variable compensation.

Sales and Marketing

Sales and marketing expense was composed of the following (in thousands and as a percentage of total revenue):

	Year Ended December 31,			
	2018		2017	
Payroll and related employee costs	\$ 27,717	14.2%	\$ 25,064	13.6%
Share-based compensation	2,837	1.4%	2,470	1.3%
Marketing programs	2,169	1.1%	2,002	1.1%
Other costs	6,830	3.5%	6,562	3.6%
Total sales and marketing	\$ 39,553	20.2%	\$ 36,098	19.6%

Our sales and marketing expense increased in aggregate dollars and increased as a percentage of total revenue for the year ended December 31, 2018, versus 2017. The increase in sales and marketing expense was primarily as a result of increased payroll and related employee costs, due to increased headcount, partially offset by lower variable compensation.

Research and Development

Research and development expense was composed of the following (in thousands and as a percentage of total revenue):

	Year Ended December 31,			
	2018		2017	
Payroll and related employee costs	\$ 16,710	8.5%	\$ 18,647	10.1%
Share-based compensation	2,720	1.4%	2,322	1.3%
Other costs	4,645	2.4%	4,373	2.4%
Total research and development	\$ 24,075	12.3%	\$ 25,342	13.7%

Our research and development expense decreased in aggregate dollars and decreased as a percentage of total revenue for the year ended December 31, 2018, versus 2017. The decrease in aggregate dollars was primarily due to a decrease in payroll and related employee costs due to lower variable compensation and lower average salary expense. The increase in share-based compensation is primarily the result of converting a portion of our annual corporate incentive bonus program to Company stock instead of cash to align the goals of our employee compensation with that of our shareholders.

Depreciation and Amortization (Operating Expenses)

Depreciation and amortization expense was \$2,313, or 1.2% of revenue, for the year ended December 31, 2018, versus \$2,376, or 1.3% of revenue for 2017. Depreciation expense consists of depreciation on equipment and furnishings used by general administrative, sales and marketing, and research and development personnel. Amortization expense consists of amortization of intangible assets acquired in business combinations.

Interest Expense

Interest expense was \$86 for the year ended December 31, 2018, versus \$80 for 2017. This increase was due to fees associated with the Fourth Amendment to the Credit Agreement with SVB originally entered into in November 2015. See Note 8 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information related to our Credit Agreement.

Interest Income

Interest income was \$670 for the year ended December 31, 2018 versus \$494 for 2017. Interest income includes interest earned on invested cash balances and marketable securities.

Settlement and Patent License Income

On April 9, 2018, we entered into a definitive settlement and patent license agreement with Akamai in a separate matter where the parties agreed to (i) license certain patents to the other party, (ii) a covenant not to sue for three years for certain patents related to the licensed patents, and (iii) settle all outstanding legal disputes between the parties. The terms of the agreement also require Akamai to pay to Limelight a total of \$14,900, over five equal quarterly installments. As of December 31, 2018, there remained \$5,960 due from Akamai.

Other Income (Expense)

Other expense was \$264 for the year ended December 31, 2018, versus other income of \$452 for 2017. For the years ended December 31, 2018 and 2017, respectively, other income/expense consisted primarily of foreign currency transaction gains and losses and the gain on sale of fixed assets.

Income Tax Expense

Income tax expense for the year ended December 31, 2018, was \$538 versus \$426 for 2017. Income tax expense on net income (loss) before taxes was different than the statutory income tax rate primarily due to our providing for a valuation allowance on deferred tax assets in certain jurisdictions, and recording of state and foreign tax expense for the year. The effective income tax rate is based primarily upon income or loss for the year, the composition of the income or loss in different countries, and adjustments, if any, for the potential tax consequences, benefits or resolutions for tax audits.

On December 22, 2017, the Tax Act significantly revised the U.S. corporate income tax law, by among other things, reducing the corporate income tax rate to 21% for tax years beginning in 2018, implementing a modified territorial system that includes a one-time transition tax on deemed repatriated earnings of foreign subsidiaries and creating new taxes on certain foreign sourced earnings.

Income tax expense for the year ending December 31, 2017 includes a \$41 tax benefit related to the re-measurement of a deferred tax liability on a long-lived asset resulting from the federal corporate rate reduction to 21%. The remaining impact from the re-measurement of our net U.S. deferred tax asset at the lower 21% rate was offset by the valuation allowance. During 2018, this amount was finalized and no additional adjustment was required to be made.

Liquidity and Capital Resources

As of December 31, 2019, our cash, cash equivalents and marketable securities classified as current totaled \$18,335. Included in this amount is approximately \$7,208 of cash and cash equivalents held outside the United States. Changes in cash, cash equivalents and marketable securities are dependent upon changes in, among other things, working capital items such as deferred revenues, accounts payable, accounts receivable, accrued provision for litigation and various accrued expenses, as well as purchases of property and equipment and changes in our capital and financial structure due to debt repurchases and issuances, stock option exercises, sales of equity investments and similar events.

In August 2016, we entered into a settlement and license agreement with Akamai with respect to the '703 and certain other related patents. The agreement settled all asserted and unasserted claims with respect to the licensed patents. The terms of the agreement require us to pay \$54,000 over twelve equal quarterly installments beginning on August 1, 2016. During the three months ended June 30, 2019, we made our final payment \$4,500 to Akamai under the terms of the settlement and license agreement.

In April 2018, we entered into a definitive settlement and patent license agreement with Akamai in a separate matter where the parties agreed to (i) license certain patents to the other party, (ii) a covenant not to sue for three years for certain patents related to the licensed patents, and (iii) settle all outstanding legal disputes between the parties. The terms of the agreement also required Akamai to pay to Limelight a total of \$14,900, over five equal quarterly installments. During the three months ended June 30, 2019, we received our final payment of \$2,980 from Akamai.

We believe that our existing cash, cash equivalents and marketable securities, and available borrowing capacity will be sufficient to meet our anticipated cash needs for at least the next 12 months. If the assumptions underlying our business plan regarding future revenue and expenses change or if unexpected opportunities or needs arise, we may seek to raise additional cash by selling equity or debt securities.

The major components of changes in cash flows for the years ended December 31, 2019, 2018, and 2017 are discussed in the following paragraphs.

Operating Activities

Net cash provided by operating activities was \$1,746 for the year ended December 31, 2019, versus net cash provided by operating activities of \$19,722 for 2018, a decrease of \$17,976. Changes in operating assets and liabilities of \$(18,074) during the year ended December 31, 2019, versus \$(10,375) in 2018 were primarily due to:

- accounts receivable increased \$10,228 during the year ended December 31, 2019 as a result of timing of collections as compared to a \$5,438 decrease in the comparable 2018 period;
- prepaid expenses and other current assets increased \$1,101 during the year ended December 31, 2019, due to an increase in VAT receivable, off-set by the amortization of prepaid bandwidth and backbone expenses, compared to a \$2,466 increase in the comparable 2018 period;
- accounts payable and other current liabilities increased \$1,292 during the year ended December 31, 2019, versus a decrease of \$4,333 for the comparable 2018 period due to timing of vendor payments and the payment of 2018 variable compensation accruals; and
- net payments for provision for litigation decreased by \$6,020 as a result our final payments to Akamai .

Net cash provided by operating activities was \$19,722 for the year ended December 31, 2018, versus \$5,498 for 2017, an increase of \$14,224. Changes in operating assets and liabilities of \$(10,375) during the year ended December 31, 2018, versus \$(21,425) in 2017 were primarily due to:

- accounts receivable decreased \$5,438 during the year ended December 31, 2018 as a result of timing of collections as compared to a \$5,912 increase in the comparable 2017 period;
- prepaid expenses and other current assets increased \$2,466 during the year ended December 31, 2018, due to an increase in customer acquisition costs off-set by the amortization of prepaid bandwidth expenses and other prepaid expenses, compared to a \$342 increase in the comparable 2017 period;
- accounts payable and other current liabilities decreased \$4,333 during the year ended December 31, 2018, versus a increase of \$4,019 for the comparable 2017 period due to timing of vendor payments and the payment of 2017 variable compensation accruals; and
- net payments for provision for litigation decreased compared to 2018 by \$8,940 as a result of the payments received from Akamai under the settlement and patent license agreement.

Cash provided by operating activities may not be sufficient to cover new purchases of property and equipment during 2020 and beyond. The timing and amount of future working capital changes and our ability to manage our days sales outstanding will also affect the future amount of cash used in or provided by operating activities.

Investing Activities

Net cash used in investing activities was \$9,568 for the year ended December 31, 2019, versus \$12,744 for 2018 and \$4,802 for the year ended December 31, 2017. Net cash used in investing activities was primarily related to the purchase of marketable securities, and capital expenditures primarily for servers and network equipment associated with the build-out and expansion of our global computing platform, partially offset by cash received from the sale and maturities of marketable securities.

We expect to have ongoing capital expenditure requirements as we continue to invest in and expand our content delivery network. During 2019, we made capital expenditures of \$34,704, which represented approximately 17% of our total revenue. We currently expect a decrease in capital expenditures in 2020 compared to 2019, as we continue to increase the capacity of our global network and re-fresh our systems.

Financing Activities

Net cash provided by financing activities was \$799 for the year ended December 31, 2019, versus net cash used in financing activities of \$2,420 for 2018. Net cash provided by financing activities in the year ended December 31, 2019, primarily relates to cash received from the exercise of stock options and our employee stock purchase plan of \$4,406 offset by payments of employee tax withholdings related to the net settlement of vested restricted stock units of \$3,607.

Net cash used in financing activities was \$2,420 for the year ended December 31, 2018, versus \$1,848 for 2017. Net cash used in financing activities in the year ended December 31, 2018, primarily relates to payments of employee tax withholdings related to the net settlement of vested restricted stock units of \$4,793, the repurchase of our common stock of \$3,800, offset by cash received from the exercise of stock options and our employee stock purchase plan of \$6,173.

Line of Credit

In February 2018, we entered into the Fourth Amendment to the Credit Agreement with SVB originally entered into in November 2015. Under the Fourth Amendment, we increased the maximum principal commitment amount to \$20,000. Our borrowing capacity is the lesser of the commitment amount or 80% of eligible accounts receivable. All outstanding borrowings owed under the Credit Agreement become due and payable no later than the final maturity date of November 2, 2020.

As of December 31, 2019, borrowings under the Credit Agreement bear interest at the current prime rate minus 0.25%. In the event of default, obligations shall bear interest at a rate per annum which is 3% above the then applicable rate. As of December 31, 2019 and 2018, respectively, we had no outstanding borrowings, and we had availability under the Credit Agreement of \$20,000.

Financial Covenants and Borrowing Limitations

The Credit Agreement requires, and any future credit facilities will likely require, us to comply with specified financial requirements that may limit the amount we can borrow. A breach of any of these covenants could result in a default. Our ability to satisfy those covenants depends principally upon our ability to meet or exceed certain financial performance results. Any debt agreements we enter into in the future may further limit our ability to enter into certain types of transactions.

We are required to maintain a minimum liquidity of \$10,000 at all times, measured quarterly, with a minimum of \$5,000 of the \$10,000 in cash at SVB. In addition, we are required to maintain an Adjusted Quick Ratio of at least 1.0 to 1.0. We are also subject to certain customary limitations on our ability to, among other things, incur debt, grant liens, make acquisitions and other investments, make certain restricted payments such as dividends, dispose of assets or undergo a change in control. As of December 31, 2019, we were in compliance with all covenants under the Credit Agreement.

For a more detailed discussion regarding our Credit Agreement, please refer to Note 8 "Line of Credit" of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

We may be prevented from taking advantage of business opportunities that arise because of the limitations imposed on us by restrictive covenants within the Credit Agreement. These restrictions may also limit our ability to plan for or react to market conditions, meet capital needs or otherwise restrict our activities or business plans and adversely affect our ability to finance our operations, enter into acquisitions, execute our business strategy, effectively compete with companies that are not similarly restricted or engage in other business activities that would be in our interest. In the future, we may also incur debt obligations that might subject us to additional and different restrictive covenants that could affect our financial and operational flexibility. We cannot assure you that we will be granted waivers or amendments to the indenture governing the Credit Agreement, or such other debt obligations if for any reason we are unable to comply with our obligations thereunder or that we will be able to refinance our debt on acceptable terms, or at all, should we seek to do so. Any such limitations on borrowing under the Credit Agreement, including payments related to litigation, could have a material adverse impact on our liquidity and our ability to continue as a going concern could be impaired.

Share repurchases

On March 14, 2017, our board of directors authorized a \$25,000 share repurchase program. Any shares repurchased under this program will be canceled and returned to authorized but unissued status. During the years ended December 31, 2019 and 2017, respectively, we did not repurchase any shares under the repurchase programs. During the year ended December 31, 2018, we purchased and canceled 1,000 shares for \$3,800, including commissions and fees. As of December 31, 2019, there remained \$21,200 under this share repurchase program.

Contractual Obligations, Contingent Liabilities, and Commercial Commitments

In the normal course of business, we make certain long-term commitments for ROU assets, (primarily office facilities) and purchase commitments for bandwidth, and computer rack space. These commitments expire on various dates ranging from 2020 to 2030. We expect that the growth of our business will require us to continue to add to and increase our right-of-use (ROU) assets and long-term commitments in 2020 and beyond. As a result of our growth strategies, we believe that our liquidity and capital resources requirements will grow.

The following table presents our contractual obligations and commercial commitments, as of December 31, 2019 over the next five years and thereafter (in thousands):

	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Purchase Commitments					
Bandwidth commitments	\$ 27,883	\$ 20,048	\$ 7,835	\$ —	\$ —
Rack space commitments	14,072	7,853	5,321	898	—
Total purchase commitments	41,955	27,901	13,156	898	—
Right-of-use assets and other operating leases	19,416	2,672	5,293	3,181	8,270
Total commitments	<u>\$ 61,371</u>	<u>\$ 30,573</u>	<u>\$ 18,449</u>	<u>\$ 4,079</u>	<u>\$ 8,270</u>

Off Balance Sheet Arrangements

As of December 31, 2019, we are not involved in any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

New Accounting Pronouncements

See Item 8 of Part II, “Financial Statements and Supplementary Data - Note 2 - Summary of Significant Accounting Policies - Recent Accounting Standards.”

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to our debt and investment portfolio. In our investment portfolio, we do not use derivative financial instruments. Our investments are primarily with our commercial and investment banks and, by policy, we limit the amount of risk by investing primarily in money market funds, United States Treasury obligations, high quality corporate and municipal obligations, and certificates of deposit. Interest expense on our line of credit is at the current prime rate minus 0.25%. In the event of default, obligations shall bear interest at a rate per annum which is 3% above the then applicable rate. An increase in interest rates of 100 basis points would add \$10 of interest expense per year, to our financial position or results of operations, for each \$1,000 drawn on the line of credit. As of December 31, 2019, there were no outstanding borrowings against the line of credit.

Foreign Currency Risk

We operate in the Americas, EMEA and Asia-Pacific. As a result of our international business activities, our financial results could be affected by factors such as changes in foreign currency exchange rates or economic conditions in foreign markets, and there is no assurance that exchange rate fluctuations will not harm our business in the future. We have foreign currency exchange rate exposure on our results of operations as it relates to revenues and expenses denominated in foreign currencies. A portion of our cost of revenues and operating expenses are denominated in foreign currencies as are our revenues associated with certain international customers. To the extent that the U.S. dollar weakens, similar foreign currency denominated transactions in the future will result in higher revenues and higher cost of revenues and operating expenses, with expenses having the greater impact on our financial results. Similarly, our revenues and expenses will decrease if the U.S. dollar strengthens against these foreign currencies. Although we will continue to monitor our exposure to currency fluctuations, and, where appropriate, may use financial hedging techniques in the future to minimize the effect of these fluctuations, we are not currently engaged in any financial hedging transactions. Assuming a 10% weakening of the U.S. dollar relative to our foreign currency denominated revenues and expenses, our net loss for the year ended December 31, 2019, would have been higher by approximately \$3,049. There are inherent limitations in the sensitivity analysis presented, primarily due to the assumption that foreign exchange rate movements across multiple jurisdictions are similar and would be linear and instantaneous. As a result, the analysis is unable to reflect the potential effects of more complex markets or other changes that could arise, which may positively or negatively affect our results of operations.

Inflation Risk

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

Credit Risk

During any given fiscal period, a relatively small number of customers typically account for a significant percentage of our revenue. For example, in 2019, 2018, and 2017, sales to our top 20 customers accounted for approximately 72%, 71% and 66%, respectively, of our total revenue. During 2019, 2018 and 2017, Amazon represented approximately 30%, 30%, and 17%, respectively, of our total revenue. In 2020, we anticipate that our top 20 customer concentration levels will remain consistent with 2019. In the past, the customers that comprised our top 20 customers have continually changed, and our large customers may not continue to be as significant going forward as they have been in the past.

Item 8. Financial Statements and Supplementary Data

**LIMELIGHT NETWORKS, INC.
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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Limelight Networks, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Limelight Networks, Inc. (the Company) as of December 31, 2019 and 2018, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and the financial statement schedule listed in the Index at Item 15(a) (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the consolidated financial position of the Company at December 31, 2019 and 2018, and the consolidated results of its operations and its cash flows for each of the three years in the 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 issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated January 30, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

/s/ Ernst & Young LLP

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

Phoenix, Arizona

January 30, 2020

Limelight Networks, Inc.
Consolidated Balance Sheets
(In thousands, except per share data)

	December 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 18,335	\$ 25,383
Marketable securities	—	25,083
Accounts receivable, net	34,476	26,041
Income taxes receivable	82	122
Prepaid expenses and other current assets	9,920	14,789
Total current assets	62,813	91,418
Property and equipment, net	46,136	27,378
Operating lease right of use assets	12,842	—
Marketable securities, less current portion	40	40
Deferred income taxes	1,319	1,462
Goodwill	77,102	76,407
Other assets	9,117	2,220
Total assets	<u>\$ 209,369</u>	<u>\$ 198,925</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 12,020	\$ 9,216
Deferred revenue	976	1,883
Operating lease liability obligations	2,056	—
Income taxes payable	178	124
Provision for litigation	—	9,000
Other current liabilities	13,398	12,922
Total current liabilities	28,628	33,145
Operating lease liability obligations, less current portion	13,488	—
Deferred income taxes	239	152
Deferred revenue, less current portion	161	42
Other long-term liabilities	316	435
Total liabilities	42,832	33,774
Commitments and contingencies		
Stockholders' equity:		
Convertible preferred stock, \$0.001 par value; 7,500 shares authorized; 0 shares issued and outstanding	—	—
Common stock, \$0.001 par value; 300,000 shares authorized; 118,368 and 114,246 shares issued and outstanding at December 31, 2019 and 2018, respectively	118	114
Additional paid-in capital	530,285	513,682
Accumulated other comprehensive loss	(9,210)	(10,033)
Accumulated deficit	(354,656)	(338,612)
Total stockholders' equity	166,537	165,151
Total liabilities and stockholders' equity	<u>\$ 209,369</u>	<u>\$ 198,925</u>

The accompanying notes are an integral part of the consolidated financial statements.

Limelight Networks, Inc.

Consolidated Statements of Operations
(In thousands, except per share data)

	Years Ended December 31,		
	2019	2018	2017
Revenue	\$ 200,634	\$ 195,670	\$ 184,360
Cost of revenue:			
Cost of services (1)	99,897	85,920	78,423
Depreciation — network	19,193	16,277	18,138
Total cost of revenue	119,090	102,197	96,561
Gross profit	81,544	93,473	87,799
Operating expenses:			
General and administrative	30,785	32,372	32,053
Sales and marketing	43,078	39,553	36,098
Research and development	22,534	24,075	25,342
Depreciation and amortization	872	2,313	2,376
Total operating expenses	97,269	98,313	95,869
Operating loss	(15,725)	(4,840)	(8,070)
Other income (expense):			
Interest expense	(76)	(86)	(80)
Interest income	427	670	494
Settlement and patent license income	—	14,900	—
Other, net	80	(264)	452
Total other income (expense)	431	15,220	866
Income (loss) before income taxes	(15,294)	10,380	(7,204)
Income tax expense	750	538	426
Net (loss) income	\$ (16,044)	\$ 9,842	\$ (7,630)
Net (loss) income per share:			
Basic	\$ (0.14)	\$ 0.09	\$ (0.07)
Diluted	\$ (0.14)	\$ 0.08	\$ (0.07)
Weighted average shares used in per share calculation:			
Basic	115,890	112,114	108,814
Diluted	115,890	120,010	108,814

- (1) Cost of services excludes amortization related to intangibles, including existing technologies, customer relationships, and trade names and trademarks, which are included in depreciation and amortization

The accompanying notes are an integral part of the consolidated financial statements.

LIMELIGHT NETWORKS, INC.**Consolidated Statements of Comprehensive Income (Loss)**
(In thousands)

	Years Ended December 31,		
	2019	2018	2017
Net (loss) income	\$ (16,044)	\$ 9,842	\$ (7,630)
Other comprehensive gain (loss), net of tax:			
Unrealized gain on investments	41	28	59
Foreign exchange translation gain (loss)	782	(1,733)	2,651
Other comprehensive gain (loss), net of tax	823	(1,705)	2,710
Comprehensive (loss) income	\$ (15,221)	\$ 8,137	\$ (4,920)

The accompanying notes are an integral part of the consolidated financial statements.

Limelight Networks, Inc.

Consolidated Statements of Stockholders' Equity
(In thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total
	Shares	Amount				
Balance at December 31, 2016	107,059	\$ 107	\$490,819	\$ (11,038)	\$ (342,320)	\$ 137,568
Net loss	—	—	—	—	(7,630)	(7,630)
Change in unrealized loss on available-for-sale investments, net of taxes	—	—	—	59	—	59
Foreign currency translation adjustment, net of taxes	—	—	—	2,651	—	2,651
Exercise of common stock options	384	—	1,074	—	—	1,074
Vesting of restricted stock units	4,004	4	(4)	—	—	—
Restricted stock units surrendered in lieu of withholding taxes	(1,310)	(1)	(4,496)	—	—	(4,497)
Issuance of common stock under employee stock purchase plan	687	1	1,573	—	—	1,574
Share-based compensation	—	—	13,346	—	—	13,346
Balance at December 31, 2017	110,824	\$ 111	502,312	(8,328)	(349,950)	144,145
Cumulative effect of accounting change	—	—	—	—	1,496	1,496
Net income	—	—	—	—	9,842	9,842
Change in unrealized loss on available-for-sale investments, net of taxes	—	—	—	28	—	28
Foreign currency translation adjustment, net of taxes	—	—	—	(1,733)	—	(1,733)
Exercise of common stock options	1,479	1	4,021	—	—	4,022
Vesting of restricted stock units	3,501	3	(3)	—	—	—
Restricted stock units surrendered in lieu of withholding taxes	(1,154)	(1)	(4,792)	—	—	(4,793)
Issuance of common stock under employee stock purchase plan	596	1	2,150	—	—	2,151
Purchases of common stock	(1,000)	(1)	(3,799)	—	—	(3,800)
Share-based compensation	—	—	13,793	—	—	13,793
Balance at December 31, 2018	114,246	\$ 114	513,682	(10,033)	(338,612)	165,151
Net loss	—	—	—	—	(16,044)	(16,044)
Change in unrealized loss on available-for-sale investments, net of taxes	—	—	—	41	—	41
Foreign currency translation adjustment, net of taxes	—	—	—	782	—	782
Exercise of common stock options	1,054	1	2,467	—	—	2,468
Vesting of restricted stock units	3,416	3	(3)	—	—	—
Restricted stock units surrendered in lieu of withholding taxes	(1,142)	(1)	(3,606)	—	—	(3,607)

	<u>Common Stock</u>		<u>Additional Paid-In Capital</u>	<u>Accumulated Other Comprehensive Loss</u>	<u>Accumulated Deficit</u>	<u>Total</u>
	<u>Shares</u>	<u>Amount</u>				
Issuance of common stock under employee stock purchase plan	794	1	1,937	—	—	1,938
Share-based compensation	—	—	15,808	—	—	15,808
Balance at December 31, 2019	<u>118,368</u>	<u>\$ 118</u>	<u>\$530,285</u>	<u>\$ (9,210)</u>	<u>\$ (354,656)</u>	<u>\$166,537</u>

The accompanying notes are an integral part of the consolidated financial statements.

Limelight Networks, Inc.

Consolidated Statements of Cash Flows
(In thousands)

	Years Ended December 31,		
	2019	2018	2017
Operating activities			
Net (loss) income	\$ (16,044)	\$ 9,842	\$ (7,630)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	20,065	18,590	20,514
Share-based compensation	13,778	15,830	12,744
Settlement and patent license income	—	(14,900)	—
Foreign currency remeasurement (gain) loss	(25)	(162)	798
Deferred income taxes	270	17	(325)
Gain on sale of property and equipment	(56)	(137)	(410)
Accounts receivable charges	1,793	902	949
Amortization of premium on marketable securities	30	115	283
Realized loss on marketable securities	9	—	—
Changes in operating assets and liabilities:			
Accounts receivable	(10,228)	5,438	(5,912)
Prepaid expenses and other current assets	(1,101)	(2,466)	(342)
Income taxes receivable	40	(31)	38
Other assets	(4,188)	(558)	270
Accounts payable and other current liabilities	1,292	(4,333)	4,019
Deferred revenue	(789)	1,089	(957)
Income taxes payable	61	(333)	249
Payments related to litigation, net	(3,040)	(9,060)	(18,000)
Other long term liabilities	(121)	(121)	(790)
Net cash provided by operating activities	<u>1,746</u>	<u>19,722</u>	<u>5,498</u>
Investing activities			
Purchases of marketable securities	(10,279)	(20,631)	(14,930)
Sale and maturities of marketable securities	35,364	23,865	30,756
Purchases of property and equipment	(34,704)	(16,113)	(20,725)
Proceeds from sale of property and equipment	51	135	97
Net cash used in investing activities	<u>(9,568)</u>	<u>(12,744)</u>	<u>(4,802)</u>
Financing activities			
Payment of employee tax withholdings related to restricted stock vesting	(3,607)	(4,793)	(4,496)
Cash paid for the purchase of common stock	—	(3,800)	—
Proceeds from employee stock plans	4,406	6,173	2,648
Net cash provided by (used in) financing activities	<u>799</u>	<u>(2,420)</u>	<u>(1,848)</u>
Effect of exchange rate changes on cash and cash equivalents	(25)	(87)	330
Net increase (decrease) in cash and cash equivalents	(7,048)	4,471	(822)
Cash and cash equivalents, beginning of year	25,383	20,912	21,734
Cash and cash equivalents, end of year	<u>\$ 18,335</u>	<u>\$ 25,383</u>	<u>\$ 20,912</u>
Supplement disclosure of cash flow information			
Cash paid during the year for interest	\$ 76	\$ 87	\$ 44
Cash paid during the year for income taxes, net of refunds	<u>\$ 396</u>	<u>\$ 892</u>	<u>\$ 486</u>

The accompanying notes are an integral part of the consolidated financial statements.

Limelight Networks, Inc.

Notes to Consolidated Financial Statements

December 31, 2019

(In thousands, except per share amounts and where specifically noted)

1. Nature of Business

Limelight Networks Inc., a provider of digital content delivery, online video delivery, cloud security, edge computing and cloud storage services, empowers customers to provide exceptional digital experiences. Limelight's edge services platform includes a globally distributed, high performance private network, intelligent software, and expert support services that enable current and future workflows.

We were incorporated in Delaware in 2003, and have operated in the Phoenix metropolitan area since 2001 and elsewhere throughout the United States since 2003. We began international operations in 2004.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP). The consolidated financial statements include accounts of Limelight and our wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated. In addition, certain other reclassifications have been made to prior period amounts to conform to the current period presentation.

Use of Estimates

The preparation of the consolidated financial statements and related disclosures in conformity with U.S. GAAP requires management to make judgments, assumptions, and estimates that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results and outcomes may differ from those estimates. The results of operations presented in this Annual Report on Form 10-K are not necessarily indicative of the results that may be expected for the year ending December 31, 2020, or for any future periods.

Foreign Currency Translation

The functional currency of our international subsidiaries is the local currency. We translate assets and liabilities of foreign subsidiaries, whose functional currency is their local currency, at exchange rates in effect at the balance sheet date. We translate revenue and expenses at the monthly average exchange rates. We include accumulated net translation adjustments in stockholders' equity as a component of accumulated other comprehensive income (loss).

Due to changes in exchange rates between reporting periods and changes in certain account balances, the foreign currency translation adjustment will change from period to period. During the years ended December 31, 2019, 2018, and 2017, we recorded foreign currency translation gains (losses) of \$782, \$(1,733), and \$2,651, respectively, in our statements of comprehensive income (loss).

Our entities occasionally transact in currencies other than their functional currencies. Assets denominated in foreign currencies other than that of the functional currency of the entity are remeasured at period-end exchange rates. Foreign currency-based revenue and expense transactions are measured at transaction date exchange rates. During the years ended December 31, 2019, 2018, and 2017, we recorded a foreign currency re-measurement gain (loss) of approximately \$24, \$(405), and \$41, respectively, in other income (expense) in the consolidated statements of operations.

Recent Accounting Standards

Adopted Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standard Update (ASU) No. 2016-02, which establishes a right-of-use (ROU) model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for most leases. In July 2018, the FASB issued ASU No. 2018-11, which amends the guidance to add a method of adoption whereby the issuer may elect to recognize a cumulative effect adjustment at the beginning of the period of adoption. ASU No. 2018-11 does not require comparative period financial information to be adjusted. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. ASU 2016-02

defines a lease as a contract, or part of a contract, that conveys the right to control the use of identified property, plant or equipment for a period of time in exchange for consideration. To determine whether a contract conveys the right to control the use of the identified asset for a period of time, the customer has to have both (1) the right to obtain substantially all of the economic benefits from the use of the identified asset and (2) the right to direct the use of the identified asset, a contract does not contain an identified asset if the supplier has a substantive right to substitute such asset ("the leasing criteria"). On January 1, 2019, we adopted ASU No. 2016-02, applying the package of practical expedients to leases that commenced before the effective date whereby we elected to not reassess the following: (i) whether any expired or existing contracts contain leases; (ii) the lease classification for any expired or existing leases; and (iii) initial direct costs for any existing leases. We elected to apply the transition provisions as of January 1, 2019, the date of adoption, and we recorded lease ROU assets and related liabilities on our balance sheet of \$3,600 related to our operating leases. We have no financing leases. There was no change to our consolidated statements of operations or cash flows.

In June 2018, the FASB issued ASU 2018-07, which simplifies several aspects of the accounting for nonemployee share-based payment transactions resulting from expanding the scope of Topic 718, Compensation-Stock Compensation (Topic 718), to include share-based payment transactions for acquiring goods and services from nonemployees. The amendments specify that Topic 718 applies to all share-based payment transactions in which a grantor acquires goods or services to be used or consumed in a grantor's own operations by issuing share-based payment awards. The amendments also clarify that Topic 718 does not apply to share-based payments used to effectively provide (1) financing to the issuer or (2) awards granted in conjunction with selling goods or services to customers as part of a contract accounted for under Topic 606, Revenue from Contracts with Customers (Topic 606). We adopted this guidance effective January 1, 2019. The adoption of this guidance did not have a material impact on our consolidated financial statements and related disclosures.

Recently Issued Accounting Pronouncements

In June 2016, the FASB issued ASU No. 2016-13, which requires measurement and recognition of expected credit losses for financial assets held. The standard is to be applied through a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. We will adopt this guidance effective January 1, 2020. We do not believe this guidance will have a material impact on our consolidated financial statements and related disclosures.

In January 2017, the FASB issued ASU 2017-04, which simplifies the accounting for goodwill impairment. The updated guidance eliminates Step 2 of the impairment test, which requires entities to calculate the implied fair value of goodwill to measure a goodwill impairment charge. Instead, entities will record an impairment charge based on the excess of a reporting unit's carrying amount over its fair value, determined in Step 1. We will adopt this guidance effective January 1, 2020, using a prospective approach. We do not believe this guidance will have a material impact on our consolidated financial statements and related disclosures.

In August 2018, the FASB issued ASU 2018-13, which removes, modifies and adds to the disclosure requirements on fair value measurements in Topic 820. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, and the narrative description of measurement uncertainty should be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments should be applied retrospectively to all periods presented upon their effective date. An entity is permitted to early adopt any removed or modified disclosures upon issuance of this updated guidance and delay adoption of the additional disclosures until their effective date. We will adopt this guidance effective January 1, 2020. We do not believe this guidance will have a material impact on our consolidated financial statements and related disclosures.

In August 2018, the FASB issued ASU 2018-15, to help entities evaluate the accounting for fees paid by a customer in a cloud computing arrangement (hosting arrangement) by providing guidance for determining when the arrangement includes a software license. The amendments align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal use software license). The accounting for the service element of a hosting arrangement that is a service contract is not affected by the amendments. We will adopt this guidance effective January 1, 2020. We are in the process of evaluating the potential impact of adopting this new accounting standard on our consolidated financial statements and related disclosures.

Revenue Recognition

Revenues are recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services.

Our customers generally execute contracts with terms of one year or longer, which are referred to as recurring revenue contracts or long-term contracts. These contracts generally allow the customer access to our network and are either entirely usage based or commit the customer to a minimum monthly level of usage with additional charges applicable for actual usage above the monthly minimum commitment. We define usage as customer data sent or received using our content delivery service, or content that is hosted or cached by us at the request or direction of our customers. For contracts that contain minimum monthly commitments, we recognize revenue equal to the greater of the minimum monthly committed amount or actual usage, if actual usage exceeds the monthly committed amount, using the right to invoice practical expedient allowable under Topic 606.

For contracts that contain minimum commitments over the contractual term, we estimate an amount of variable consideration by using either the expected value method or the most likely amount method. We include estimates of variable consideration in revenue only when we have a high degree of confidence that revenue will not be reversed in a subsequent reporting period. We believe that the expected value method is the most appropriate estimate of the amount of variable consideration. These customers have entered into contracts with contract terms generally from one to four years. As of December 31, 2019, we have approximately \$2,700 of remaining unsatisfied performance obligations. We recognized revenue of approximately \$9,600 and \$8,300, respectively, during the years ended December 31, 2019 and 2018, related to these types of contracts with our customers. We expect to recognize approximately 93% of the remaining unsatisfied performance obligations in 2020, approximately 6% in 2021, and approximately 1% in 2022.

We may charge the customer an activation fee when services are first activated. We do not charge activation fees for contract renewals. Activation fees are not distinct within the context of the overall contractual commitment with the customer to perform our content delivery service and are therefore recognized initially as deferred revenue and recognized as revenue ratably over the estimated life of the customer arrangement.

We also derive revenue from services and events sold as discrete, non-recurring events or based solely on usage. For these services, we recognize revenue when control of promised goods or services is transferred to customers at an amount that reflects the consideration to which we expect to be entitled to in exchange for those goods or services.

At the inception of a customer contract for service, we make an assessment as to that customer's ability to pay for the services provided. If we subsequently determine that collection from the customer is not probable, we record an allowance for doubtful accounts and bad debt expense or deferred revenue for that customer's unpaid invoices and cease recognizing revenue for continued services provided until it is probable that revenue will not be reversed in a subsequent reporting period. Our standard payment terms vary by the type and location of our customer.

Arrangements with Multiple Performance Obligations

Certain of our revenue arrangements include multiple promises to our customers. Revenue arrangements with multiple promises are accounted for as separate performance obligations if each promise is distinct. Such arrangements may include a combination of some or all of the following: content delivery services, video content management services, performance services for website and web application acceleration and security, professional services, cloud storage, edge computing services, and sale of equipment.

Judgment may be required in determining whether products or services are considered distinct performance obligations that should be accounted for separately or as one combined performance obligation. Revenue is recognized over the period in which the performance obligations are satisfied, which is generally over the contract term. We have determined that generally most of our products and services do not constitute an individual service offering to our customers, as our promise to the customer is to provide a complete edge services platform, and therefore have concluded that it represents a single performance obligation. We have determined that professional services and hardware sales represent separate performance obligations from that of our edge services platform.

Consideration is allocated to the performance obligations using the relative standalone selling price method. Generally, arrangements with multiple performance obligations are provided over the same contract period, and therefore, revenue is recognized over the same period.

We determine standalone selling price by evaluating the overall pricing objectives and market conditions. Consideration included our discounting practices, the size and volume of our transactions, the area where services are sold, price lists, historical sales and contract prices.

Deferred Revenue

Deferred revenue represents amounts billed to customers for which revenue has not been recognized. Deferred revenue primarily consists of the unearned portion of monthly billed service fees and prepayments made by customers for services to be rendered in future periods.

Cash and Cash Equivalents

We hold our cash and cash equivalents in checking, money market, and highly-liquid investments. We consider all highly liquid investments with maturities of three months or less when purchased to be cash equivalents. Cash and cash equivalents are deposited in or managed by major financial institutions and at times exceed Federal Deposit Insurance Corporation insurance limits.

Investments in Marketable Securities

Management determines the appropriate classification of its marketable securities at the time of purchase and reevaluates such classification as of each balance sheet date. We have classified our investments, which are all debt securities, in marketable securities as available-for-sale and as current, as our marketable securities are available to fund current operations, and carry such investments at fair value. Available-for-sale investments are initially recorded at cost with changes in fair value recorded through comprehensive loss. Realized gains and losses and declines in value judged to be other than temporary are determined based on the specific identification method and are reported in the statements of operations. We periodically review our investments for other-than-temporary declines in fair value based on the specific identification method and would write down investments to their fair value if and when an other-than-temporary decline has occurred.

Accounts Receivable

Trade accounts receivable are recorded at the invoiced amounts and do not bear interest. We record reserves against our accounts receivable balance for service credits and for doubtful accounts. Estimates are used in determining both of these reserves. The allowance for doubtful accounts charges are included as a component of general and administrative expenses.

The allowance for doubtful accounts is based upon a calculation that uses our aging of accounts receivable and applies a reserve percentage to the specific age of the receivable to estimate the allowance for doubtful accounts. The reserve percentages are determined based on our historical write-off experience. These estimates could change significantly if our customers' financial condition changes or if the economy in general deteriorates. In the event such conditions become known, we specifically identify balances for necessary reserves.

Our reserve for service credits relates to credits that are expected to be issued to customers during the ordinary course of business. These credits typically relate to customer disputes and billing adjustments and are estimated at the time the revenue is recognized and recorded as a reduction of revenues. Estimates for service credits are based on an analysis of credits issued in previous periods.

Property and Equipment

Property and equipment are carried at cost less accumulated depreciation or amortization. Depreciation and amortization are computed using the straight-line method over the assets' estimated useful lives of the applicable asset.

Network equipment	3 years
Computer equipment and software	3 years
Furniture and fixtures	3-5 years
Other equipment	3-5 years

Leasehold improvements are amortized over the shorter of the asset's estimated useful life or the respective lease term. Repairs and maintenance are charged to expense as incurred.

Goodwill and Other Intangible Assets

Goodwill represents costs in excess of fair values assigned to the underlying net assets of the acquired company. Goodwill is not amortized but instead is tested for impairment annually or more frequently if events or changes in circumstances indicate goodwill might be impaired. We have concluded that we have one reporting unit and assigned the entire balance of goodwill to this reporting unit. The estimated fair value of the reporting unit is determined using a market approach. Our market capitalization is adjusted for a control premium based on the estimated average and median control premiums of

transactions involving companies comparable to us. As of our annual impairment testing date of October 31, 2019, management determined that goodwill was not impaired. Management determined that the estimated fair value of its reporting unit exceeded carrying value by approximately \$483,589 or 301%, using our market capitalization plus an estimated control premium of 30% on October 31, 2019. There were no indicators of impairment at December 31, 2019.

As of December 31, 2019, we have no other unamortized intangible assets. However, in prior years, our other intangible assets represented existing technologies and customer relationship intangibles. Other intangible assets are amortized over their respective estimated lives, ranging from less than one year to six years. In the event that facts and circumstances indicate intangibles or other long-lived assets may be impaired, we evaluate the recoverability and estimated useful lives of such assets. Other intangible assets are included in other assets in the accompanying consolidated balance sheets. Amortization of other intangible assets is included in depreciation and amortization in the accompanying consolidated statements of operations.

Contingencies

We record contingent liabilities resulting from asserted and unasserted claims when it is probable that a loss has been incurred and the amount of the loss is reasonably estimable. We disclose contingent liabilities when there is a reasonable possibility that the ultimate loss will exceed the recorded liability. Additionally, estimating the loss, or range of loss, associated with a contingency requires analysis of multiple factors, and changes in law or other developments may ultimately cause our judgments to change. Therefore, actual losses in any future period are inherently uncertain and may be materially different from our estimate.

Long-Lived Assets

We review our long-lived assets for impairment annually, or whenever events or circumstances indicate that the carrying amount of an asset may not be fully recoverable. We recognize an impairment loss if the sum of the expected long-term undiscounted cash flows that the long-lived asset is expected to generate is less than the carrying amount of the long-lived asset being evaluated. We treat any write-downs as permanent reductions in the carrying amounts of the assets. We concluded that the carrying amounts of our long-lived assets at December 31, 2019, and 2018, are fully realizable and have not recorded any impairment losses.

Leases

We determine if an arrangement is a lease at inception. Operating leases are included in ROU assets, and lease liability obligations are included in our consolidated balance sheets. ROU assets represent our right to use an underlying asset for the lease term and lease liability obligations represent our obligation to make lease payments arising from the lease. ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. We have lease agreements with lease and non-lease components and account for such components as a single lease component. As most of our leases do not provide an implicit rate, we estimated our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. We use the implicit rate when readily determinable. The ROU asset also includes any lease payments made and excludes lease incentives and lease direct costs. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Lease expense is recognized on a straight-line basis over the lease term. Upon review of our co-location and bandwidth arrangements, we have determined that such arrangements did not meet the leasing criteria, and therefore, were not included in our ROU asset and lease liability obligations on our balance sheet. We have determined that our real estate leases with terms in excess of one year and which do not include an option to purchase the underlying asset, do meet the leasing criteria. Please refer to Note 16 "Operating Leases - Right of Use Assets and Purchase Commitments" for additional information.

Cost of Revenue

Cost of revenues consists primarily of fees paid to network providers for bandwidth and backbone, costs incurred for non-settlement free peering and connection to Internet service provider networks and fees paid to data center operators for housing network equipment in third party network data centers, also known as co-location costs. Cost of revenues also includes leased warehouse space and utilities, depreciation of network equipment used to deliver our content delivery services, payroll and related costs, and share-based compensation for our network operations and professional services personnel.

We enter into contracts for bandwidth with third party network providers with terms typically ranging from several months to three years. These contracts generally commit us to pay minimum monthly fees plus additional fees for bandwidth usage above contracted minimums. A portion of the global computing platform traffic delivery is completed through direct connection to ISP networks, called peering.

Research and Development

Research and development costs consist primarily of payroll and related personnel costs for the design, development, deployment, testing, operation, and enhancement of our services, and network. Costs incurred in the development of our services are expensed as incurred.

Advertising Costs

Costs associated with advertising are expensed as incurred. Advertising expenses, which are comprised of Internet, trade show, and publications advertising, were approximately \$2,120, \$2,169, and \$2,001 for the years ended December 31, 2019, 2018, and 2017, respectively.

Income Taxes

We account for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial statements and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

We record net deferred tax assets to the extent we believe these assets will more likely than not be realized. In making such determination, we consider all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax planning strategies, and recent financial performance on a jurisdiction by jurisdiction basis. In the event we were to determine that we would be able to realize our deferred income tax assets in the future in excess of their net recorded amount, we would make an adjustment to the valuation allowance, which would reduce the provision for income taxes.

We recognize uncertain income tax positions in our financial statements when it is more-likely-than-not the position will be sustained upon examination.

On December 22, 2017, the Tax Cuts and Jobs Act (the Tax Act) significantly revised the U.S. corporate income tax law, by among other things, reducing the corporate income tax rate to 21% for tax years beginning in 2018, implementing a modified territorial system that includes a one-time transition tax on deemed repatriated earnings of foreign subsidiaries and creating new taxes on certain foreign sourced earnings.

Fair Value of Financial Instruments

The carrying amounts of cash and cash equivalents approximate fair value due to the nature and short maturity of those instruments. The respective fair values of marketable securities are determined based on quoted market prices or other readily available market information, which approximate fair values. The carrying amounts of accounts receivable, accounts payable, and accrued liabilities reported in the consolidated balance sheets approximate their respective fair values due to the immediate or short-term maturity of these financial instruments.

Share-Based Compensation

We account for our share-based compensation awards using the fair-value method. The grant date fair value was determined using the Black-Scholes-Merton pricing model. The Black-Scholes-Merton valuation calculation requires us to make key assumptions such as future stock price volatility, expected terms, risk-free rates, and dividend yield. Our expected volatility is derived from our volatility rate as a publicly traded company. The expected term is based on our historical experience. The risk-free interest factor is based on the United States Treasury yield curve in effect at the time of the grant for zero coupon United States Treasury notes with maturities of approximately equal to each grant's expected term. We have never paid cash dividends and do not currently intend to pay cash dividends, and therefore, we have assumed a 0% dividend yield.

We apply the straight-line attribution method to recognize compensation costs associated with awards that are not subject to graded vesting.

3. Investments in Marketable Securities

At December 31, 2019, we have a certificate of deposit with an amortized cost and estimated fair value of \$40. All other available-for-sale securities have been sold to fund ordinary business operations, including capital expenditures.

The following is a summary of marketable securities (designated as available-for-sale) at December 31, 2018:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Certificate of deposit	\$ 40	\$ —	\$ —	\$ 40
Corporate notes and bonds	25,115	—	32	25,083
Total marketable securities	<u>\$ 25,155</u>	<u>\$ —</u>	<u>\$ 32</u>	<u>\$ 25,123</u>

The amortized cost and estimated fair value of the marketable securities at December 31, 2018, by maturity, are shown below:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Available-for-sale securities				
Due in one year or less	\$ 25,115	\$ —	\$ 32	\$ 25,083
Due after one year and through five years	40	—	—	40
	<u>\$ 25,155</u>	<u>\$ —</u>	<u>\$ 32</u>	<u>\$ 25,123</u>

4. Accounts Receivable

Accounts receivable include:

	December 31,	
	2019	2018
Accounts receivable	\$ 35,619	\$ 27,040
Less: credit allowance	(170)	(250)
Less: allowance for doubtful accounts	(973)	(749)
Total accounts receivable, net	<u>\$ 34,476</u>	<u>\$ 26,041</u>

5. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets include:

	December 31,	
	2019	2018
Settlement and patent license receivable	\$ —	\$ 5,960
Prepaid bandwidth and backbone	1,717	1,395
VAT receivable	3,068	2,022
Prepaid expenses and insurance	1,685	1,816
Vendor deposits and other	3,450	3,596
Total prepaid expenses and other current assets	<u>\$ 9,920</u>	<u>\$ 14,789</u>

6. Goodwill

The changes in the carrying amount of goodwill for the years ended December 31, 2019, and 2018, were as follows:

Balance, December 31, 2017	\$ 77,054
Foreign currency translation adjustment	(647)
Balance, December 31, 2018	<u>76,407</u>
Foreign currency translation adjustment	695
Balance, December 31, 2019	<u>\$ 77,102</u>

7. Property and Equipment

Property and equipment include:

	December 31,	
	2019	2018
Network equipment	\$ 126,975	\$ 105,760
Computer equipment and software	7,603	8,711
Furniture and fixtures	1,906	703
Leasehold improvements	7,888	4,587
Other equipment	54	156
	<u>144,426</u>	<u>119,917</u>
Less: accumulated depreciation	(98,290)	(92,539)
Total property and equipment, net	<u>\$ 46,136</u>	<u>\$ 27,378</u>

Cost of revenue depreciation expense related to property and equipment was approximately \$19,193, \$16,277, and \$18,138, respectively, for the years ended December 31, 2019, 2018, and 2017, respectively.

Operating expense depreciation and amortization expense related to property and equipment was approximately \$872, \$2,313, and \$2,376, respectively, for the years ended December 31, 2019, 2018, and 2017, respectively.

8. Line of Credit

In February 2018, we entered into a Fourth Amendment (Fourth Amendment) to the Loan and Security Agreement (the Credit Agreement) with Silicon Valley Bank (SVB) originally entered into in November 2015. Under the Fourth Amendment, we increased the maximum principal commitment amount to \$20,000. Our borrowing capacity is the lesser of the commitment amount or 80% of eligible accounts receivable. All outstanding borrowings owed under the Credit Agreement become due and payable no later than the final maturity date of November 2, 2020.

As of December 31, 2019 and 2018, we had no outstanding borrowings, and we had availability under the Credit Agreement of approximately \$20,000.

As of December 31, 2019, borrowings under the Credit Agreement bear interest at the current prime rate minus 0.25%. In the event of default, obligations shall bear interest at a rate per annum that is 3% above the then applicable rate.

Amendment fees and other commitment fees are included in interest expense. During the years ended December 31, 2019, 2018 and 2017, respectively, interest expense was \$0, \$0 and \$0, respectively, and fees expense and related amortization was \$76, \$86 and \$80, respectively.

Any borrowings are secured by essentially all of our domestic personal property, with a negative pledge on intellectual property. SVB's security interest in our foreign subsidiaries is limited to 65% of voting stock of each such foreign subsidiary.

We are required to maintain a minimum liquidity of \$10,000 at all times, measured quarterly, with a minimum of \$5,000 of the \$10,000 in cash at SVB. In addition, we are required to maintain an Adjusted Quick Ratio of at least 1.0. We are also subject to certain customary limitations on our ability to, among other things, incur debt, grant liens, make acquisitions and other investments, make certain restricted payments such as dividends, dispose of assets or undergo a change in control. As of December 31, 2019, we were in compliance with all covenants under the Credit Agreement.

9. Other Current Liabilities

Other current liabilities include:

	December 31,	
	2019	2018
Accrued compensation and benefits	\$ 4,918	\$ 7,528
Accrued cost of revenue	4,176	2,361
Other accrued expenses	4,304	3,033
Total other current liabilities	<u>\$ 13,398</u>	<u>\$ 12,922</u>

10. Contingencies

Legal Matters

Akamai '703 Litigation

In 2016, we entered into a settlement and license agreement with Akamai Technologies, Inc. (Akamai) with respect to U.S. Patent No. 6,108,703 (the '703 patent) and certain other related patents, which settled all asserted and unasserted claims with respect to the licensed patents. The terms of the agreement required us to pay \$54,000 over twelve equal quarterly installments, which began on August 1, 2016. We took a charge in the quarter ended June 30, 2016 for the full, undiscounted amount of \$54,000. As of December 31, 2018, there remained \$9,000 due to Akamai. During the three months ended June 30, 2019, we made our final payment of \$4,500 to Akamai under the terms of the settlement and license agreement.

Other Akamai Litigation

On April 9, 2018, we entered into a definitive settlement and patent license agreement with Akamai in a separate matter where the parties agreed to (i) license certain patents to the other party, (ii) a covenant not to sue for three years for certain patents related to the licensed patents, and (iii) settle all outstanding legal disputes between the parties. The terms of the agreement also require Akamai to pay to Limelight a total of \$14,900, over five equal quarterly installments. As of December 31, 2018, there remained \$5,960 due from Akamai. During the three months ended June 30, 2019, we received our final payment of \$2,980 from Akamai.

Other Matters

We are subject to various other legal proceedings and claims, either asserted or unasserted, arising in the ordinary course of business. While the outcome of these claims cannot be predicted with certainty, management does not believe the outcome of any of these matters will have a material adverse effect on our business, financial position, results of operations, or cash flows, and accordingly, no legal contingencies are accrued as of December 31, 2019. Litigation relating to the content delivery services industry is not uncommon, and we are, and from time to time have been, subject to such litigation. No assurances can be given with respect to the extent or outcome of any such litigation in the future.

Taxes

We are subject to indirect taxation in various states and foreign jurisdictions. Laws and regulations that apply to communications and commerce conducted over the Internet are becoming more prevalent, both in the United States and internationally, and may impose additional burdens on us conducting business online or providing Internet-related services. Increased regulation could negatively affect our business directly, as well as the businesses of our customers, which could reduce their demand for our services. For example, tax authorities in various states and abroad may impose taxes on the Internet-related revenue we generate based on regulations currently being applied to similar but not directly comparable industries.

There are many transactions and calculations where the ultimate tax determination is uncertain. In addition, domestic and international taxation laws are subject to change. In the future, we may come under audit, which could result in changes to our tax estimates. We believe we maintain adequate tax reserves, that are not material in amount, to offset potential liabilities that may arise upon audit. Although we believe our tax estimates and associated reserves are reasonable, the final determination of tax audits and any related litigation could be materially different than the amounts established for tax contingencies. To the extent these estimates ultimately prove to be inaccurate, the associated reserves would be adjusted, resulting in the recording of a benefit or expense in the period in which a change in estimate or a final determination is made.

11. Net (Loss) Income per Share

We calculate basic and diluted net (loss) income per weighted average share. We use the weighted-average number of shares of common stock outstanding during the period for the computation of basic earnings per share. Diluted earnings per share include the dilutive effect of all potentially dilutive common stock, including awards granted under our equity incentive compensation plans in the weighted-average number of shares of common stock outstanding.

The following table sets forth the components used in the computation of basic and diluted net income (loss) per share for the periods indicated:

	Years Ended December 31,		
	2019	2018	2017
Net (loss) income	\$ (16,044)	\$ 9,842	\$ (7,630)
Basic weighted average outstanding shares of common stock	115,890	112,114	108,814
Basic weighted average outstanding shares of common stock	115,890	112,114	108,814
Dilutive effect of stock options, restricted stock units, and other equity incentive plans	—	7,896	—
Diluted weighted average outstanding shares of common stock	115,890	120,010	108,814
Basic net (loss) income per share	\$ (0.14)	\$ 0.09	\$ (0.07)
Diluted net (loss) income per share	\$ (0.14)	\$ 0.08	\$ (0.07)

For the years ended December 31, 2019, 2018 and 2017, the following potentially dilutive common stock, including awards granted under our equity incentive compensation plans were excluded from the computation of diluted net income (loss) per share because including them would have been anti-dilutive.

	Years Ended December 31,		
	2019	2018	2017
Employee stock purchase plan	86	—	80
Stock options	2,736	3,288	2,643
Restricted stock units	1,303	451	3,332
	4,125	3,739	6,055

12. Stockholders' Equity

Common Stock

On March 14, 2017, our board of directors authorized a \$25,000 share repurchase program. Any shares repurchased under this program will be canceled and returned to authorized but unissued status. We did not purchase any shares during the years ended December 31, 2019 and 2017, respectively. During the year ended December 31, 2018, we purchased and canceled 1,000 shares for \$3,800, including commissions and expenses. All repurchased shares were canceled and returned to authorized but unissued status. As of December 31, 2019, there remained \$21,200 under this share repurchase program.

Amended and Restated Equity Incentive Plan

We established the 2007 Equity Incentive Plan, or the 2007 Plan, which allows for the grant of equity, including stock options and restricted stock unit awards. In June 2016, our stockholders approved the Amended and Restated Equity Incentive Plan, or the Restated 2007 Plan, which amended and restated the 2007 Plan. Approval of the Restated 2007 Plan replaced the terms and conditions of the 2007 Plan with the terms and conditions of the Restated 2007 Plan and extended the term of the plan to April 2026. There was no increase in the aggregate amount of shares available for issuance. The total number of shares authorized for issuance under the Restated 2007 Plan as of December 31, 2019 was approximately 7,420.

Employee Stock Purchase Plan

In June 2013, our stockholders approved our 2013 Employee Stock Purchase Plan (ESPP), authorizing the issuance of 4,000 shares. In May 2019, our stockholders approved the adoption of Amendment 1 to the ESPP. Amendment 1 increased the number of shares authorized to 9,000 shares (an increase of 5,000 shares) and amended the maximum number of shares of common stock that an eligible employee may be permitted to purchase during each offering period to be 5 shares. The ESPP allows participants to purchase our common stock at a 15% discount of the lower of the beginning or end of the offering period using the closing price on that day. During the years ended December 31, 2019, 2018, and 2017, we issued 794, 596, and 687 shares, respectively, under the ESPP. Total cash proceeds from the purchase of shares under the ESPP were approximately \$1,938, \$2,157, and \$1,574, respectively for the years ended December 31, 2019, 2018, and 2017. As of December 31, 2019,

shares reserved for issuance to employees under this plan totaled 4,240 and we held employee contributions of approximately \$297 (included in other current liabilities) for future purchases under the ESPP.

Preferred Stock

Our board of directors have authorized the issuance of up to 7,500 shares of preferred stock at December 31, 2019. The preferred stock may be issued in one or more series pursuant to a resolution or resolutions providing for such issuance duly adopted by the board of directors. As of December 31, 2019, the Board had not adopted any resolutions for the issuance of preferred stock.

13. Accumulated Other Comprehensive Loss

Changes in the components of accumulated other comprehensive loss, net of tax, for the year ended December 31, 2019, was as follows:

	Foreign Currency	Unrealized Gains (Losses) on Available for Sale Securities	Total
Balance, December 31, 2018	\$ (9,992)	\$ (41)	\$ (10,033)
Other comprehensive gain before reclassifications	782	41	823
Amounts reclassified from accumulated other comprehensive loss	—	—	—
Net current period other comprehensive gain	782	41	823
Balance, December 31, 2019	<u>\$ (9,210)</u>	<u>\$ —</u>	<u>\$ (9,210)</u>

14. Share-Based Compensation

Incentive Compensation Plans

We maintain Incentive Compensation Plans (the Plans) to attract, motivate, retain, and reward high quality executives and other employees, officers, directors, and consultants by enabling such persons to acquire or increase a proprietary interest in the Company. The Plans are intended to be qualified plans under the Internal Revenue Code.

The Plans allow us to award stock option grants and restricted stock units (RSUs) to employees, directors and consultants of the Company. During 2019, we granted awards to employees and directors. The exercise price of incentive stock options granted under the Plan may not be granted at less than 100% of the fair market value of our common stock on the date of the grant.

Data pertaining to stock option activity under the Plans are as follows:

	Number of Options Outstanding (In thousands)	Weighted Average Exercise Price
Balance at December 31, 2016	16,017	\$ 3.18
Granted	2,082	4.56
Exercised	(384)	2.79
Cancelled/Forfeitures	(752)	11.04
Balance at December 31, 2017	16,963	2.99
Granted	2,126	3.50
Exercised	(1,479)	2.72
Cancelled/Forfeitures	(667)	5.23
Balance at December 31, 2018	16,943	2.99
Granted	2,556	4.03
Exercised	(1,054)	2.34
Cancelled/Forfeitures	(811)	4.55
Balance at December 31, 2019	17,634	3.12

The following table summarizes the information about stock options outstanding and exercisable at December 31, 2019:

Exercise Price	Options Outstanding			Options Exercisable	
	Number of Options Outstanding (In thousands)	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Number of Options Exercisable (In thousands)	Weighted Average Exercise Price
\$ 0.00 — \$ 1.50	—	—	\$ —	—	\$ —
\$ 1.51 — \$ 3.00	10,456	5.2	2.28	10,016	2.26
\$ 3.01 — \$ 4.50	3,617	7.0	3.53	1,920	3.67
\$ 4.51 — \$ 6.00	3,352	8.2	4.97	1,222	5.37
\$ 6.01 — \$ 7.50	24	1.2	6.28	24	6.28
\$ 7.51 — \$ 15.00	185	1.1	8.05	185	8.05
	17,634			13,367	

The weighted-average grant-date fair value of options granted during the years ended December 31, 2019, 2018, and 2017 on a per-share basis was approximately \$2.09, \$1.82, and \$2.38, respectively. The total intrinsic value of the options exercised during the years ended December 31, 2019, 2018, and 2017 was approximately \$1,865, \$3,171, and \$594, respectively. The aggregate intrinsic value of options outstanding at December 31, 2019 is approximately \$20,800. The weighted average remaining contractual term of options currently exercisable at December 31, 2019 was 5.0 years.

The fair value of options awarded were estimated on the grant date using the following weighted average assumptions:

	Years Ended December 31,		
	2019	2018	2017
Expected volatility	52.47%	51.05%	53.94%
Expected term, years	6.17	6.19	6.13
Risk-free interest	2.06%	2.91%	2.11%
Expected dividends	—%	—%	—%

Unrecognized share-based compensation related to stock options totaled \$8,123 at December 31, 2019. We expect to amortize unvested stock compensation related to stock options over a weighted average period of approximately 2.4 years at December 31, 2019.

The following table summarizes the RSUs outstanding (in thousands):

	Years Ended December 31,		
	2019	2018	2017
RSUs with service-based vesting conditions	4,503	4,248	5,809

Each RSU represents the right to receive one share of our common stock upon vesting. The fair value of these RSUs was calculated based upon our closing stock price on the date of grant.

Data pertaining to RSUs activity under the Plans is as follows:

	Number of Units (In thousands)	Weighted Average Fair Value
Balance at December 31, 2016	6,673	\$ 2.16
Granted	3,435	3.05
Vested	(4,004)	2.16
Forfeitures	(295)	2.23
Balance at December 31, 2017	5,809	2.68
Granted	2,475	3.88
Vested	(3,501)	2.49
Forfeitures	(535)	3.39
Balance at December 31, 2018	4,248	3.45
Granted	4,089	3.20
Vested	(3,416)	3.17
Forfeitures	(418)	3.19
Balance at December 31, 2019	4,503	3.45

The weighted-average grant-date fair value of RSUs granted during the years ended December 31, 2019, 2018, and 2017 was approximately \$3.20, \$3.88, and \$3.05, respectively. The total intrinsic value of the units vested during the years ended December 31, 2019, 2018, and 2017 was approximately \$10,747, \$14,659, and \$13,531, respectively. The aggregate intrinsic value of RSUs outstanding at December 31, 2019 is \$18,371.

At December 31, 2019 there was approximately \$12,841 of total unrecognized compensation costs related to RSUs. That cost is expected to be recognized over a weighted-average period of approximately 2.22 years as of December 31, 2019.

Total unrecognized aggregate share-based compensation expense totaled approximately \$20,964 at December 31, 2019, which is expected to be recognized over a weighted average period of approximately 2.29 years.

The following table summarizes the components of share-based compensation expense included in our consolidated statement of operations:

	Years Ended December 31,		
	2019	2018	2017
Share-based compensation expense by type:			
Stock options	\$ 4,208	\$ 4,238	\$ 3,813
Restricted stock units	8,951	10,753	8,402
ESPP	619	839	529
Total share-based compensation expense	\$ 13,778	\$ 15,830	\$ 12,744
Share-based compensation expense included in the consolidated statements of operations:			
Cost of services	\$ 1,495	\$ 1,815	\$ 1,450
General and administrative expense	8,098	8,458	6,502
Sales and marketing expense	2,263	2,837	2,470
Research and development expense	1,922	2,720	2,322
Total share-based compensation expense	\$ 13,778	\$ 15,830	\$ 12,744

On February 1, 2019, the compensation committee of our board of directors approved a stock for salary program wherein eligible participants elected to receive payment of his or her base salary in shares of our common stock beginning on February 1, 2019. The shares of common stock were issued under our Restated 2007 Equity Plan. Eligible program participants include our Chief Executive Officer and his direct reports.

The stock for salary program permitted eligible participants to receive 0, 25, 50, 75, or 100% of his or her 2019 salary (including any increases that may occur during the year) in shares of our common stock. On the last trading day of each calendar month, each participant will receive the number of shares of our common stock determined by dividing (i) 1/12th of his or her enrolled salary by (ii) the trailing 30-day closing average of our common stock, rounded up to the nearest whole share. Once an election is made, it runs for the full year 2019 and is irrevocable and the program will automatically terminate on the earlier to occur of January 1, 2020, or the date upon which our common stocks trades on the Nasdaq at \$4.00 per share or greater. Participation levels may not be changed after the close of the enrollment period. Once issued, there is no vesting period for the shares. During 2019, our Chief Executive Officer and two of his direct reports elected to participate in the program. Each of the three participants elected to receive 50% of their respective salary in stock. As a result of their participation in the program, we issued 138 shares of common stock and recorded \$396 of stock based compensation expense. The stock for salary program terminated on October 17, 2019 as a result of our stock price hitting \$4.00 per share on the Nasdaq.

In 2018, 50% of the annual corporate bonus was awarded to eligible employees in the form of our common stock. This resulted in \$2,037 of stock based compensation expense in 2018.

15. Related Party Transactions

In July 2006, an aggregate of 39,869,960 shares of Series B Preferred Stock was issued at a purchase price of \$3.26 per share to certain accredited investors in a private placement transaction. As a result of this transaction, entities affiliated with Goldman, Sachs & Co., one of the lead underwriters of our initial public offering (IPO), became holders of more than 10% of our common stock. On June 14, 2007, upon the closing of our IPO, all outstanding shares of our Series B Preferred Stock automatically converted into shares of common stock on a 1-for-1 share basis. Between November 2017 and March 2018, investment partnerships affiliated with Goldman, Sachs & Co. sold 30,272,493 shares that they had acquired upon the conversion of their Series B Preferred Stock at the time of the Company's IPO in June 2007. As of December 31, 2019, 2018, and 2017 Goldman, Sachs & Co. owned approximately 1%, 1% and 14%, respectively, of our outstanding common stock.

We had no other material related party transactions during the years ended December 31, 2019, 2018, and 2017.

16. Operating Leases - Right of Use Assets and Purchase Commitments

Right of Use Assets

We have various operating leases for office space that expire through 2030. Below is a summary of our right of use assets and liabilities as of December 31, 2019.

Right-of-use assets	\$ 12,842
Lease liability obligations, current	\$ 2,056
Lease liability obligations, less current portion	13,488
Total lease liability obligations	\$ 15,544
Weighted-average remaining lease term	8.36 years
Weighted-average discount rate	5.00%

We recognized right of use assets of \$3,588 upon adoption of ASC 842 effective January 1, 2019. During the year end December 31, 2019, we added \$11,485 of additional right-of-use assets primarily related to our new corporate headquarters.

During the year ended December 31, 2019, we recognized approximately \$3,540 in operating lease costs. Operating lease costs of \$519 are included in cost of revenue and \$3,021 are included in operating expenses in our consolidated statement of operations. During the year ended December 31, 2019, cash paid for operating leases was approximately \$1,976.

During the year ended December 31, 2018, we recognized approximately \$3,070 in operating lease costs. Operating lease costs of \$442 are included in cost of revenue and \$2,628 are included in operating expenses in our consolidated statement

of operations. During the year ended December 31, 2018, cash paid for operating leases was approximately \$2,423.

During the year ended December 31, 2017, we recognized approximately \$3,281 in operating lease costs. Operating lease costs of \$562 are included in cost of revenue and \$2,719 are included in operating expenses in our consolidated statement of operations. During the year ended December 31, 2017, cash paid for operating leases was approximately \$3,259.

Approximate future minimum lease payments for our right of use assets over the remaining lease periods as of December 31, 2019, are as follows:

2020	\$ 2,600
2021	3,070
2022	2,222
2023	1,740
2024	1,441
Thereafter	8,270
Total minimum payments	<u>19,343</u>
Less: amount representing interest	3,799
Total	<u>\$ 15,544</u>

In September 2019, the operating lease for our corporate headquarters in Scottsdale, Arizona commenced with a term of approximately 11 years. The total estimated lease cost is approximately \$12.7 million.

Purchase Commitments

We have long-term commitments for bandwidth usage and co-location with various networks and Internet service providers. The following summarizes our minimum non-cancellable commitments for future periods as of December 31, 2019:

2020	\$ 27,901
2021	11,241
2022	1,915
2023	599
2024	299
Thereafter	—
Total minimum payments	<u>\$ 41,955</u>

Operating expense relating to these bandwidth and co-location agreements was approximately \$66,801, \$56,523, and \$53,504, respectively, for the years ended December 31, 2019, 2018, and 2017.

17. Concentrations

During the years ended December 31, 2019, 2018, and 2017, Amazon represented approximately 30%, 30%, and 17%, respectively, of our total revenue.

Revenue from customers located within the United States, our country of domicile, was approximately \$121,160, \$113,102, and \$112,166, respectively, for the years ended December 31, 2019, 2018, and 2017.

During the years ended December 31, 2019, 2018, and 2017, respectively, we had three countries Japan, the United Kingdom, and the United States, which accounted for 10% or more of our total revenue.

18. Income Taxes

Our income (loss) before income taxes consists of the following:

	Years Ended December 31,		
	2019	2018	2017
Income (loss) before income taxes:			
United States	\$ (17,230)	\$ 8,648	\$ (8,963)
Foreign	1,936	1,732	1,759
	<u>\$ (15,294)</u>	<u>\$ 10,380</u>	<u>\$ (7,204)</u>

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

	Years Ended December 31,		
	2019	2018	2017
Current:			
Federal	\$ —	\$ —	\$ —
State	60	32	40
Foreign	420	489	711
Total current	<u>480</u>	<u>521</u>	<u>751</u>
Deferred:			
Federal	8	8	(34)
State	(1)	3	3
Foreign	263	6	(294)
Total deferred	<u>270</u>	<u>17</u>	<u>(325)</u>
Total provision	<u>\$ 750</u>	<u>\$ 538</u>	<u>\$ 426</u>

A reconciliation of the U.S. federal statutory rate to our effective income tax rate is shown in the table below:

	Years Ended December 31,					
	2019		2018		2017	
	Amount	Percent	Amount	Percent	Amount	Percent
U.S. federal statutory tax rate	\$ (3,212)	21.0 %	\$ 2,180	21.0 %	\$ (2,521)	35.0 %
Valuation allowance	2,435	(15.9)%	(1,845)	(17.8)%	(30,938)	429.5 %
Foreign income taxes	216	(1.4)%	150	1.5 %	(179)	2.5 %
State income taxes	51	(0.3)%	51	0.5 %	90	(1.2)%
Non-deductible expenses	190	(1.2)%	85	0.8 %	149	(2.1)%
Uncertain tax positions	(2)	— %	—	— %	(20)	0.3 %
Non-deductible officer compensation	573	(3.8)%	688	6.6 %	638	(8.9)%
Share-based compensation	420	(2.8)%	(745)	(7.2)%	873	(12.1)%
Federal rate change impact	—	— %	—	— %	32,415	(450.0)%
Other	79	(0.5)%	(26)	(0.2)%	(81)	1.1 %
Provision for income taxes	<u>\$ 750</u>	<u>(4.9)%</u>	<u>\$ 538</u>	<u>5.2 %</u>	<u>\$ 426</u>	<u>(5.9)%</u>

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purpose. Significant components of our deferred tax assets and liabilities are as follows:

	December 31,	
	2019	2018
Deferred tax assets:		
Share-based compensation	\$ 6,100	\$ 6,552
Net operating loss and tax credit carry-forwards	51,395	46,569
Legal settlement	—	2,281
Deferred revenue	157	418
Accounts receivable reserves	238	188
Fixed assets	1,858	2,687
Compensation	528	—
Lease liability	2,983	—
Other	88	177
Total deferred tax assets	<u>63,347</u>	<u>58,872</u>
Deferred tax liabilities:		
Right-of-use asset	(2,340)	—
Prepaid expenses	(314)	(306)
Other	(34)	(107)
Total deferred tax liabilities	<u>(2,688)</u>	<u>(413)</u>
Valuation allowance	<u>(59,579)</u>	<u>(57,149)</u>
Net deferred tax assets	<u>\$ 1,080</u>	<u>\$ 1,310</u>

The federal and state net operating loss (NOL) carryforwards relate to prior years' NOLs, which may be used to reduce tax liabilities in future years. At December 31, 2019, we had \$206,500 federal and \$138,300 state NOL carryforwards. Our federal NOL will begin to expire in 2027 and the state NOL carryforwards will begin to expire in 2020. Pursuant to Sections 382 and 383 of the Internal Revenue Code, the utilization of NOLs and other tax attributes may be subject to substantial limitations if certain ownership changes occur during a three-year testing period (as defined by the Internal Revenue Code). We did not have any state tax credit carryforwards as of December 31, 2019.

We reduce the carrying amounts of deferred tax assets by a valuation allowance if, based on the evidence available, it is more-likely-than-not that such assets will not be realized. In making the assessment under the more-likely-than-not standard, appropriate consideration must be given to all positive and negative evidence related to the realization of the deferred tax assets. This assessment considers, among other matters, the nature, frequency and severity of current and cumulative losses, forecasts of future profitability, the duration of statutory carry-forward periods by jurisdiction, unitary versus stand-alone state tax filings, our experience with loss carryforwards not expiring unutilized, and all tax planning alternatives that may be available.

A valuation allowance has been recorded against our deferred tax assets, with the exception of deferred tax assets at certain foreign subsidiaries as management cannot conclude that it is more-likely-than-not that these assets will be realized. As of December 31, 2019, no valuation allowance was provided on \$1,600 of deferred tax assets associated with certain NOLs because we would use them to offset our liabilities relating to our uncertain tax benefits.

Estimated liabilities for unrecognized tax benefits are included in "other liabilities" on the consolidated balance sheet. These contingent liabilities relate to various tax matters that result from uncertainties in the application of complex income tax regulations in the numerous jurisdictions in which we operate. As of December 31, 2019, unrecognized tax benefits were \$1,802, of which approximately \$205, if recognized, would favorably impact the effective tax rate and the remaining balance would be substantially offset by valuation allowances.

A summary of the activities associated with our reserve for unrecognized tax benefits, interest and penalties follow:

	Unrecognized Tax Benefits
Balance at January 1, 2018	\$ 1,817
Additions for tax positions related to current year	—
Additions for tax positions related to prior years	20
Settlements	(34)
Adjustment related to foreign currency translation	—
Reductions related to the lapse of applicable statute of limitations	(3)
Reduction for tax positions of prior years	—
Balance at December 31, 2018	1,800
Additions for tax positions related to current year	—
Additions for tax positions related to prior years	—
Settlements	—
Adjustment related to foreign currency translation	3
Reductions related to the lapse of applicable statute of limitations	(1)
Reduction for tax positions of prior years	—
Balance at December 31, 2019	\$ 1,802

We recognize interest and penalties related to unrecognized tax benefits in our tax provision. As of December 31, 2019, we had an interest and penalties accrual related to unrecognized tax benefits of \$6, which decreased during 2019 by \$1. We anticipate our unrecognized tax benefits may increase or decrease within twelve months of the reporting date, as audits or reviews are initiated or settled and as a result of settled potential tax liabilities in certain foreign jurisdictions. It is not currently reasonably possible to estimate the range of change.

We file income tax returns in jurisdictions with varying statutes of limitations. Tax years 2016 through 2018 remain subject to examination by federal tax authorities. Tax years 2015 through 2018 generally remain subject to examination by state tax authorities. As of December 31, 2019, we are not under any federal or state income tax examinations.

On December 22, 2017, the Tax Cuts and Jobs Act (the Tax Act) significantly revised the U.S. corporate income tax law, by among other things, reducing the corporate income tax rate to 21% for tax years beginning in 2018, implementing a modified territorial system that includes a one-time transition tax on deemed repatriated earnings of foreign subsidiaries and creating new taxes on certain foreign sourced earnings.

Income tax expense for the year ending December 31, 2017 includes a \$41 tax benefit related to the re-measurement of a deferred tax liability on a long-lived asset. The remaining impact from the re-measurement of our net U.S. deferred tax asset at the lower 21% rate was offset by the valuation allowance. During 2018, this amount was finalized and no additional adjustment was required to be made.

The one-time transition tax is based on our total post-1986 earnings and profits that we previously deferred from U.S. income taxes. In 2017 we recorded a provisional amount for our one-time transition tax liability for all of our foreign subsidiaries. In 2018 the transition tax calculation was completed. The transition tax that we calculated resulted in an immaterial amount of additional federal taxable income. The additional taxable income from the transition tax was offset by NOLs and did not result in cash taxes payable.

No additional income taxes have been provided for any remaining undistributed foreign earnings not subject to the transition tax, or any additional outside basis differences inherent in these entities, as these amounts continue to be indefinitely reinvested in foreign operations. Determining the amount of unrecognized deferred tax liability related to any remaining undistributed earnings not subject to the transition tax and additional outside basis difference in these entities (i.e. basis difference in excess of that subject to the one-time transition tax) is not practicable.

The Tax Act contains several base broadening provisions that became effective on January 1, 2018 that did not have a material impact on future earnings due to our NOL and valuation allowance position. Also effective for 2018 is a new Global Intangible Low-Taxed Income inclusion (GILTI). The GILTI did not have a material impact on our 2018 earnings due to our NOL and valuation allowance position.

19. 401(k) Plan

We manage the Limelight Networks 401(k) Plan covering effectively all of our employees. The plan is a 401(k) profit sharing plan in which participating employees are fully vested in any contributions they make.

We will match employee deferrals as follows: a dollar-for-dollar match on eligible employee's deferral that does not exceed 3% of compensation for the year and a 50% match on the next 2% of the employee deferrals. Our employees may elect to reduce their current compensation up to the statutory limit. We made matching contributions of approximately \$1,501, \$1,423, and \$1,327 during the years ended December 31, 2019, 2018, and 2017, respectively.

20. Segment Reporting and Geographic Information

Our chief operating decision maker (whom is our Chief Executive Officer) reviews the financial information presented on a consolidated basis for purposes of allocating resources and evaluating our financial performance. We operate in one industry segment — content delivery and related services and we operate in three geographic areas — Americas, Europe, Middle East and Africa (EMEA) and Asia Pacific.

Revenue by geography is based on the location of the customer from which the revenue is earned. The following table sets forth revenue by geographic area:

	Years Ended December 31,					
	2019		2018		2017	
Americas	\$ 125,075	62%	\$ 118,462	61%	\$ 116,112	63%
EMEA	32,008	16%	38,015	19%	37,212	20%
Asia Pacific	43,551	22%	39,193	20%	31,036	17%
Total revenue	<u>\$ 200,634</u>	<u>100%</u>	<u>\$ 195,670</u>	<u>100%</u>	<u>\$ 184,360</u>	<u>100%</u>

The following table sets forth the individual countries and their respective revenue for those countries whose revenue exceeded 10% of our total revenue:

Country / Region	Years Ended December 31,		
	2019	2018	2017
United States / Americas	\$ 121,160	\$ 113,102	\$ 112,166
United Kingdom / EMEA	\$ 24,004	\$ 26,672	\$ 22,456
Japan / Asia Pacific	\$ 25,339	\$ 20,452	\$ 18,585

The following table sets forth long-lived assets by geographic area:

Long-lived Assets	Years Ended December 31,		
	2019	2018	2017
Americas	\$ 33,450	\$ 18,349	\$ 17,119
International	12,686	9,029	11,872
Total long-lived assets	<u>\$ 46,136</u>	<u>\$ 27,378</u>	<u>\$ 28,991</u>

21. Fair Value Measurements

We evaluate our financial instruments within the three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value. These tiers include:

Level 1 - defined as observable inputs such as quoted prices in active markets;

Level 2 - defined as other than quoted prices in active markets that are either directly or indirectly observable; and

Level 3 - defined as unobservable inputs in which little or no market data exists, therefore requiring an entity to develop its own assumptions.

As of December 31, 2019, we held a certificate of deposit for \$40 measured at fair value using Level 2 inputs.

As of December 31, 2018, we held certain assets that were required to be measured at fair value on a recurring basis. The following is a summary of fair value measurements at December 31, 2018:

Description	Total	Fair Value Measurements at Reporting Date Using		
		Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Money market funds (2)	\$ 752	\$ 752	\$ —	\$ —
Certificate of deposit (1)	40	—	40	—
Corporate notes and bonds (1)	25,083	—	25,083	—
Total assets measured at fair value	<u>\$ 25,875</u>	<u>\$ 752</u>	<u>\$ 25,123</u>	<u>\$ —</u>

- (1) Classified in marketable securities
(2) Classified in cash and cash equivalents

The carrying amount of cash equivalents approximates fair value because their maturity is less than three months. The carrying amount of short-term and long-term marketable securities approximates fair value as the securities are marked to market as of each balance sheet date with any unrealized gains and losses reported in stockholders' equity. The carrying amount of accounts receivable, accounts payable and accrued liabilities approximates fair value due to the short-term maturity of the amounts.

22. Quarterly Financial Results (unaudited)

The following tables sets forth certain unaudited quarterly results of operations for the years ended December 31, 2019 and 2018. Amounts may not foot due to rounding.

In the opinion of management, this information has been prepared on the same basis as the audited consolidated financial statements and all necessary adjustments, consisting only of normal recurring adjustments, have been included in the amounts below for a fair statement of the quarterly information when read in conjunction with the audited consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K:

	For the Three Months Ended			
	March 31, 2019	June 30, 2019	Sept. 30, 2019	Dec. 31, 2019
Revenue	\$ 43,280	\$ 45,904	\$ 51,321	\$ 60,129
Gross profit	\$ 16,022	\$ 18,507	\$ 20,758	\$ 26,255
Net income (loss)	\$ (8,559)	\$ (7,192)	\$ (2,751)	\$ 2,458
Basic net income (loss) per share	\$ (0.07)	\$ (0.06)	\$ (0.02)	\$ 0.02
Diluted net income (loss) per share	\$ (0.07)	\$ (0.06)	\$ (0.02)	\$ 0.02
Basic weighted average common shares outstanding	114,410	115,275	116,270	117,603
Diluted weighted average common shares outstanding	114,410	115,275	116,270	123,801

	For the Three Months Ended			
	March 31, 2018	June 30, 2018 (a)	Sept. 30, 2018	Dec. 31, 2018
Revenue	\$ 52,114	\$ 50,249	\$ 49,315	\$ 43,992
Gross profit	\$ 26,680	\$ 24,847	\$ 24,035	\$ 17,910
Net income (loss)	\$ 149	\$ 15,159	\$ (272)	\$ (5,193)
Basic net income (loss) per share	\$ —	\$ 0.14	\$ —	\$ (0.05)
Diluted net income (loss) per share	—	0.13	—	(0.05)
Basic weighted average common shares outstanding	110,761	111,356	112,760	113,578
Diluted weighted average common shares outstanding	118,909	120,033	112,760	113,578

(a) During the quarter ended June 30, 2018, we recorded \$14,900 of settlement and patent license income related to the definitive settlement and patent license agreement entered into with Akamai.

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

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

We carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act, as of December 31, 2019. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of December 31, 2019.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2019 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP. Our internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. GAAP, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) 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, 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.

Under the supervision of our Chief Executive Officer and Chief Financial Officer, our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2019. In making this assessment, management

used the criteria set forth in the *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) (2013 framework). Based on this assessment, our management has concluded that our internal control over financial reporting was effective as of December 31, 2019.

Our financial statements included in this Annual Report on Form 10-K have been audited by Ernst & Young LLP, independent registered public accounting firm, as indicated in the report included elsewhere herein. Ernst & Young LLP has also provided an attestation report on the Company's internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Limelight Networks, Inc.

Opinion on Internal Control over Financial Reporting

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

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 operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2019 and the related notes and the financial statement schedule listed in the index at Item 15(a) and our report dated January 30, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP
Phoenix, Arizona
January 30, 2020

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item relating to our directors and nominees is included under the captions “Proposal One: Election of Directors,” “— Information About the Directors and Nominees,” and “Board of Directors Meetings and Committees — Nominating and Governance Committee” in our Proxy Statement related to the 2020 Annual Meeting of Shareholders and is incorporated herein by reference.

The information required by this item regarding our Audit Committee is included under the caption “Board of Directors Meetings and Committees” in our Proxy Statement related to the 2020 Annual Meeting of Shareholders and is incorporated herein by reference.

The information required by this item relating to our executive officers is included under the caption “Information about our Executive Officers” in Part I of this Annual Report on Form 10-K.

The information required by this item regarding compliance with Section 16(a) of the Securities Act of 1934 is included under the caption “Executive Compensation and Other Matters — Section 16(a) Beneficial Ownership Reporting Compliance” in our Proxy Statement related to the 2020 Annual Meeting of Shareholders and is incorporated herein by reference.

We have adopted a code of ethics and business conduct that applies to our Chief Executive Officer, Chief Financial Officer and all other principal executive and senior financial officers and all employees, officers and directors. This code of ethics and business conduct is posted on our website. The Internet address for our website is www.limelight.com, and the code of ethics may be found from our main webpage by clicking first on “About Limelight” and then on “Investors Home”, next on “Corporate Governance”, and finally on “Code of Ethics” under Governance Documents.

We intend to satisfy any disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of this code of ethics by posting such information on our website, on the webpage found by clicking through to “Code of Ethics” as specified above.

Item 11. Executive Compensation

The information appearing under the headings “Executive Compensation and Other Matters,” “— Director Compensation,” “Board of Directors Meetings and Committees — Compensation Committee Interlocks and Insider Participation,” and “— Compensation Committee Report” in our Proxy Statement related to the 2020 Annual Meeting of Shareholders is incorporated herein by reference.

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

The information required by this item relating to security ownership of certain beneficial owners and management is included under the heading “Security Ownership of Certain Beneficial Owners and Management” in our Proxy Statement related to the 2020 Annual Meeting of Shareholders, and is incorporated herein by reference.

Equity Compensation Plan Information

The following table provides information regarding our current equity compensation plans as of December 31, 2019 (shares in thousands):

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	17,634	\$ 3.12	7,420
Equity compensation plans not approved by security holders	—	—	—
Total	17,634	\$ 3.12	7,420

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

The information required by this item relating to review, approval or ratification of transactions with related persons is included under the heading “Certain Relationships and Related Transactions,” and the information required by this item relating to director independence is included under the headings “Proposal One: Election of Directors” and “Board of Directors Meetings and Committees — Board Independence,” in each case in our Proxy Statement related to the 2020 Annual Meeting of Shareholders, and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required by this item is included under the headings “Audit Committee Report—Principal Accountant Fees and Services” and “— Audit Committee Pre-Approval Policy,” in each case in our Proxy Statement related to the 2020 Annual Meeting of Shareholders, and is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

- (a) Documents included in this Annual Report on Form 10-K.
 - (1) *Financial Statements*. See Item 8 — Financial Statements and Supplementary Data included in this Annual Report on Form 10-K.
 - (2) *Financial Schedules*. The schedule listed below is filed as part of this Annual Report on Form 10-K:

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Schedule II — Valuation and Qualifying Accounts	86

All other schedules are omitted as the information required is inapplicable or the information is presented in the consolidated financial statements and the related notes.

- (b) *Exhibits*. The exhibits required by Item 601 of Regulation S-K are listed in the Exhibit Index immediately preceding the exhibits and are incorporated herein.

Item 16. Form 10-K Summary.

None

INDEX TO EXHIBITS

<u>Exhibit Number</u>	<u>Exhibit Title</u>
3.1(1)	Amended and Restated Certificate of Incorporation of the Registrant.
3.2(2)	Second Amended and Restated Bylaws of the Registrant.
4.1(3)	Specimen Common Stock Certificate of the Registrant.
4.2(4)	Description of Securities Registered Under Section 12 of the Exchange Act
10.1(3)	Form of Indemnification Agreement for directors and officers.
10.2(3)	Amended and Restated 2003 Incentive Compensation Plan and form of agreement thereunder.
10.3(3)	2007 Equity Incentive Plan and form of agreement thereunder.
10.3.01(5)	Amended and Restated 2007 Equity Incentive Plan of Limelight Networks.
10.4(6)	Form of At-Will Employment, Confidential Information, Invention Assignment, and Arbitration Agreement for officers and employees.
10.5(7)	Master Executive Bonus and Management Bonus Plan.
10.6(8)	Form of 2007 Equity Incentive Plan Restricted Stock Unit Agreement.
10.7(9)	Form of 2007 Equity Incentive Plan Restricted Stock Unit Agreement for Non-U.S. Employees.
10.8(10)	Standard Office Lease between the Registrant and GateWay Tempe LLC dated as of July 20, 2010.
10.10(11)	Employment Agreement between the Registrant and Robert A. Lento dated January 22, 2013.
10.10.01(12)	First Amendment to Employment agreement between the Registrant and Robert A. Lento dated as of February 23, 2016.
10.11(13)	Employment Agreement between the Registrant and George Vonderhaar dated January 22, 2013.
10.11.01(14)	Amendment to Employment Agreement between the Registrant and George Vonderhaar dated June 19, 2015.
10.11.02(15)	Second Amendment to Employment agreement between the Registrant and George Vonderhaar dated as of February 23, 2016.
10.11.03(16)	Transition Agreement and Release between the Registrant and George Vonderhaar dated November 26, 2018.
10.12(17)	Limelight Networks, Inc. 2013 Employee Stock Purchase Plan.
10.12.01(18)	Amendment 1 to the Limelight Networks, Inc. 2013 Employee Stock Purchase Plan.
10.13(19)	Employment Agreement between the Registrant and Sajid Malhotra dated March 24, 2014.
10.13.01(20)	Amendment to Employment Agreement between the Registrant and Sajid Malhotra dated June 18, 2015.
10.13.02(21)	Second Amendment to Employment agreement between the Registrant and Sajid Malhotra dated as of February 23, 2016.
10.14(22)	Employment Agreement between the Registrant and Michael DiSanto effective April 1, 2015.
10.14.01(23)	Second Amendment to Employment agreement between the Registrant and Michael D. DiSanto dated as of February 23, 2016.
10.15(24)	Loan and Security Agreement between Limelight Networks, Inc. and Silicon Valley Bank dated November 2, 2015.
10.15.01(25)	Second Loan Modification Agreement to the Loan and Security Agreement between Limelight Networks, Inc. and Silicon Valley Bank dated October 25, 2016.

10.15.02(26)	Third Loan Modification Agreement to the Loan and Security Agreement between Limelight Networks, Inc. and Silicon Valley Bank dated October 17, 2017.
10.15.03(27)	Fourth Loan Modification Agreement to the Loan and Security Agreement between Limelight Networks, Inc. and Silicon Valley Bank dated February 27, 2018.
10.16(28)	Employment Agreement between the Registrant and Kurt Silverman dated August 20, 2013.
10.16.01(29)	First Amendment to Employment agreement between the Registrant and Kurt Silverman dated as of February 23, 2016.
10.17(30)	Form of 2016-2017 Retention Bonus Plan Agreement.
10.18(31)	Patent Sublicense Agreement dated August 1, 2016.
10.19(32)	Employment Agreement between the Registrant and Tom Marth dated November 21, 2018.
21.1(4)	List of subsidiaries of the Registrant.
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
24.1	Power of Attorney (See signature page).
31.1	Certification of Principal Executive Officer pursuant to Securities Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer pursuant to Securities Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL INSTANCE DOCUMENT.
101.SCH	XBRL TAXONOMY EXTENSION SCHEMA DOCUMENT.
101.CAL	XBRL TAXONOMY EXTENSION CALCULATION LINKBASE DOCUMENT.
101.DEF	XBRL TAXONOMY EXTENSION DEFINITION LINKBASE DOCUMENT.
101.LAB	XBRL TAXONOMY EXTENSION LABEL LINKBASE DOCUMENT.
101.PRE	XBRL TAXONOMY EXTENSION PRESENTATION LINKBASE DOCUMENT.

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- (1) Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed on June 14, 2011.
 - (2) Incorporated by reference to Exhibit 3.2 of the Registrant's Form 8-K filed on February 19, 2013.
 - (3) Incorporated by reference to the same number exhibit of the Registrant's Form S-1 Registration Statement (Registration No. 333-141516), declared effective by the Securities and Exchange Commission on June 7, 2007.
 - (4) Filed herewith.
 - (5) Incorporated by reference to Exhibit 10.3.01 of the Registrant's Quarterly Report on Form 10-Q filed on October 27, 2016.
 - (6) Incorporated by reference to Exhibit 10.12 of the Registrant's Form S-1 Registration Statement (Registration No. 333-141516), declared effective by the Securities and Exchange Commission on June 7, 2007.
 - (7) Incorporated by reference to Exhibit 99.1 of the Registrant's Current Report on Form 8-K filed on May 19, 2009.
 - (8) Incorporated by reference to Exhibit (a)(1)(I) of the Registrant's Schedule TO filed on May 15, 2008.
 - (9) Incorporated by reference to Exhibit (a)(1)(J) of the Registrant's Schedule TO filed on May 15, 2008.
 - (10) Incorporated by reference to Exhibit 10.32 of the Registrant's Quarterly Report on Form 10-Q filed on November 5, 2010.
 - (11) Incorporated by reference to Exhibit 10.21 of the Registrant's Annual Report on Form 10-K filed on March 1, 2013.
 - (12) Incorporated by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q filed on April 28, 2016.
 - (13) Incorporated by reference to Exhibit 10.22 of the Registrant's Annual Report on Form 10-K filed on March 1, 2013.
 - (14) Incorporated by reference to Exhibit 10.3 of the Registrant's Form 8-K filed on June 19, 2015.

- (15) Incorporated by reference to Exhibit 10.3 of the Registrant's Quarterly Report on Form 10-Q filed on April 28, 2016.
- (16) Incorporated by reference to Exhibit 10.11.03 of the Registrant's Annual Report on Form 10-K filed on January 31, 2019.
- (17) Incorporated by reference to Exhibit 10.23 of the Registrant's Quarterly Report on Form 10-Q filed on August 8, 2013.
- (18) Incorporated by reference to Exhibit 10.1 of the Registrant's Form S-8 Registration Statement filed on May 3, 2019.
- (19) Incorporated by reference to Exhibit 10.17 of the Registrant's Annual Report on Form 10-K filed on February 17, 2015.
- (20) Incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on June 19, 2015.
- (21) Incorporated by reference to Exhibit 10.2 of the Registrant's Quarterly Report on Form 10-Q filed on April 28, 2016.
- (22) Incorporated by reference to Exhibit 10.2 of the Registrant's Quarterly Report on Form 10-Q filed on May 1, 2015.
- (23) Incorporated by reference to Exhibit 10.5 of the Registrant's Quarterly Report on Form 10-Q filed on April 28, 2016.
- (24) Incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on November 3, 2015.
- (25) Incorporated by reference to Exhibit 10.19.01 of the Registrant's Quarterly Report on Form 10-Q filed on October 27, 2016.
- (26) Incorporated by reference to Exhibit 10.16 of the Registrant's Annual Report on Form 10-K filed on February 8, 2018.
- (27) Incorporated by reference to Exhibit 10.01 of the Registrant's Quarterly Report on Form 10-Q filed on April 20, 2018.
- (28) Incorporated by reference to Exhibit 10.17 of the Registrant's Annual Report on Form 10-K filed on February 17, 2017.
- (29) Incorporated by reference to Exhibit 10.4 of the Registrant's Quarterly Report on Form 10-Q filed on April 28, 2016.
- (30) Incorporated by reference to Exhibit 10.6 of the Registrant's Quarterly Report on Form 10-Q filed on April 28, 2016.
- (31) Incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on August 1, 2016.
- (32) Incorporated by reference to Exhibit 10.16 of the Registrant's Annual Report on Form 10-K filed on January 31, 2019.

* This exhibit shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that Section, nor shall it be deemed incorporated by reference in any filings under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date hereof and irrespective of any general incorporation language in any filings.

† Confidential treatment has been requested or granted for portions of this exhibit by the Securities and Exchange Commission.

LIMELIGHT NETWORKS, INC.

SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS

(In thousands)

<u>Description</u>	<u>Balance at Beginning of Period</u>	<u>Additions</u>		<u>Deductions</u>	<u>Balance at End of Period</u>
		<u>Charged to Costs and Expenses</u>	<u>Charged Against Revenue</u>	<u>Write-Offs Net of Recoveries</u>	
Year ended December 31, 2017:					
Allowances deducted from asset accounts:					
Reserves for accounts receivable	\$ 843	949	14	668	\$ 1,138
Deferred tax asset valuation allowance	\$ 84,226	(25,508)	—	—	\$ 58,718
Year ended December 31, 2018:					
Allowances deducted from asset accounts:					
Reserves for accounts receivable	\$ 1,138	902	10	1,051	\$ 999
Deferred tax asset valuation allowance	\$ 58,718	(1,569)	—	—	\$ 57,149
Year ended December 31, 2019:					
Allowances deducted from asset accounts:					
Reserves for accounts receivable	\$ 999	1,793	(80)	1,569	\$ 1,143
Deferred tax asset valuation allowance	\$ 57,149	2,430	—	—	\$ 59,579

